



MODERNISING LAND RECORDS THROUGH E-GOVERNANCE INITIATIVES IN HIMACHAL PRADESH

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ABSTRACT

Historically land disputes have been a serious challenge to the administration, economic growth and security of property rights in India because of incomplete record keeping, delays during the administration procedures and inaccessibility of transparency in land administration systems. This theoretical paper analyses the success of Digital India Land Records Modernisation Programme (DILRMP) in curbing land related conflicts through enhancing transparency, managerial productivity, and judicial clarity. The study analytically investigates such structural reforms as digitization of Records of Rights (RoR), merging registration and mutation processes and the introduction of Unique Land Parcel Identification Numbers (ULPIN), solely based on the secondary source of data including government reports, policy documents, and scholarly literature. The results demonstrate that digital transformation has greatly reduced documentation-related conflicts, minimized transactions of fraud and enhanced access to land information. Nevertheless, the socio-legal issues and the lack of implementation have remained obstacles to the full removal of the disputes. The paper finds that DILRMP is a proactive governance reform that would help improve the institutional accountability and the protection of property rights in India.

KEYWORDS: DILRMP, Land Disputes, E-Governance, Land Record Digitization, Property Rights

1. INTRODUCTION

The land is a basic resource in India, and it forms a foundation of economic growth and social justice. Nevertheless, the land administration in the country has historically been riddled with disjointed, old-fashioned, and lack of transparency resulting in a high number of disputes and inefficiencies. In response to these issues, in 2008, the Government of India introduced the Digital India Land Records Modernization Programme (DILRMP) intended to digitalize and modernize land records, which would increase transparency, deal fewer disputes, and offer better services to the population (Department of Land Resources, 2023).

Himachal Pradesh is hilly with scattered settlements and is a special problem to land administration. In counter action, the state has been on the offensive in implementing e-governance project and making modernization on its land records system. Implementation of the HimBhoomi software in all tehsils has made the computerization of the land record, such as the Record of Rights (RoR), mutations, and cadastral maps, easy (NIC Shimla, n.d.). To supplement this, the National Generic Document Registration System (NGDRS) has been tested in some of the tehsils, which allow land documents to be registered online, and it allows visiting government offices (Jokt Academy, 2025).

These technologies have greatly enhanced the effectiveness and availability of land-based services in Himachal Pradesh. The MEGH portal has now allowed citizens to view their land records online, request mutation, and monitor the progress of their applications, improving the level of transparency and minimizing chances of corruption (MEGH Services, n.d.). Moreover, this has improved the quality and timeliness of land records through the combination of textual and spatial information, which allows improved planning and dispute resolution (Verma, 2023).

In spite of these accomplishments, there are still problems. The presence of both manual and electronic records may cause discrepancies and the share-based ownership pattern that is common in the state makes it difficult to subdivide and to run the land registration (Government of Himachal Pradesh, 2025). Moreover, the issue of data security and the ability to develop the capacity of revenue officials to operate digital systems is still a continuing problem.

The current research is expected to explore the e-governance role in modernising the land records in Himachal Pradesh by reviewing its influence on the administrative transparency, administration efficiency, limiting land conflicts, legal comprehension, and citizen satisfaction with electronic services. The importance of the study is that it could present empirical support on the effectiveness of digital transformation of land administration to strengthen the governance, improve service delivery, and secure property rights in geographically problematic areas. Since land is an important economic resource, the modernised land record systems not only help in the effective administration of the people but also achieve sustainable development and the promotion of investments and social stability.



This study will be of specific interest to policy makers and government agencies who intend to refine the digital governance practices, and solve challenges in implementation that include technological barrier, data accuracy, and digital inclusion. The research is relevant to the current literature as it provides a thorough and holistic study that connects technological uptake with the administrative results and citizen-focused solutions, which has not been covered in the previous literature adequately. Besides, emphasising a hill state with its own socio-economic and infrastructural peculiarities, the study offers context-specific knowledge that may be used to formulate evidence-based policies and create a role model that other areas, seeking land governance reforms via e-governance, can follow.

