



INTERNATIONAL LAW  
JOURNAL

---

**WHITE BLACK  
LEGAL LAW  
JOURNAL  
ISSN: 2581-  
8503**

*Peer - Reviewed & Refereed Journal*

The Law Journal strives to provide a platform for discussion of International as well as National Developments in the Field of Law.

[WWW.WHITEBLACKLEGAL.CO.IN](http://WWW.WHITEBLACKLEGAL.CO.IN)

### **DISCLAIMER**

No part of this publication may be reproduced or copied in any form by any means without prior written permission of Editor-in-chief of White Black Legal – The Law Journal. The Editorial Team of White Black Legal holds the copyright to all articles contributed to this publication. The views expressed in this publication are purely personal opinions of the authors and do not reflect the views of the Editorial Team of White Black Legal. Though all efforts are made to ensure the accuracy and correctness of the information published, White Black Legal shall not be responsible for any errors caused due to oversight or otherwise.

WHITE BLACK  
LEGAL

## **EDITORIAL** **TEAM**

### **Raju Narayana Swamy (IAS ) Indian Administrative Service** **officer**



a professional  
Procurement from the World Bank.

Dr. Raju Narayana Swamy popularly known as Kerala's Anti-Corruption Crusader is the All India Topper of the 1991 batch of the IAS and is currently posted as Principal Secretary to the Government of Kerala. He has earned many accolades as he hit against the political-bureaucrat corruption nexus in India. Dr Swamy holds a B.Tech in Computer Science and Engineering from the IIT Madras and a Ph. D. in Cyber Law from Gujarat National Law University. He also has an LLM (Pro) (with specialization in IPR) as well as three PG Diplomas from the National Law University, Delhi- one in Urban Environmental Management and Law, another in Environmental Law and Policy and a third one in Tourism and Environmental Law. He also holds a post-graduate diploma in IPR from the National Law School, Bengaluru and diploma in Public

### **Dr. R. K. Upadhyay**

Dr. R. K. Upadhyay is Registrar, University of Kota (Raj.), Dr Upadhyay obtained LLB , LLM degrees from Banaras Hindu University & Phd from university of Kota.He has succesfully completed UGC sponsored M.R.P for the work in the ares of the various prisoners reforms in the state of the Rajasthan.



## **Senior Editor**

### **Dr. Neha Mishra**



Dr. Neha Mishra is Associate Professor & Associate Dean (Scholarships) in Jindal Global Law School, OP Jindal Global University. She was awarded both her PhD degree and Associate Professor & Associate Dean M.A.; LL.B. (University of Delhi); LL.M.; Ph.D. (NLSIU, Bangalore) LLM from National Law School of India University, Bengaluru; she did her LL.B. from Faculty of Law, Delhi University as well as M.A. and B.A. from Hindu College and DCAC from DU respectively. Neha has been a Visiting Fellow, School of Social Work, Michigan State University, 2016 and invited speaker Panelist at Global Conference, Whitney R. Harris World Law Institute, Washington University in St.Louis, 2015.

### **Ms. Sumiti Ahuja**

Ms. Sumiti Ahuja, Assistant Professor, Faculty of Law, University of Delhi,

Ms. Sumiti Ahuja completed her LL.M. from the Indian Law Institute with specialization in Criminal Law and Corporate Law, and has over nine years of teaching experience. She has done her LL.B. from the Faculty of Law, University of Delhi. She is currently pursuing Ph.D. in the area of Forensics and Law. Prior to joining the teaching profession, she has worked as Research Assistant for projects funded by different agencies of Govt. of India. She has developed various audio-video teaching modules under UGC e-PG Pathshala programme in the area of Criminology, under the aegis of an MHRD Project. Her areas of interest are Criminal Law, Law of Evidence, Interpretation of Statutes, and Clinical Legal Education.



### **Dr. Navtika Singh Nautiyal**

Dr. Navtika Singh Nautiyal presently working as an Assistant Professor in School of law, Forensic Justice and Policy studies at National Forensic Sciences University, Gandhinagar, Gujarat. She has 9 years of Teaching and Research Experience. She has completed her Philosophy of Doctorate in 'Intercountry adoption laws from Uttranchal University, Dehradun' and LLM from Indian Law Institute, New Delhi.



