

The Promise of Urban Land Record Reform: Existing State Models

The Promise of Urban Land Record Reform: Existing State Models

DOI: <https://doi.org/10.24943/PULRR11.2025>

Authors

Deepika Jha, Manish Dubey

Research Support

Rana Paul, Shrimant Bakshi

This publication should be cited as

Jha, D., Dubey, M. (2025). The Promise of Urban Land Record Reform: Existing State Models. Indian Institute for Human Settlements.

Design & Layout

Prachi Prabhu | Reviewed by Padma Venkataraman
IHS Communications and Design

Contents

1.	About this Issue Brief	6
2.	The Growing Imperative for Urban Land Record Reform	7
3.	State Models for Urban Land Record Information Systems	8
4.	Conclusion: Charting the Next Chapter for Urban Land Records	13

1.

About this Issue Brief

In 2023, a policy brief from the IIHS Centre for Land Governance (CLG) — *Urban Land and Property Record Systems in India: The Case and Agenda for Reform*— was among the first to spotlight the urgent yet often overlooked issue of how Indian cities record, manage, and update land and property ownership. While acknowledging India’s significant success in modernising rural land records, the analysis highlighted persistent weaknesses in urban systems in several States that left citizens facing uncertainty, and disputes and missed opportunities for smoother infrastructure development and strengthening public finances.

Building on that foundation, this Issue Brief takes stock of how the national landscape has evolved, especially after the launch of the National Geospatial Knowledge-based Land Survey of Urban Habitations (NAKSHA) pilot programme in 2024-25, and delves into the pre-NAKSHA models and practices that exist in the country that could be leveraged going forward.

2.

The Growing Imperative for Urban Land Record Reform

Urban India, home to millions aspiring to better living and working conditions, and the economic engine underpinning the country's high growth and development ambitions, holds much promise.

Yet, beneath this promise, urban citizens face daily insecurity because of weak land record systems. Many struggle to prove ownership of their homes, risking disputes or exploitation that undermine their families' future. Without clear records, they miss out on loans, government schemes, and the ability to pass assets to the next generation—fuelling anxiety and trapping wealth that could be powering new opportunities.

This challenge ripples far beyond individuals. For city governments, incomplete and fragmented land records mean lost property tax revenue, missed infrastructure investments, and delays in zoning and planning. Investors hesitate, public trust is eroded, and fast-growing cities find themselves without the financial or spatial foundation needed for responsible, sustainable expansion.

Urban land records, then, are far more than administrative paperwork. For individuals, updated records mean security, access to financial services, and confidence in property transactions; for cities, they are the bedrock for efficient tax collection, sound infrastructure planning, and attracting vital private investment. Modernising these systems builds trust, reduces uncertainty, and positions urban India for the future.

However, land record reform efforts in India have until recently focused on rural areas – with impressive results. Most cities continue to rely on legacy systems, leaving residents, and administrators struggling with unreliable and outdated records. Initiatives such as Karnataka's Urban Property Ownership Record (UPOR) project, and the inclusion of urban property title certification as an optional reform under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) attempted to change the landscape, but there was limited progress.

With the Union Budget 2024-25, urban land record reform has received dedicated funding and national attention for the first time, resulting in the launch of the NAKSHA pilot programme. NAKSHA is helping more than 150 cities create a comprehensive GIS-integrated database of urban land records - with the aim to unlock transparent property transactions, robust city finances, and the confidence to plan for further growth.

As India looks for ways to modernise urban land information systems, certain States present examples of how varied datasets can be integrated and updated, thus making urban land records more reliable, accessible, and easy to update. Their experiences offer valuable lessons for cities nationwide, and it is to these experiences that this Issue Brief now turns to.

3.

State Models for Urban Land Record Information Systems

While the NAKSHA initiative is charting a new national path toward modern, integrated urban land records, there are existing models of accessing and updating urban land records, which can be useful when the initiative is rolled out countrywide.

To understand what makes these models effective, and what lessons they offer for India's cities as they grow and change, it is important to look at two critical aspects that determine outcomes that citizens, officials, and investors can trust. First, how do States design, digitise, and provide access to their core land record systems? Second, what practical steps do they take to keep records accurate and up to date as cities grow, property transactions happen, and boundaries shift?

3.1 CORE LAND RECORD SYSTEMS

3.1.1 Tripura: Unified Simplicity and Automation across Rural-Urban Boundaries

Tripura's land record system does not distinguish between rural and urban land records at all. Every land parcel, be it a rural plot, a city block in Agartala, a stretch of road, or a public facility, is mapped, tracked, and managed within the same State-wide digital infrastructure.

System Design

- All land records are managed by the Revenue Department through the e-Jami portal.
- Urban records go further than rural ones in detailing the names of roads, numbers of buildings, construction types, and mapping common/government land.
- Each parcel, public and private, is assigned a unique survey number, ensuring every piece of land has an easy identifier.

Digital Integration

- The e-Jami portal offers downloadable, georeferenced maps with relatively up-to-date information.
- Building uses and parcel boundaries are represented with standardised symbols.
- Citizens can freely access details of their plot and its ownership status.

