

**OVERCOMING HURDLES TO ELECTRONIC CONVEYANCING IN KENYA: AN
IN-DEPTH ANALYSIS OF KENYA'S NATIONAL LAND INFORMATION MANAGEMENT
SYSTEM, 'THE ARDHI-SASA SYSTEM'**

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University Law School

By:

EMMANUEL KIMINGI MACHARIA

126943

Prepared under the supervision of

JAMES NYIHA

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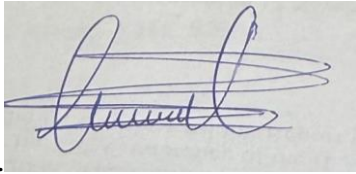
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DECLARATION

I, EMMANUEL KIMINGI MACHARIA, do hereby declare that this research is my original work and that to the best of my knowledge and belief, it has not been previously, in its entirety or part, been submitted to any other university for a degree or diploma. Other works cited or referred to are accordingly acknowledged.



Signed:

Date:23 February 2025.....

This dissertation has been submitted for examination with my approval as University Supervisor.



Signed:

JAMES NYIHA

Date:23 February 2025

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DEDICATION

This work is dedicated to God, whose grace and guidance have been my constant source of strength and wisdom. I also dedicate it to my family, mentors, professors, friends, and colleagues, whose guidance and wisdom have shaped my journey. Finally, to all those committed to pursuing knowledge and justice, may this work serve as a steppingstone toward a more informed and equitable world.

LIST OF LEGAL INSTRUMENTS

Access to Information Act (Act No. 31 of 2016)

Community Land Act (Act No. 27 of 2016)

Computer Misuse and Cyber Crimes Act (Act No. 5 of 2018)

Evidence Act (Cap 80)

Land Act (Act No. 6 of 2012)

Land Registration Act (Act No. 3 of 2012)

Physical Land Use and Planning Act (Act No. 13 of 2019)

Stamp Duty Act (Cap 480)

Survey Act (Cap 299)

Urban Areas and Cities Act (Act No. 13 of 2011)

LIST OF CASES

Dina Management Limited v. County Government of Mombasa & 5 others, Supreme Court of Kenya
Petition No. 30 of 2020 (2023)

LIST OF ABBREVIATIONS

AIA - Access to Information Act

CAK - Communications Authority of Kenya

DBMS - Database Management System

DOI - Diffusion of Innovation

ICT - Information and Communication Technology

ISK - Infrastructure and Services Knowledge

KICA - Kenya Information and Communication Act

KNSDI - Kenya National Spatial Data Infrastructure

LA - Land Act

LADM - Land Administration Domain Model

LIMS - Land Information Management System

LRA - Land Registration Act

NLIMS - National Land Information Management System

NSDI - National Spatial Data Infrastructure

STDM - Spatial-Temporal Data Model

TAM - Technology Acceptance Model

TPB - Theory of Planned Behavior

TRA - Theory of Reasoned Action

UTM - Universal Transverse Mercator

UTAUT - Unified Theory of Acceptance and Use of Technology

ABSTRACT

The Ministry of Lands in Kenya faces significant challenges in adopting electronic conveyancing (e-conveyancing) under the National Land Information Management System (NLIMS), commonly known as Ardhisasa. Despite efforts to digitize land records and streamline conveyancing, the transition from manual, paper-based systems to digital platforms have been slow and uneven. This has resulted in service delivery inefficiencies, operational setbacks, and continued reliance on traditional methods, particularly in counties outside Nairobi. The failure to fully realize the benefits of e-conveyancing raises critical questions about the root causes of this implementation gap and the specific constraints impeding the successful adoption of electronic conveyancing practices in Kenya.

This study examines the legal and institutional framework governing e-conveyancing in Kenya to identify the key barriers hindering its full implementation. It explores technical limitations, administrative inefficiencies, regional disparities, and stakeholder resistance, assessing whether the current legislative and policy environment adequately supports digital land transactions. Additionally, it evaluates the project management and organizational structure of NLIMS to determine whether the Ministry of Lands and affiliated institutions possess the necessary resources, leadership, and capacity to sustain digital conveyancing. By addressing these challenges, this research proposes practical recommendations to enhance the efficiency, accessibility, and reliability of electronic land administration in Kenya. The findings will contribute to a deeper understanding of the reforms needed to ensure the successful and equitable implementation of e-conveyancing across all regions.