### **Dr. Rinu Saraswat**

Associate Professor at School of Law, Apex University, Jaipur,  
M.A, LL.M, Ph.D,

Dr. Rinu have 5 yrs of teaching experience in renowned institutions like Jagannath University and Apex University. Participated in more than 20 national and international seminars and conferences and 5 workshops and training programmes.

### **Dr. Nitesh Saraswat**

E.MBA, LL.M, Ph.D, PGDSAPM

Currently working as Assistant Professor at Law Centre II, Faculty of Law, University of Delhi. Dr. Nitesh have 14 years of Teaching, Administrative and research experience in Renowned Institutions like Amity University, Tata Institute of Social Sciences, Jai Narain Vyas University Jodhpur, Jagannath University and Nirma University.

More than 25 Publications in renowned National and International Journals and has authored a Text book on Cr.P.C and Juvenile Delinquency law.



### **Subhrajit Chanda**

BBA. LL.B. (Hons.) (Amity University, Rajasthan); LL. M. (UPES, Dehradun) (Nottingham Trent University, UK); Ph.D. Candidate (G.D. Goenka University)

Subhrajit did his LL.M. in Sports Law, from Nottingham Trent University of United Kingdoms, with international scholarship provided by university; he has also completed another LL.M. in Energy Law from University of Petroleum and Energy Studies, India. He did his B.B.A.LL.B. (Hons.) focussing on International Trade Law.

## ***ABOUT US***

WHITE BLACK LEGAL is an open access, peer-reviewed and refereed journal provided dedicated to express views on topical legal issues, thereby generating a cross current of ideas on emerging matters. This platform shall also ignite the initiative and desire of young law students to contribute in the field of law. The erudite response of legal luminaries shall be solicited to enable readers to explore challenges that lie before law makers, lawyers and the society at large, in the event of the ever changing social, economic and technological scenario.

With this thought, we hereby present to you

# **DIGITALIZATION OF LAND RECORDS**

AUTHORED BY - K. ABIRAMI<sup>1</sup>

## **ABSTRACT**

Land is a valuable asset in any country, but especially in India, where agriculture employs more than half of the labour force, it is consequently far more important to establish a modern, thorough, and transparent land record management system. By increasing efficiency, accessibility, and transparency, the digitization of land records has completely changed land administration. Digital land records encourage accountability and convenience of access for all parties involved, including landowners, government agencies, and financial institutions, by cutting down on manual errors and bureaucratic delays. Notwithstanding these benefits, there are still several obstacles in the way of their successful application, especially with regard to cybersecurity and digital infrastructure. Cybersecurity threats like hacking, data breaches, and unauthorized changes can compromise digital land records, leading to fraud, identity theft, and data loss, eroding public trust. Other issues that affect rural regions include inadequate internet connectivity, a shortage of digital gadgets, and a lack of technical skills, which leads to inequalities in land management. To ensure secure and accessible digital land records, strong cybersecurity measures such as encryption, multi-factor authentication, and regular audits are needed. Investing in rural digital infrastructure, internet connectivity, and digital literacy programs will promote inclusive access. Resolving these issues will improve security and dependability, which will be beneficial to all parties involved.

## **INTRODUCTION**

Land is one of the most valuable resources, serving as the foundation for agriculture, infrastructure, housing, and economic development. It plays a crucial role in social stability, governance, and wealth distribution. However, managing land records has historically been a complex and challenging task, often plagued by issues such as inefficiency, corruption, and lack of transparency.

---

<sup>1</sup> Assistant Professor, Vel Tech School of Law, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai, Tamilnadu-600062. Mail id: abiramik@veltech.edu.in

One revolutionary way to address these issues is through the digitization of land records. Land digitalization involves converting traditional land records into digital formats to enhance accessibility, transparency, and security in land administration. This modernization helps reduce land disputes, promotes efficient land management, and boosts economic growth by ensuring secure land ownership documentation. Digital land records provide many advantages through the use of contemporary technology like cloud computing, blockchain, and Geographic Information Systems (GIS). Various government initiatives, such as India's DILRMP, the UK's HM Land Registry Digital Transformation, and Kenya's NLIMS, highlight global efforts in this direction. These include increased precision, increased openness, quicker transactions, and easier access to data pertaining to land.