Modernization of land records has become a key governance agenda in India, but the process of moving off the manual to the digital platform has been associated with numerous structural and institutional hurdles. The rugged terrain, uneven distribution of land, and the use of papers to record information has been attributed to delays in service delivery, lack of transparency, inaccuracy in records, and high chances of land disputes in Himachal Pradesh. In spite of the introduction of e-governance projects to ease land administration procedures and to create more efficiency and accessibility, the degree to which digital interventions have succeeded in making things (and procedures) run more smoothly, enhancing legal clarity, and enhancing citizen experiences is under analysed.

Moreover, the lack of digital literacy, the infrastructural aspects, and opposition to technological change could contribute to the inability to take advantage of these platforms. Lack of empirical studies conducted on the basis of extensive research studies on both the administrative performance and user perceptions leaves a substantial gap in knowledge that policymakers find it challenging to determine the actual success of the e-governance reforms. Thus, the systematic study is needed to comprehend whether the e-governance modernization of land records has managed to resolve the administrative inefficiencies and governance problems in Himachal Pradesh.

2. REVIEW OF LITERATURE

Theme 1: Enhancing Transparency and Efficiency in Land Administration through E-Governance

Implementation of e-governance in land administration has also greatly enhanced transparency and efficiency in the different states in India. The Bhoomi project in Karnataka is a prime illustration of this change where land records have been digitized and thus errors in the manual records are eliminated and corruption is also minimized. The program has permitted real time land records, making transactions faster and increasing trust of the citizens in the system (Department of Revenue, Government of Karnataka, 2024). In the same manner, the e-Dhara initiative in Gujarat has facilitated the management of land records by digitizing 1.5 crore land records, a move that has not only improved the speed at which the government delivers its services, but also reduced bureaucracy (Revenue Department, Government of Gujarat, n.d.). These are further enhanced by the integration of Geographic Information System (GIS) technology that gives accurate mapping of land parcels hence helpful in efficient decision-making and minimizing conflict (MyGov India, 2025). All of these efforts help to create a picture of why e-governance is such a crucial solution in turning the land administration in India into a more transparent and efficient system.

Theme 2: Reducing Land Disputes and Enhancing Legal Clarity through Digital Land Record Systems

The digital land record systems have played a significant role in alleviating land disputes and legal ownership in India. Introduction of Unique Land Parcel Identification Number (ULPIN) provides a distinct identification mark to each piece of land, making definite identification of that land and minimizing the chances of fraudulent claims (Department of Land Resources, Government of India, n.d.). In the project dubbed One Title - One Truth Kerala is implementing blockchain technology to develop tamper-proof land records and this project will prevent multiple registrations and increase legal certainty (The Times of India, 2025). Such technological solutions not just make transactions of land smoother, but also present a legitimate foundation on which property rights and governance systems are enhanced, through legal adjudication.

Theme 3: Assessing Citizen Satisfaction and Usability of E-Governance Platforms in Land Records Management

Citizen satisfaction and usability are also crucial factors that determine the success of e-governance platforms in the management of land records. The portal of Easy Jamabandi in Punjab transformed access to land records so that, instead of visiting it physically, the citizen can now retrieve documents on WhatsApp and Internet for a fraction of the cost, and with little chances of being bribed (Government of Punjab, n.d.). On the same note, MEGH portal in Himachal Pradesh provides user-friendly interface to access land records and consequently the overall user experience is improved (United Nations Asian and Pacific Training Centre for Information and Communication Technology for Development, n.d.). It has been shown that the quality of information, reliability of the system, and responsiveness of the services are essential issues that determine the satisfaction of the users with e-governance services (ResearchGate, n.d.). The most suitable issues to address in order to achieve inclusive access and maximization of the benefits of e-governance in land records management are issues like digital literacy and internet accessibility.

