High-Level African Delegation and UNDP Engage with Department of Land Resources on India's Digital Public Infrastructure in Land Governance

Secretary, DoLR highlights the vision of 'Bharat Land Stack' and 'Bhu-Aadhaar' as transformative DPI tools to unlock economic potential and empower citizens

Technical deep dive showcases DILRMP milestones: Over 40.58 Crore land parcels assigned Bhu-Aadhaar (ULPIN) and near-universal computerisation of land records

Delegates from the African Union, Ethiopia, Malawi, Rwanda, Sierra Leone, and Zambia explore technology adoption, drone-based surveying, and urban land mapping under NAKSHA

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A high-level delegation representing the African Union Commission, senior government officials from six African nations (Ethiopia, Malawi, Rwanda, Sierra Leone, and Zambia), and the United Nations Development Programme (UNDP) visited the Department of Land Resources (DoLR), Government of India, at Kartavya Bhawan-3, New Delhi, for an intensive technical engagement on Digital Public Infrastructure (DPI) in land governance.

The exposure visit aimed to study India's pioneering digital transformation in land administration, specifically focusing on the **Digital India Land Records Modernisation Programme (DILRMP)**, the **Unique Land Parcel Identification Number (ULPIN / Bhu-Aadhaar)**, the **National Generic Document Registration System (NGDRS)**, and the **NAKSHA** initiative for urban habitations.

Land Records as Foundational DPI: Unlocking Economic Value

Welcoming the international delegation, the **Secretary, Shri Narendra Bhooshan Department of Land Resources**, outlined India's evolutionary trajectory from colonial and legacy land administration systems to a modern, technology-driven, and citizen-centric digital ecosystem. Emphasizing that digital identity served as India's foundational layer of DPI through Aadhaar, he noted that geospatial land identity—through the 14-digit **Bhu-Aadhaar (ULPIN)**—is serving as the next transformative leap.

Addressing the delegates, the Secretary highlighted:

*"Land is the largest and most foundational asset class in any developing economy. In traditional systems, without clear spatial titles and interoperability, vast amounts of land remain 'dead capital' that citizens cannot leverage. Our vision under DILRMP and the **Bharat Land Stack** is to build an unshakeable digital trust architecture. By linking georeferenced land records, circle rates, registration, and encumbrances into a single interoperable layer, we are creating an ecosystem where even the most vulnerable citizen or rural landowner can unlock formal credit and mortgages seamlessly. This experience and architecture are open to be shared with our partner nations across Africa to accelerate DPI-led inclusive growth across the Global South."*

Technical Deep Dive: DILRMP and the Multi-Layered Bharat Land Stack

During the technical sessions, **Shri Amit Kumar Singh, Director (LR), DoLR**, presented a comprehensive overview of the macro reforms and technological framework powering DILRMP.

Key milestones shared with the international delegates included:

- **99.90%** of textual Records of Rights (RoRs) computerised across the country.
- **97.43%** of cadastral maps digitized, with **76.16%** of land parcels fully georeferenced.
- **85.24%** spatial-textual integration achieved between cadastral maps and Records of Rights.
- Over **40.58 Crore** land parcels assigned the 14-digit alphanumeric **Bhu-Aadhaar (ULPIN)**.
- **98.96%** of Sub-Registrar Offices (SROs) computerised, with 17 States/UTs adopting the centralized NGDRS platform and 17 States operating state-specific digital registration software.
- **94.11%** of Revenue Courts computerised under the Revenue Court Case Management System (RCCMS), enabling real-time litigation marking on property records.

The delegation was given a walkthrough of the **Bharat Land Stack**—an integrated, GIS-based federated architecture that layers satellite/drone imagery, georeferenced cadastral boundaries, RoRs, property registration data, master planning/zoning regulations, building approvals, restrictions/litigations, circle rates, and tenancy details to provide a single, authoritative digital source of truth.

Next-Generation Urban Mapping: The NAKSHA Programme

Presenting the urban land records initiative, **Shri Shyam Kumar, Director (LR) DoLR**, briefed the delegation on the **NAKSHA (National Geospatial Knowledge-based Land Survey of Urban Habitations)** pilot programme.

The presentation detailed the end-to-end workflow utilizing high-precision surveying technologies:

- Deployment of **2D Nadir cameras, 5-camera Oblique systems, and LiDAR sensors** mounted on aerial drones to achieve centimetre-level positional accuracy.
- Generation of Ortho-Rectified Imagery (ORI), Digital Elevation Models (DEM), and 3D Reality Models for complex urban landscapes.
- Real-Time Kinematic (RTK) GNSS rover-based ground truthing, participatory ground validation, and transparent claims/objections redressal.
- Milestone progress in the pilot phase, with aerial flying completed across **145 out of 150 Urban Local Bodies (ULBs)**, leading to the issuance of legally authentic **Urban Property (UrPro) Cards**.

Fostering South-South Cooperation

The delegation commended India's scale, technical rigor, and open-architecture approach to digital governance.

During the discussions, representatives from the UNDP emphasized that India's DPI model offers invaluable blueprints for African economies seeking structural transformation, tenure security, and efficient digital public service delivery.

Officials representing the African Union Commission highlighted the relevance of India's geospatial integration for Africa’s broader digital transformation strategies and data governance frameworks.

Furthermore, senior delegates from the participating partner nations—including Ethiopia, Malawi, Rwanda, Sierra Leone, and Zambia—engaged in interactive technical discussions on institutional adaptation, legal harmonization, data privacy, and the deployment of drone-based surveys for land mapping.

The visiting UN and UNDP teams appreciated the Department of Land Resources' collaborative approach to sharing knowledge with the global community.

The meeting concluded with a mutual commitment to deepen technical knowledge exchanges, capacity-building partnerships, and South-South collaboration to advance inclusive, transparent, and resilient land governance frameworks globally.

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