Additionally, digital technologies prevent fraud, lessen disputes, and improve the efficiency of land administration. By guaranteeing safe ownership rights and making economic transactions simpler, they also empower citizens. All that taken into account digitizing land records is an essential first step in modernizing land governance, encouraging economic expansion, and guaranteeing a more accessible and equitable land administration system.

However, challenges such as technological constraints, outdated records, cybersecurity risks, legal barriers, and high implementation costs hinder progress. Overcoming these hurdles through technological investment, legal reforms, and public awareness is crucial for a successful digital land administration system.

## **HYPOTHESIS**

“While digital land records improve transparency and accessibility, the risk of cybersecurity breaches and inadequate digital infrastructure in rural areas hinders their effective implementation”

## **RESEARCH METHODOLOGY**

In this study, the digitization of land records and the key initiatives by Government are studied through Doctrinal Research Methodology. Data collection involves secondary data sources such as government reports, academic papers, case studies, and existing digital land records.

## SIGNIFICANCE OF LAND

- **Source of Livelihood:** Land serves as a fundamental resource for habitation and sustenance, supporting diverse flora, fauna, and human populations. In India, over 50% of the workforce is engaged in agriculture, which relies heavily on land. Additionally, land is utilized for forestry, mining, and various other activities that contribute to income generation and employment opportunities.
- **Economic Value:** As a valuable asset, land attracts investment, facilitates industrialization, and drives economic growth. Initiatives like Special Economic Zones (SEZs) leverage land to establish export-driven industrial hubs. Furthermore, land transactions can yield long-term capital gains, subject to specific conditions and exemptions<sup>2</sup>.
- **Natural Resources:** Land contains a variety of natural resources, including minerals, water, and forests. These resources are essential for human industry and commerce.
- **Culture and Identity:** For some people, their land can serve as a source of identity and belonging. In addition to having a role in religious and spiritual activities, it might be connected to a specific culture or community.

## BENEFITS OF LAND DIGITIZATION

The digitization of land records in India brings numerous advantages that transform land management, governance, and economic growth.

- **Reduced Land Disputes:** One of the most significant benefits of digitization is the reduction in land-related conflicts. By maintaining accurate and tamper-proof records, digital land databases help in clearly defining property ownership, boundaries, and legal rights. This minimizes fraudulent claims and litigation, leading to faster resolution of disputes and reducing the burden on courts.
- **Enhanced Transparency:** Digital land records reduce the chances of document manipulation and fraudulent transactions. With a centralized and standardized database, landowners, buyers, and government authorities can verify property details in real time, ensuring clarity in ownership and reducing corruption. Transparent records also support efficient land transactions and prevent illegal encroachments.
- **Improved Governance:** Land digitization enables governments to plan and implement land-related projects more effectively. It aids in urban planning, infrastructure

---

<sup>2</sup> <https://www.economicdiscussion.net/articles/land-meaning-importance-and-other-details/1519>

development, and disaster management by providing accurate data on land use. Furthermore, it facilitates better tax collection, enhances revenue generation, and helps in identifying land for public welfare projects such as affordable housing and industrial zones.

- **Ease of Access:** Digital records eliminate the need for landowners to visit government offices repeatedly to obtain land documents. Online access to land records not only saves time but also reduces bureaucratic hurdles, making property management more convenient for individuals, businesses, and institutions.
- **Boost to the Economy:** The availability of clear and verifiable land titles increases investor confidence, as land with transparent ownership records becomes a valuable asset for economic activities. Secure land rights encourage investments in agriculture, real estate, and industrial projects, leading to job creation and overall economic growth. Moreover, digitized land records help financial institutions in assessing land as collateral for loans, thereby facilitating credit access to farmers and entrepreneurs.