1.0 INTRODUCTION

1.1 Background

Embarking on the journey of electronic conveyancing in Kenya is akin to navigating uncharted waters with the promise of discovering hidden treasures. Just as a skilled captain must chart a course through turbulent seas, stakeholders in the land conveyancing sector must navigate legal complexities, technological challenges, and organizational capabilities to reach the shores of successful electronic conveyancing implementation.

Conveyancing is the legal process of acquiring, transferring, and handling interests in land.¹ Like many developing African countries, Kenya's land registration system primarily relies on manual records, on 'paper and pencil,' which has yet to be entirely digitized.² Subsequently, conveyancing in Kenya continues to be slow, occasioned by nationwide manual registration and record-keeping systems.³ Manual registration refers to the traditional method of transferring an interest in land from one party to another through physical paperwork and direct interactions among the relevant parties, including lawyers, conveyancers, buyers, sellers, and authorities such as the Land Registry. The manual conveyancing process has led to the proliferation of paper records, both at the headquarters and field offices, presenting a significant challenge amidst a growing population with escalating conveyancing needs.⁴ Due to these reasons, service delivery to citizens has steadily declined.⁵

In contrast, electronic conveyancing (e-conveyancing) is the secure, paperless, and electronic process of creating, transferring, and dealing with an interest in land.⁶ The Ministry of Lands developed and adopted

¹ Tiffany, H.T., *The Law of real property and other interests in land* (Vol. 3). Callaghan.1920.

² Makanga P and Julian S, 'A review of the status of Spatial Data Infrastructure Implementation in Africa' *45 South African Computer Journal*, 2010.

³ Mulaku G C and Galcano C, 'Land Information Management in Kenya: An Integrated Approach' *ITC Journal CDannexe Vol. 1 Number 1,7588 Survey Review*, 1997.

⁴ National Land Policy, Sessional Paper No. 3 of 2009, p. 39.

⁵ National Land Policy, p. 39.

⁶ Doversberger ME, 'Conveyancing at a Crossroads: The Transition to e-Conveyancing Applications in the US and Abroad' *20 Ind. Int'l & Comp. L. Rev.* 281 (2010).

the National Land Information Management System (NLIMS), commonly known as ‘The Ardhisasa System,’ to transition from the manual to the electronic conveyancing process in Kenya. The ‘Ardhisasa’ System envisioned a transformative initiative to digitize land records and streamline conveyancing processes.⁷ Its goal was to establish a robust e-conveyancing system that enables the electronic processing of documents, online title searches, seamless communication among transaction parties, and the simultaneous completion and registration of land documents, among other functions.⁸ This would, in turn, address the shortcomings of the manual conveyancing process by saving time and money and making the process more transparent.⁹ Although the Ministry of Lands introduced the Ardhisasa system, electronic conveyancing has yet to be fully implemented. Therefore, it is essential to investigate the reasons behind this challenge.

This research interrogates the Ardhisasa system’s implementation strategy to find out what has led to the slow implementation of electronic conveyancing in Kenya and, consequently, the slow transition from manual conveyancing to digital conveyancing in the land administration system. By exploring the interplay between legal frameworks, technological advancements, and organizational readiness of the Ardhisasa System, the study aims to shed light on the path toward successful digital transformation in the conveyancing process in Kenya.

1.2 Statement of the problem

The Ministry of Land launched the National Land Information Management System (NLIMS) to transition manual conveyancing processes to digital conveyancing processes and reduce the inefficiencies of the former. However, several challenges have hindered the full implementation of this system, leading to continued reliance on manual, paper-based methods, particularly in counties outside of Nairobi and neighboring areas. Despite the launch of the NLIMS to transition to electronic conveyancing, the Ministry of Land has not successfully transitioned to a fully digital system. The specific obstacles within the

⁷ Nyongesa, L. N., *GIS-Based National Land Information Management System (NLIMS), Kenya*. FIG Working Week, Rome (2012).

⁸ Agutu OJ, ‘Linking Title Registration in Kenya to Vision 2030: The Need for Review of Land Law’ SSRN 1627291, 2009..

⁹ Brennan, G., ‘The Impact of eConveyancing on Title Registration: A Risk Assessment’ *Springer International Publishing Switzerland*, 2015 — <https://link.springer.com/book/10.1007/978-3-319-10341-9> on 30 July 2024.

Ministry of Lands—from technical limitations, administrative hurdles, regional disparities, and user adoption issues—remain unclear, undocumented, and inadequately communicated to key stakeholders, including landowners, county officials, and legal professionals. Therefore, there is an urgent need to investigate these challenges, assess the effectiveness of the existing legal framework, and propose targeted solutions to ensure the successful and equitable implementation of electronic conveyancing across all regions in Kenya.