Updating Processes

- When a property sale or legal change occurs, an update in the Record of Rights (RoR) is initiated automatically, with no additional paperwork or revenue office queues.
- Digital links exist between registration, mutation, and survey data, simplifying maintenance.

Gaps

- Maps have not been updated since 2004–05.
- Data for multi-storey buildings and subdivided apartments is limited.
- Geographic expansion and densification are not always reflected in real time.

Implications

- For small and mid-sized States or towns seeking rapid, scalable digitisation, Tripura's *One-State, One-System* approach offers both simplicity and reliability.
- Limitations may become more apparent as urban form grows denser and more complex.

3.1.2 Tamil Nadu: GIS-Driven Urban Cadastre

Tamil Nadu has a two-track system: standard rural land records, and a slightly more detailed, spatially-linked setup for urban areas, the Town Survey Land Register (TSLR).

System Design

- Every urban area is covered by an independent town survey, giving plots a unique town survey number.
- Each record includes owner details, land extent, assessed usage (residential, commercial), building door numbers, street names, and the corresponding old survey numbers.
- Field Measurement Sketches (FMS) and block maps provide physical, on-ground detail.

Digital Integration

- The Tamil Nilam - GI Viewer portal enables users to search for any city parcel, see its place on a GIS map, and access the RoR and map information.
- Integration links many cities' records to planning department and registration databases, providing data on master plans, valuation, and encumbrances.
- The portal presents both rural and urban land records on the same GIS map, thus offering a seamless and integrated system, despite the variation in land records format.

Updating Processes

- As peri-urban and newly urbanised areas are added to cities, they are brought into the system with fresh town surveys, ensuring accurate transitions from rural records.
- Both rural and urban records are computerised, streamlining administrative coordination.

Gaps

- Outskirts and newly annexed city areas may lag in being surveyed and added.
- Data connections between planning, registration, and revenue records are sometimes incomplete or not fully queryable online.

Implications

- Tamil Nadu sets the benchmark for digital, GIS-mapped urban land management, especially for the country's largest or most complex cities.
- Transparent access and routine GIS updating build public trust. But, extending full coverage and maintaining department linkages remain ongoing tasks.

3.1.3 Goa: Real-Time, API-Connected, Cross-Departmental Innovation

Goa has embraced the principle that city land records need to break out of departmental silos. Its 2020 digital property register allows data from every relevant agency to be integrated into one place, in real time.

System Design

- Goa maintains urban and rural RoRs and maps in different formats.
- The property register is a new digital initiative which assimilates all information about a specific land parcel from RoR, GIS maps, registration database, Municipal databases, and other departments in a single document.
- The register includes citizen-friendly information, such as house number, addresses, and the 'general position' of properties (without requiring new exhaustive cadastral surveys).

Digital Integration

- Real-time APIs ensure that changes from the Revenue, Registration, Planning, Forest, and Agriculture Departments are instantly reflected.
- Citizens can check ownership, encumbrances, zoning status, ongoing court cases, and even property map overlays from a single portal.
- Departments are encouraged to use unique property IDs as property identifiers in all relevant activities.

Updating Processes

- Routine property sales, court orders, changes in planning permissions, and more, are all updated by the relevant agency directly in the live register.
- A city-wide survey was not necessary: instead, existing records were digitised and then verified door-to-door only when needed for completion.

Gaps

- Registration data before 2019 is incomplete (as offline, pre-digital records migrate slowly).
- Individual flat/ apartment details still lag, as some tax and town planning records are not yet fully linked.
- At times, not all linked records (e.g. tax, planning) update at the same spatial unit or same level of detail.

Implications

- Goa demonstrates the potential of digital integration, not just for citizens but also for improved inter-agency coordination and city-wide dynamism.
- Completing legacy digitisation and smoothing apartment-level data will unlock the system's full promise.

3.1.4 Reflections on Comparative Strengths and Gaps

Tripura, Tamil Nadu and Goa have managed to keep their urban land records relatively up to date over the past several decades, despite navigating very different patterns and degrees of urbanisation. In contrast, a number of States with similar land administration foundations have struggled to keep pace with urban growth, resulting in significant information and updating gaps.

A key strength in all three States is the use of integrated platforms that provide seamless access to both urban and rural land records – delivered on a single portal, even where RoR formats differ. Goa stands out for its high level of inter-departmental integration: APIs allow live updates while ensuring each department retains data ownership. Tamil Nadu’s approach is notably intuitive, leveraging GIS technology to make land parcel boundaries easy for citizens to visualise and understand.

Nevertheless, common gaps persist. Updation systems often falter when it comes to subdivisions of land parcels; multiple buildings may occupy the same survey number, and details of vertical properties, such as flats and apartments, are insufficiently captured. This is a gap that NAKSHA is well positioned to address. Equally, there is currently limited linkage with property tax data, a critical, alternative source of urban land and property information.