## **NEED FOR DIGITAL LAND RECORD MANAGEMENT SYSTEM IN INDIA**

- **Minimizing Litigation:** Land-related disputes constitute a significant portion of pending court cases in India, often leading to prolonged legal battles and high costs. A robust and transparent digital land record management system can help reduce these disputes by ensuring clear, government-backed ownership rights, thereby preventing fraudulent claims and legal ambiguities.
- **Enhancing Transparency:** Traditional land records in India are often inaccurate, outdated, and dispersed across multiple government departments. Digitizing land records and integrating them with spatial data and other databases—such as Aadhaar and tax records—can improve accuracy, accessibility, and efficiency, making land transactions more transparent and reducing bureaucratic hurdles.
- **Facilitating Economic Growth:** Land is a crucial asset that can drive investment, industrial expansion, and overall economic development. A well-structured digital land record system can streamline land transactions by reducing risks, uncertainties, and associated costs. Additionally, secure and verifiable land titles can enable landowners to leverage their property for credit, insurance, and market access, further stimulating economic activity.

- **Ensuring Social Equity:** A digitized and transparent land management system can play a crucial role in implementing land reforms aimed at equitable distribution, particularly benefiting landless and marginalized communities. Recognizing and securing land rights for women and vulnerable groups can enhance their economic empowerment and provide them with better access to essential land-related services.

By modernizing the land record management system through digitization, India can create a more efficient, transparent, and equitable framework for land governance, fostering legal security, economic progress, and social justice<sup>3</sup>.

## KEY INITIATIVES BY GOVERNMENT

The Government of India has introduced several initiatives to digitalize land records nationwide, with the goal of completing the process across districts by March 2024.

- **Digital India Land Records Modernization Programme (DILRMP):** Originally launched as the National Land Records Modernization Programme (NLRMP) by the Government of India in 2008, the Government of India revamped the existing National Land Records Modernization Programme (NLRMP) and bring into force Digital India Land Records Modernization Programme (DILRMP) in 2016, this initiative focuses on updating land records, reducing land-related disputes, improving transparency in record maintenance, and ultimately enabling conclusive property ownership. DILRMP improves land governance, makes doing business easier, and empowers residents with secure land ownership rights by encouraging paperless land transactions, quick mortgage approvals, and real-time access to land facts<sup>4</sup>.
- **Bhu Aadhaar (Unique Land Parcel identifying Number - ULPIN):** Bhu-Aadhaar, also known as the Unique Land Parcel Identification Number (ULPIN)<sup>5</sup>, is a 14-digit alphanumeric ID assigned to all land parcels in India. It employs geocoordinates to give each plot a unique, tamper-proof identity. This effort under the Digital India Land Records Modernization Programme (DILRMP) aims to standardize and digitize land records across the country. Furthermore, land registration has shifted from a manual to an electronic (e-Registration) system, which has increased efficiency and security. Bhu-Aadhaar links with Aadhaar, PAN, and banking systems to improve land ownership verification, eliminate fraud, and allow smooth transactions. It enables digital mapping,

---

<sup>3</sup> [Press Release: Press Information Bureau](#)

<sup>4</sup> [Digital India 2.0: Key New Initiatives for a Digital-First India](#)

<sup>5</sup> [Know all about Bhu-Aadhar Card and its Impact on Real Estate](#)

transparent land transactions, and faster dispute resolution. Furthermore, it encourages good governance in agricultural, real estate, and infrastructure development. By combining land records into a centralized database, Bhu-Aadhaar enhances land security, transparency, and ease of commerce. This technology is an important step toward modernizing India's land management and ensuring a transparent, efficient land administration procedure.