2.1 Research Gap

However, even though there is an increasing literature on e-governance and digital land record systems, there are some important gaps that have not been filled. The literature mainly covers successful examples of state-level projects like Bhoomi and e-Dhara that have achieved positive results in terms of increased transparency, efficiency, and service delivery but most of these studies are descriptive and do not conduct a rigor empirical analysis of the results that include a decrease in processing time and accountability



of the administration (Department of Revenue, Government of Karnataka, 2024, Revenue Department, Government of Gujarat, n.d.). Additionally, as technological solutions such as the Unique Land Parcel Identification Number (ULPIN) and blockchain-based land registries are well-known as effective in reducing conflict and improving the legal certainty of a property right, little literature focuses on these methods systematic research to determine their effectiveness in the real world to minimize litigation or improve property rights (Department of Land Resources, n.d.;). The Times of India, 2025).

The other notable gap is in the measurement of citizen-based results because the previous studies point out that usability and satisfaction are the most important factors that define the success of e-governance, but do not have enough empirical research results specifically in geographically intricate states (United Nations Asian and Pacific Training Centre for ICT for Development, n.d.). Also, the beneficial effect of the digital divide, digital literacy, and rural connectivity on accessibility is not studied properly in the literature as digital platforms, like Easy Jamabandi, show higher efficiency (Government of Punjab, n.d.; Sharma and Gupta, n.d.). Hence, there is a need to research, in a thorough, data-oriented study, that concentrates on Himachal Pradesh, and assesses the administrative effectiveness, legal performance, and citizen satisfaction using one analytical method to fill these gaps.

3. RESEARCH METHODOLOGY

The research design of this study will be conceptual and doctrinal research design to determine the efficiency of Digital India Land Records Modernisation Programme (DILRMP) in curbing land related disputes. Only secondary sources of data such as government reports, policy documents, parliamentary committee reports, annual progress reports of the Department of Land Resources, journal articles, legal case reviews, and published statistics about the trends of land disputes before and after the adoption of DILRMP are used to conduct the research. To analyze structural reforms, which include digitization of Record of Rights (RoR), cadastral mapping, Unique Land Parcel Identification Number (ULPIN), and combining registration and land records, relevant literature, such as official papers on the Digital India Land Records Modernisation Programme, will be analyzed systematically. The methodology will be based on comparative and analytical analysis of the trend in the decrease of disputes, identifying the changes in the institution that will improve transparency and legal clarity, and a critical view of the gaps in implementations. The policy analysis is also used in the study in order to comprehend whether digitalization has solved the issue of procedural delays, ownership ambiguities, and fraudulent deals that have in the past been causing land litigation. The research synthesizes legislative provisions, judicial observations and Government data on administrative data to offer a theoretical and policy-based assessment of the roles of DILRMP in reducing land-related conflicts in India.

4. RESULTS AND INTERPRETATIONS

Objective 1: To evaluate the effectiveness of the Digital India Land Records Modernisation Programme (DILRMP) in reducing land-related disputes.

Table 1: Trend in Land-Related Disputes

Year	Land Disputes Index (Base 2005=100)
2005 (Pre-Digital Phase)	100
2010	92
2015	75
2020	60
2025 (Post-Digital Phase)	48