1.4 Objectives of the Study

The following three objectives guided this research:

- I. To identify and analyze the legal framework required for the successful and equitable implementation of electronic conveyancing across all regions in Kenya, with a particular focus on counties outside Nairobi and neighboring areas.
- II. To evaluate the project management and organizational structure of NLIMS ('Ardhisasa' System) to determine whether it possesses the necessary capacity and resources to implement electronic conveyancing effectively in Kenya.
- III. To investigate and assess the significant challenges that hinder the full implementation of electronic conveyancing, especially in regions where reliance on manual processes persists.

1.5 Hypothesis

This study shall test the following three hypotheses:

- I. The existing legal framework and safeguards for electronic conveyancing in Kenya are not adequately addressing regional disparities, leading to unequal implementation of the NLIMS across different counties.
- II. Technical limitations, administrative inefficiencies, and low user adoption are the primary challenges hindering the successful implementation of electronic conveyancing, particularly in counties outside of Nairobi and neighboring areas.
- III. The NLIMS ('Ardhisasa' System) project management and organizational structure lack the necessary capacity and resources to ensure effective and equitable implementation of electronic conveyancing across all regions in Kenya.

1.6 Research Questions

This research proposes to investigate the following three questions:

- I. What legal framework is required for the successful and equitable implementation of electronic conveyancing across all regions in Kenya?
- II. What are the significant challenges hindering the implementation of electronic conveyancing in Kenya, especially in regions where reliance on manual processes persists?
- III. Whether the project management and organizational structure of NLIMS possess the necessary resources and capacity to implement electronic conveyancing in Kenya effectively?

1.7 Justification/ Significance of the Study

This research addresses critical issues hindering the successful implementation of electronic conveyancing in Kenya, particularly in regions outside Nairobi and neighboring areas. By investigating the challenges facing the complete transition to electronic conveyancing and proposing actionable solutions to enhance the land registration process, this study contributes significantly to the efficiency and service delivery improvements within the Ministry of Lands. The study also sheds more light on the legal gaps and operational obstacles impeding the adoption of e-conveyancing, informing policymakers, stakeholders such as landowners, county officials, legal professionals., and the general public about the necessary steps to modernize and streamline electronic conveyancing in Kenya. This will, in turn, pave the way for a more effective, transparent, and user-friendly land registration system that aligns with the best international practices and promotes sustainable development in the country.

1.7 Theoretical Framework

The following Theories shall guide this research:

- I. Institutional Entrepreneurship theory examines how individuals and organizations introduce new practices or technologies to change institutional structures. In electronic conveyancing, this theory will be applied to analyze the Ministry of Land's role in driving technology by adopting electronic conveyancing and overcoming resistance to change in the land administration system.
- II. The 'Fit-viability' Theory - This theory is used to assess the suitability of the digitized project that requires significant data systems to manage, such as the NLIMS in Kenya. This theory evaluates how well new technological tools align with an organization's core competencies, structure, values, and culture. It also seeks to explain the extent to which the adopting organization is ready for the new technology tools and applications. The present study will use this theory to test the

organization-readiness of land administration in Kenya regarding the implementation of the NLIMS.

1.8 Literature review

Land registration and conveyancing processes are crucial for secure property rights and efficient land transactions. Various scholars have examined the challenges and implications of electronic conveyancing systems in different jurisdictions, shedding light on legal gaps and barriers to implementation.

Brennan's book 'The Impact of electronic conveyancing on Title Registration: A Risk Assessment' explored The shift to e-conveyancing systems in the U.S. and other countries, highlighting the risks faced by participants and possible strategies for risk mitigation.¹⁰The study highlighted the impact of electronic conveyancing on title registration and the need for comprehensive risk analysis.¹¹While Brennan examined the risks and effects of electronic conveyancing on title registration, the legal gaps left out in his research include a detailed analysis of the legal framework supporting electronic conveyancing in different jurisdictions.¹² Specifically, there was a lack of emphasis on the need for robust legal infrastructure, operating rules, and management of legal risks to ensure the successful implementation of electronic conveyancing systems in different jurisdictions, including Kenya.¹³

Whitman, in his research on '*Digital Recording of Real Estate Conveyances*,' discussed the concept of electronic conveyancing and the initiatives various countries undertook to implement such systems..¹⁴ The study emphasized the challenges and reasons for failure in implementing electronic conveyancing, pointing to the need for a comparative analysis of factors hindering implementation in different

¹⁰ Brennan. G., 'The Impact of eConveyancing on Title Registration: A Risk Assessment' *Springer International Publishing Switzerland*, 2015 — <https://link.springer.com/book/10.1007/978-3-319-10341-9> on 30 July 2024.