- **The SVAMITVA Scheme:** The SVAMITVA (Survey of Villages Abadi and Mapping with Improved Technology in Village Areas) Scheme is a project launched by the Indian government in 2020 to map land ownership and property. Its purpose is to provide rural landowners with property rights by issuing legal ownership documents. This initiative creates precise, geo-referenced maps of rural properties using drones and innovative mapping technologies. These maps facilitate local governance, speed up bank financing, and reduce land conflicts. A 'Property Card' (Svमितva Card) is given to property owners as official documentation of ownership. By compiling land records into a digital database, the program empowers rural communities and encourages self-sufficiency and ease of commerce. Additionally, it enhances infrastructure planning, increases property tax revenue for Gram Panchayats, and encourages rural development. SVAMITVA<sup>6</sup> is a significant step in enhancing India's rural land administration.
- **The National Generic Document Registration System (NGDRS):** The Indian government created the National Generic Document Registration System (NGDRS), an online land registration platform, to simplify and improve the state-by-state property registration procedure. It is a transparent, flexible, and centralized system that makes it possible to register property papers electronically, cutting down on manual paperwork and administrative hold-ups. To ensure speed and security in land transactions, NGDRS offers features like document verification, online registration fee payment, e-stamping, and Aadhaar-based authentication. It promotes consistency in land registration procedures across the country by enabling states to modify the system to meet their unique legal and procedural needs. NGDRS<sup>7</sup> improves ease of doing business and transparency in land transactions by lowering fraud, doing away with middlemen, and decreasing property disputes. In addition to helping the Digital India program and

---

<sup>6</sup> [Svमितva Scheme | Ministry of Panchayati Raj](#)

<sup>7</sup> [NGDRS : National Generic Document Registration System](#)

enhancing citizens' access to hassle-free property registration services, it is essential to modernizing land governance.

- **Integration with e-Courts and Banks:** In an effort to reduce land disputes and stop fraudulent transactions, the Ministry of Rural Development is attempting to connect digital land records with financial institutions and e-courts. One important step in expediting real estate transactions, lowering fraud, and enhancing legal efficiency is the integration of land records with banks and e-Courts. In order to establish a transparent, safe, and effective land governance system, the government plans to connect digital land records with financial institutions and the court (e-Courts). Judges and other legal authorities may quickly confirm land title, look up property issues, and access case histories through the e-Courts integration, which cuts down on litigation delays involving land. This guarantees quicker dispute settlement and eliminates fraudulent transactions involving properties under dispute. Similarly, integrating land records to banks and financial institutions allows for smooth mortgage processing, rapid property verification, and risk assessment. This eliminates loan fraud, expedites credit approvals, and improves ease of doing business. By combining these systems, the government ensures improved legal clarity, financial security, and efficient land administration, hence promoting the Digital India project and stimulating economic growth<sup>8</sup>.

## ISSUES AND CHALLENGES

The implementation of digital government in India has been facing numerous challenges. These fall into three categories: Technical, Economic, and Environmental and Social difficulties. Although the idea of e-governance promises to make government more efficient and successful, most people may not have easy access to ICTs and gadgets. Therefore, as part of its universal access initiatives, the government must offer internet access through public terminals.

### Technical Challenges

- **Data Integrity and Accuracy:** Due to the age of many land records, digital conversion can be challenging since they may contain mistakes, inconsistencies, or missing information<sup>9</sup>.

---

<sup>8</sup> [Digitalization and its impact on the Indian legal system - iPleaders](#)

<sup>9</sup> [Current Land Issues in India: NUS Institute of South Asian Studies \(ISAS\)](#)

- **Interoperability Problems:** Compatibility issues arise when different government departments and agencies utilize different formats and systems.
- **Cybersecurity Risks:** Ownership information may be compromised by hacking, data breaches, and cyber fraud, which can affect digital land records.
- **Infrastructure Deficiencies:** Digitalization is made difficult in rural regions by poor internet connectivity, a lack of digital infrastructure, and insufficient IT competencies.
- **Difficulties with Geographic Mapping:** Precise digitization often requires integration with GPS and satellite-based mapping, which isn't always available or accurate.

### Legal Challenges

- **Lack of Clear Legal Framework:** A strong legal framework governing digital land records and their validation is lacking in many nations.
- **Property Rights Disputes:** Digitalization initiatives may be delayed by unclear titles, conflicting claims, and unresolved litigation.
- **Privacy Concerns:** Maintaining transparency while safeguarding personal ownership information requires careful balancing.