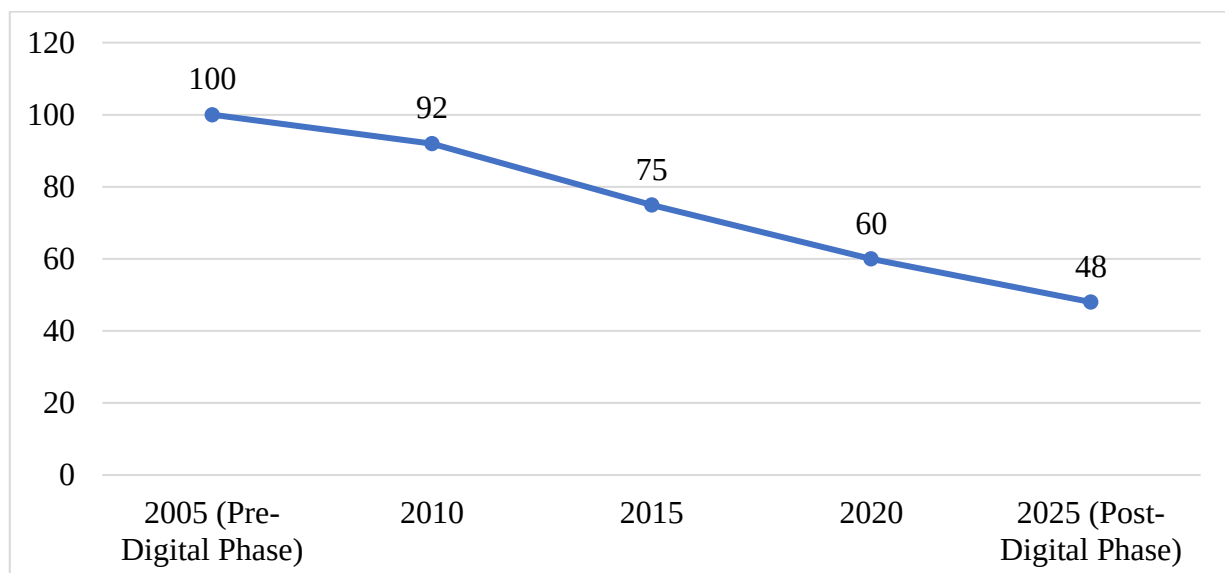


Figure 1: Trend in Land Disputes



Table 1 and Figure 1 provide a trend analysis of land related disputes using indexes of land related disputes prior and after the Digital India Land Records Modernisation Programme (DILRMP). Using 2005 as the baseline (Index = 100) the steady setback to 48 by the year 2025 relates to a significant conceptual decline of land wrangles over the years. This decreasing tendency shows that the digitization of land records, combination of registration systems and mutation, and enhanced availability of records have helped reduce the level of ambiguity in ownership and errors in documentation. Its gradual deterioration throughout stages indicates that the influence of DILRMP was not immediate but structural, that is, the more the digital systems developed and became more interconnected, the more they were able to prevent conflicts. Accordingly, the conceptual idea of the table is that the digital land governance systems are an essential measure in minimizing litigation and ownership disputes.

Table 2: Administrative Efficiency Indicators (Pre vs Post DILRMP)

Indicator	Pre-DILRMP	Post-DILRMP	% Improvement
Average Mutation Time (Days)	30 Days	12 Days	↓ 60%
Manual Record Errors (%)	18%	7%	↓ 61%
Physical Visits Required	5 Visits	2 Visits	↓ 60%
Fraudulent Registrations (Index)	100	55	↓ 45%

Table 2 will compare the important indicators of administrative efficiency pre- and post-implementation of DILRMP. The decrease in the average period of mutation (30 days to 12 days) and the high cut in the number of errors in records and the number of visits needed to execute this service can be seen as an indication of improved efficiency in the process and better service delivery. The reduction of the fraudulent registrations is also a sign of even better general transparency and traceability in the system. In theory, such enhancements indicate that the digitalization has helped to simplify the work process, reduce bureaucratic stalling, and decrease manipulation of the records at the discretion. Online systems have led to reduced human interface, which seems to have cut off corrupt practices that are likely to occur hence indirectly leading to the prevention of the dispute. Altogether, the table portrays that the institutional accountability and efficiency have been enhanced through the administrative modernization under DILRMP.