¹¹Brennan. G., 'The Impact of eConveyancing on Title Registration: A Risk Assessment' *Springer International Publishing Switzerland*, 2015 — <https://link.springer.com/book/10.1007/978-3-319-10341-9> on 30 July 2024.

¹² Brennan. G., 'The Impact of eConveyancing on Title Registration: A Risk Assessment' *Springer International Publishing Switzerland*, 2015 — <https://link.springer.com/book/10.1007/978-3-319-10341-9> on 30 July 2024.

¹³ Brennan. G., 'The Impact of eConveyancing on Title Registration: A Risk Assessment' *Springer International Publishing Switzerland*, 2015 — <https://link.springer.com/book/10.1007/978-3-319-10341-9> on 30 July 2024.

¹⁴ Whitman, Dale A., 'Digital Recording of Real Estate Conveyances' *The John Marshall Law Review* 32.2 ,1999 — https://heinonline.org/HOL/AuthorProfile?base=js&search_name=Whitman,%20Dale%20A.&1==1606629080 on 30 July 2024.

jurisdictions. ¹⁵Whitman discussed the challenges and reasons for failure in implementing electronic conveyancing systems but did not delve deeply into the legal gaps related to stakeholder involvement and legal framework development. ¹⁶The research lacked comprehensive analysis of the legal requirements for electronic conveyancing projects and the importance of legal compliance in property transactions, which are crucial aspects for successful implementation.

O'Sullivan, in his research on '*The Property Registration Authority, Ireland e-Registration and e-Conveyancing in Ireland*,' highlighted e-registration and e-conveyancing in Ireland, emphasizing the importance of stakeholder engagement and legal reforms in electronic conveyancing projects. ¹⁷The study underscored the requirements for contracts relating to land to be in writing and the significance of legal compliance in property transactions. ¹⁸However, gaps in legal frameworks and stakeholder consultation processes were identified as potential barriers to effective implementation. O'Sullivan highlighted the importance of stakeholder involvement and legal reforms in electronic conveyancing projects in Ireland. ¹⁹However, the legal gaps left out in his research include a detailed examination of the legal barriers and challenges in implementing electronic conveyancing systems.

Doversberger, in his book '*Conveyancing at a Crossroads: The Transition to E-Conveyancing Applications in the U.S and Abroad*,' discussed the international support for e-conveyancing and the legal

¹⁵ Whitman, Dale A., 'Digital Recording of Real Estate Conveyances' *The John Marshall Law Review* 32.2, 1999 — https://heinonline.org/HOL/AuthorProfile?base=js&search_name=Whitman,%20Dale%20A.&1==1606629080 on 30 July 2024.

¹⁶ Whitman, Dale A., 'Digital Recording of Real Estate Conveyances' *The John Marshall Law Review* 32.2, 1999 — https://heinonline.org/HOL/AuthorProfile?base=js&search_name=Whitman,%20Dale%20A.&1==1606629080 on 30 July 2024.

¹⁷ John O'Sullivan, 'The Property Registration Authority, Ireland e-Registration and e-Conveyancing in Ireland.' *The Law Reform Commission 35-39 Dublin*, 2006. — <https://www.oicrf.org/-/e-conveyancing-and-e-registration-in-ireland-recent-developments> on 30 July 2024.

¹⁸ John O'Sullivan, 'The Property Registration Authority, Ireland e-Registration and e-Conveyancing in Ireland.' *The Law Reform Commission 35-39 Dublin*, 2006. — <https://www.oicrf.org/-/e-conveyancing-and-e-registration-in-ireland-recent-developments> on 30 July 2024.

¹⁹ John O'Sullivan, 'The Property Registration Authority, Ireland e-Registration and e-Conveyancing in Ireland.' *The Law Reform Commission 35-39 Dublin*, 2006. — <https://www.oicrf.org/-/e-conveyancing-and-e-registration-in-ireland-recent-developments> on 30 July 2024.

implications of implementing e-conveyancing applications.²⁰ His study emphasized the need for enabling laws and stakeholder involvement in successful e-conveyancing projects.²¹ Legal gaps in professional reluctance to change and legal barriers were identified as challenges to implementation. Doversberger discussed the legal implications of e-conveyancing applications and the need for enabling laws and stakeholder involvement.²² The research lacked comprehensive analysis of the legal barriers and professional reluctance to change that may hinder the successful implementation of electronic conveyancing systems. There was a gap in addressing the legal challenges related to stakeholder engagement, legal compliance, and risk management strategies specific to electronic conveyancing projects.