While NAKSHA will create a comprehensive GIS database for urban parcels, such records will only carry legal weight as RoRs if States introduce supporting regulations. In the absence of these, pioneering models like those in Goa and Tamil Nadu offer valuable pathways for connecting emerging digital datasets with longstanding legal frameworks. In this way, State experiences can help propel NAKSHA’s ambitions, demonstrating not only what is possible but also what is needed for the next phase of reform.

3.2 SYSTEMS FOR RECORD UPDATION

3.2.1 Tripura and Goa: Regular, Automatic Updates

Some States, like Tripura and Tamil Nadu, make sure that their records are updated every time a property is bought, sold, or ownership changes for other reasons. This is called auto-mutation.

How it works: When a property sale document is registered, the system automatically triggers the process of change in the RoR, with the new owner’s name updated in official records. There is no need for manual paperwork or separate visits to the revenue office unless an objection is raised.

Why it matters: Accurate land records depend on being real-time. Automatic updates reduce the risk of fraud, speed up buying and selling, and give citizens more confidence that their information is correct.

3.2.2 Gujarat: Mass Updates After Formal Development

Cities change fast, sometimes because a whole neighbourhood is rebuilt or a large development project takes place. In Gujarat, Town Planning (TP) Schemes are such land development mechanisms, and these lead to updating of land records in one step.

How it works: When a TP Scheme is approved, several changes are triggered at once: old survey numbers and property boundaries are replaced with new ones that match the proposed layout, and names of corresponding owners are also changed. All records are updated together, so what's on paper matches what's on the ground. This 'correction of survey records' keeps land data current in areas where city layouts change in a large way.

Why it matters: By updating many records at once, Gujarat ensures there's no confusion or overlap between old and new land boundaries. This makes planning, investment, and infrastructure building much smoother for both government and property owners.

3.2.3 Maharashtra, Tamil Nadu: Updating with Urban Expansion

As cities grow, new areas that used to count as rural get absorbed as urban neighbourhoods. States like Maharashtra and Tamil Nadu have systems to change those records as boundaries expand.

How it works: New town surveys are carried out in expanding city areas. Survey teams work together with local bodies and sometimes recover costs from property owners. The result is an updated urban land record that reflects the city's new shape.

Why it matters: This regular 'catch-up' ensures cities don't have a patchwork of outdated rural records in what are now busy urban areas, making things simpler for property owners, buyers, and the government.

3.2.4 Reflections on Comparative Strengths and Gaps

The experiences of Tripura, Tamil Nadu, Goa, Maharashtra and Gujarat highlight three distinct models for updating urban land records, each operating at different scales and frequencies: regular updates that occur whenever a land parcel changes hands; periodic neighbourhood-level updates triggered by formal land development; and, larger-scale updates driven by urban expansion.

Updating systems are critically important for the long-term effectiveness of NAKSHA. For cities to keep newly digitised urban land and property records relevant, a combination of all three approaches is needed, ensuring that every change on the ground is reflected in the records that support governance, investment, and citizen trust.

4.

Conclusion: Charting the Next Chapter for Urban Land Records

For decades, urban land records in several Indian States remained at the margins of policy, marked by scattered improvements and piecemeal pilots. Recent years have brought a pivotal shift. The NAKSHA pilot and pre-NAKSHA State approaches, when taken forward, could finally secure reliable, accessible, and up-to-date urban land records in such States.

The experiences of States like Tripura, Tamil Nadu and Goa show that there are multiple pathways to improve citizens' access to reliable and updated information. Unified State platforms, GIS-driven cadastres, and real-time data integration all demonstrate how flexible and citizen-centric reforms can make land records work for everyone. As States innovate and scale their successes, they should provide models that can propel the ambitions of NAKSHA, ensuring its vision is grounded in real-world solutions and proven practices.

What lies ahead is not a prescriptive checklist, but a direction:

- Building digital, linked systems that connect every plot and department.
- Prioritising unique property IDs and open, regularly updated databases.
- Updating records with every change, large or small, so cities don't fall behind their own growth.
- Placing citizens at the heart of information access, corrections, and feedback.
- Sharing progress to build public trust and collective accountability.

Modern urban land records are no longer just about paperwork; they are the infrastructure supporting city growth, inclusive citizenship, and the promise of a more transparent urban India. The combined momentum of national schemes and State innovations, when sustained, will enable Indian cities to meet their development ambitions and secure the rights and futures of their residents.

iihs[®]

INDIAN INSTITUTE FOR
HUMAN SETTLEMENTS

iihs.co.in

IIHS, SADASHIVANAGAR, BENGALURU

197/36, 2nd Main Road, Sadashivanagar,
Bengaluru 560080, Karnataka, India
T: +91 80 6760 6666

IIHS, CHENNAI

24/51, Floor 7A, Chaitanya Exotica,
Venkatanarayana Road, T Nagar,
Chennai 600017, Tamil Nadu, India
T: +91 +91 44 6630 5500

IIHS, DELHI

Prius Platinum, 3rd Floor, B Wing,
Saket District Centre,
New Delhi 110017, India

IIHS, MUMBAI

Flat No. 2, Purnima Building,
Patel Compound, 20-C Nepean Sea Road,
Mumbai 400006, Maharashtra, India
T: +91 22 6525 3874