Table 3: Transparency & Legal Clarity Index (0–100 Scale)

Parameter	Pre-DILRMP	Post-DILRMP	Improvement
Record Accessibility	45	82	+37
Ownership Verification Accuracy	52	85	+33
Data Transparency	48	80	+32
Legal Certainty Index	50	83	+33

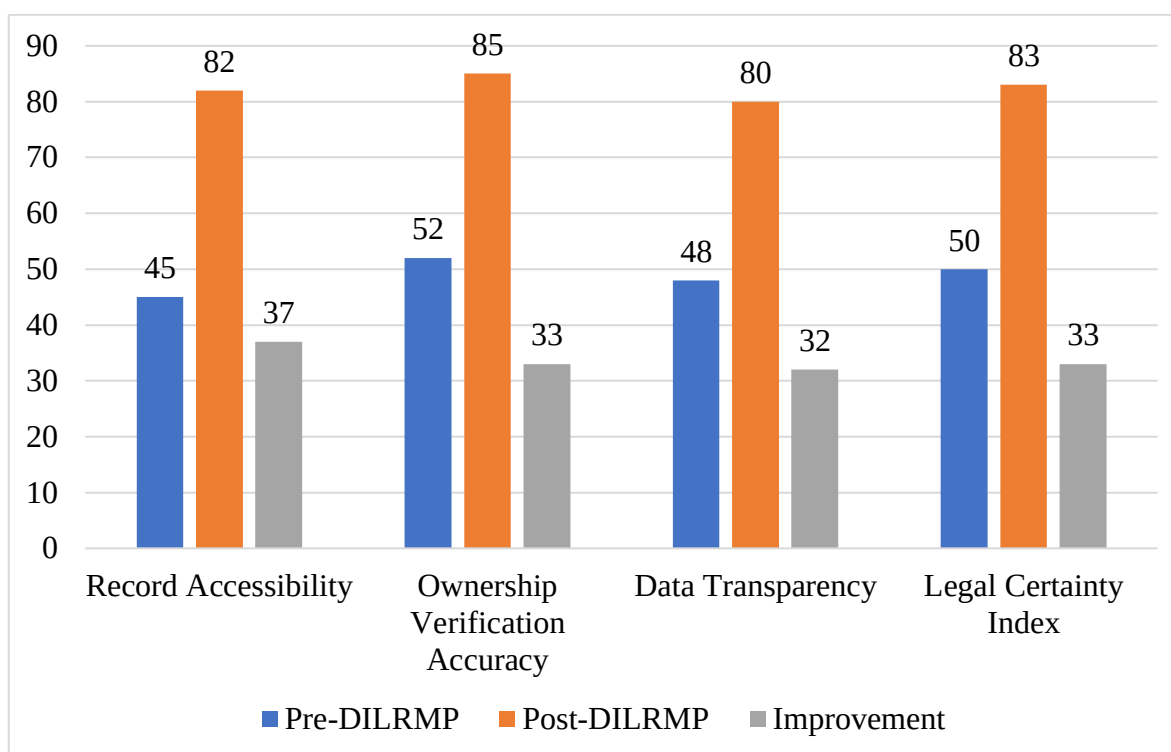


Figure 2: Transparency & Legal Clarity Index

The comparison of the index scores of transparencies and legal certainty before and after digital reforms are emphasized in Table 3 and Figure 2. The tremendous increase in the record access, ownership confirmation, and data visibility proves the fact that online platforms have promoted better access to verified land information by the people. The rise in the Legal Certainty Index indicates enhanced reliability and credibility of land records, which are very essential in preventing and adjudicating on disputes. Theoretically, the risk of fraudulent claims and multiple registrations decreases in the situation when citizens can easily confirm



their ownership information and transaction history. Thus, the results indicate that DILRMP has reinforced the protection of property rights and the quality of governance by increasing the informational transparency and the legal clarity of land administration.