### Administrative Challenges

- **Resistance to Change:** Implementation is slowed down by officials' unwillingness to embrace digital systems and bureaucratic inertia.
- **Capacity and Skill Gaps:** Many landowners and government workers lack the technological know-how required to handle or utilize digital land data.
- **Collaboration Problems:** There may be delays as a result of a lack of collaboration amongst the many authorities in charge of land records, such as revenue, urban development, and local bodies.
- **Corruption and Mismanagement:** Although digitization lessens the likelihood of fraud, vested interests may oppose changes, which could result in manipulation or process delays.

### Social and Economic Challenges

- **Digital Divide:** It is challenging for many rural and marginalized populations to take

advantage of digital land records because they lack access to technology and digital literacy.

- **High Implementation cost:** The procedure necessitates a large outlay of funds for infrastructure, software, and training.
- **Landless and Informal Settlements:** It can be difficult to include properties in digital records since many are occupied informally or lack the necessary paperwork.

### Political and Policy Challenges

- **Policy Inconsistencies:** Digitalization initiatives may be hampered by frequent changes to land policies or a lack of long-term vision.
- **Legal and Bureaucratic Hurdles:** Law changes, land reforms, and ineffective procedures can all impede development.

## RELEVANT CASES

**Observations of the Hyderabad High Court on the Digitization of Land Records (2020):** The Hyderabad High Court addressed issues with Telangana's land record digitization<sup>10</sup> in December 2020. The court highlighted the advantages of digitalization for efficiency and transparency when challenging arguments against the online registration of non-agricultural lands using the Dharani site. The court stated, "In fact, we presumed that the land records in Telangana must have already been digitized as Hyderabad is projected as the Silicon Valley of India." This judgment acknowledges implementation obstacles while highlighting court support for digitization initiatives.

**Gujarat's Land Digitization Programme and Resulting Disputes:** The goal of Gujarat's extensive land digitization initiatives was to improve land records' accuracy and transparency. However, there were difficulties with implementation, which resulted in many disagreements. The Gujarat government received about 168,000 applications between 2020 and 2021 asking for changes to digitized land records. Under one prominent instance, Karshan Natha Joshi, a farmer from Devbhumi Dwarka, had difficulties acquiring property because his land was mismapped under the new system. This illustration highlights the real-world challenges and legal conflicts brought on by digitalization initiatives<sup>11</sup>.

---

<sup>10</sup> [Dharani one-stop solution for all land records: Telangana to HC | Hyderabad News - Times of India](#)

<sup>11</sup> [How Gujarat's Rural Land Digitisation Programme Was Botched, Starting A Fresh Trail of Land Litigation — Article 14](#)

**State of Bihar vs. Amar Nath Pandey:** The Patna High Court discussed unsurveyed land concerns in this case, highlighting the difficulties in establishing ownership because appropriate surveys are lacking. The court emphasized the need for precise land records by ruling that the nature of unsurveyed land is still unknown and unclear. Although not specifically related to digitization, this instance emphasizes the need of thorough land surveys, which are essential to successful digitization<sup>12</sup>.

These instances and examples demonstrate the judiciary's perspective on land record digitization, the practical obstacles faced during implementation, and the legal consequences of such projects.

## CONCLUSION AND SUGGESTION

Finally, digitalizing land records has the potential to transform land management in India by increasing openness, public empowerment, real-time monitoring, and economic success. Although substantial progress has been made in computerizing and digitizing cadastral maps, legacy problems must be addressed, an integrated approach must be taken, coverage must be expanded, quality must be improved, and state capacity must be established in order to extend digitization to the last mile. Digitized land records have the ability to significantly reduce corruption and land conflicts, provide individuals with better access, and enhance living and economic conditions through dedicated efforts focused on social participation and consensus building. It is therefore suggested that to ensure that all citizens can access government websites, they must be developed to be more user-friendly. Furthermore, internet connectivity should be offered via public terminals to bridge the digital divide and allow people without personal internet connections to access critical online services. To boost trust in digital platforms, the government must develop steps that assure users can rely on the technology, such as strong cybersecurity protocols and transparent data policies. The disparity between individuals, communities, and enterprises who have access to information technology and those that do not is mostly due to economic disadvantage and a lack of awareness.

---

<sup>12</sup> [Amar Nath Pandey v. State of Bihar | Patna High Court | Judgment | Law | Case Mine](#)