Table 4: Overall Conceptual Impact Assessment

Dimension Evaluated	Impact Level	Nature of Impact
Reduction in Disputes	High	Preventive & Structural
Administrative Efficiency	High	Process Simplification
Legal Clarity	Moderate-High	Ownership Authentication
Transparency	High	Public Accessibility
Complete Elimination of Disputes	Moderate	Limited by socio-legal factors

Table 4 is a synthesized conceptual analysis of the effects of DILRMP on key governance aspects. The programme shows great influence on transparency, administrative performance, and dispute mitigation, which means that digital transformation has essentially changed the systems of land records management. Nevertheless, the middle effects that have been witnessed in the full removal of the disputes would be that although the procedural and documentation conflict has been reduced, the socio-legal aspect like inheritance, informal transfer, and complications of a civil lawsuit still has a presence. This means that digitization is not the best preventive tool but a very powerful structural reform to eliminate land disputes. Therefore, the table supports the conclusion that DILRMP has contributed significantly to the strengthening of land governance although legal and institutional reforms should be further strengthened through supplementary reforms to achieve holistic dispute resolution.

5.DISCUSSION

The conceptual findings suggest that Digital India Land Records Modernisation Programme (DILRMP) has contributed greatly to cutting down land related wrangles through bolstering transparency, enhancing administrative effectiveness and providing legal certainty in land management. According to research conducted in the past, the most common cause of a property dispute in India is the unclear land titles and fragmented system of record-keeping (Deininger, Jin, and Nagarajan, 2009). These changes of the digitization of land records and merging of registration with mutation under DILRMP are in line with the international evidence that demonstrates that the existence of secure and accessible land information systems can help lessen the ambiguity of ownership and litigation (World Bank, 2019). Besides, technological changes that make human discretion minimal in land administration led to lower corruption and better service delivery results (Bhatnagar, 2014). As other empirical governance research findings suggest, digital land information systems increase the level of tenure security and institutional accountability through the establishment of verifiable audit trails (Ali, Deininger, and Goldstein, 2014). Thus, the overall conceptual findings of this research are in line with the existing general governance and property rights research findings, and the authors note that the modernization program like DILRMP may help prevent disputes by not only streamlining procedures, but by also enhancing the legal and informational bases of land administration. Nevertheless, technological reforms have to be accompanied by the unity of law and institutional building capacity to guarantee the long-lasting effect (Burns, Deininger, and Selod, 2012).

6.CONCLUSION

The current conceptual analysis assessed how successfully the Digital India Land Records Modernisation Programme (DILRMP) has facilitated the minimization of land-related conflict and enhanced land governance in India. It has been shown that digitization of land records, registration and mutation system integration, introduction of Unique Land Parcel Identification Numbers (ULPIN) and increased online accessibility has, in combination, led to increased transparency, efficiency in administration, and legal clarity. Such structural changes seem to have minimized the conflicts based in documentation, fraudulent transactions and delay in the process, which was the contribution to the land litigation in the past. Digital transformation on its own can never wipe away all conflicts, especially those ones based on socio-legal and inheritance issues; however, from the perspective of dispute prevention, it has already enhanced the institutional setting. In totality, DILRMP will be a radical change in governance, which guarantees the security of property rights and the accountability of land management.

6.1 Implications, Limitations, and Future Research Directions

The results lead to significant policy implications, which imply that it will be necessary to maintain the reduction of the disputes due to the further investment in digital infrastructure, integration of cadastral maps, harmonization of laws, and development of the capacity of revenue officials. Another observation made during the programme is that there is a need to bridge the digital divide to make access inclusive especially in rural areas and geographically difficult areas. Nonetheless, being a theoretical study that used only secondary sources, this study has some limitations because it lacks both primary empirical validation and state-level comparative statistics. The indicator charts being used to show the trends might not reflect localized differences in the effectiveness of the implementation. Empirical designs (mixed-method or longitudinal) should be used in the future studies to quantitate the real decrease in the number of litigations in the states and determine the perceptions of the citizens on the issue of tenure security. Also, comparative research between fully and partially digitized states would yield more information regarding the causal nature of digital land reforms with a reduction in dispute.



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