In light of the legal gaps identified by these scholars, this study aims to fill them by conducting research and finding actionable solutions to factors hindering the full implementation of electronic conveyancing in Kenya. By examining the challenges faced in the NLIMS project at the Ministry of Lands in Kenya and comparing them with successful implementations in other jurisdictions, this research seeks to identify key legal gaps and propose strategies to address them.

1.9 Research Methodology

This research adopts a doctrinal research methodology, which involves a structured and systematic analysis of legal sources to interpret and evaluate the existing legal framework governing electronic conveyancing and the implementation of the National Land Information Management System (NLIMS) in Kenya. This study will primarily rely on desktop research, examining primary sources such as statutes, case law, international treaties, policy documents, and secondary sources, including scholarly journal articles, textbooks, legal commentaries, and conference papers.

Relevant Kenyan statutes, notably the Land Registration Act (2012), the Survey Act, the Land Act (2012), the Advocates Act (Cap 16), and the Kenya Information and Communications Act (KICA), will be the primary sources for this research. Additionally, judicial precedents from Kenyan courts and pertinent rulings from international tribunals will be reviewed to understand how these courts have interpreted and applied legal provisions related to land registration, digital transactions, and electronic conveyancing.

²⁰ Doversberger ME, 'Conveyancing at a Crossroads,' 281.

²¹ Doversberger ME, 'Conveyancing at a Crossroads,' 281.

²² Doversberger ME, 'Conveyancing at a Crossroads,' 281.

International instruments will be critically examined to assess global best practices and their relevance to the Kenyan context to enhance the research's breadth. Furthermore, government reports, policy papers, and circulars from regulatory bodies, including the Ministry of Lands, Housing, and Urban Development and the National Land Commission (NLC), will provide valuable insights into the policy direction, implementation progress, and institutional challenges faced by NLIMS.

Secondary sources will complement the primary research by offering scholarly perspectives and analyses of electronic conveyancing. Notable texts authored by legal scholars covering land law, property law, electronic transactions, and digital governance will provide a theoretical underpinning for the study. Peer-reviewed journal articles focusing on the legal, institutional, and technological dimensions of electronic conveyancing will be analyzed to gather a variety of academic viewpoints regarding the challenges and opportunities at play in this evolving field. Additionally, conference papers and reports from significant legal and technological forums that discuss e-governance, electronic conveyancing, and digital transformation in land administration will be integrated into the research to highlight emerging trends and comparative legal approaches from jurisdictions that have successfully implemented similar systems, such as Australia.

Moreover, the study will employ a structured legal analysis, beginning with a detailed examination of statutes, case law, treaties, and regulatory frameworks to evaluate their effectiveness in supporting the implementation of NLIMS. A normative and prescriptive analysis will also assess gaps, inconsistencies, and ambiguities within Kenya's legal framework. This analysis will evaluate the legal provisions regarding electronic contracts, digital signatures, and data security, ultimately proposing legislative and policy reforms to address these shortcomings. The ultimate goal of this methodology is to identify and interpret established legal principles, policies, and regulations that have developed over time about electronic conveyancing, assessing their applicability to Kenya's NLIMS framework.

1.10 Limitations of the Study

This study encountered significant time constraints as it was conducted within the confines of the Bachelor of Law degree program at Strathmore University. Due to these limitations, the research adhered strictly to the designated time frame, which proved highly restrictive. Moreover, the novelty of electronic conveyancing in the country limits the availability of reference materials. The researcher was also limited by inherent biases that are naturally present and experienced limited access to materials. Future research

endeavors in this field will likely benefit from an expanded knowledge base and increased participation from researchers, potentially shedding more light on the complexities of electronic conveyancing in Kenya.

1.11 Chapter Breakdown

The research will be structured as follows:

- I. Chapter 1 : Introduction - This chapter will provide an overview of the study, including the background, statement of the problem, literature review, justification for the study, research objectives, research questions, theoretical framework, research methodology, and limitations.
- II. Chapter 2: Theoretical Framework -This chapter will delve into the theoretical foundation that underpins the research, providing a comprehensive understanding of the theoretical framework guiding the study.
- III. Chapter 3: Legal and Regulatory Framework Analysis -This chapter will examine the legal and regulatory framework relevant to the research topic, shedding light on how the legal framework shapes the subject matter.
- IV. Chapter 4: Analysis of the Ardhisasa system's capabilities—This chapter analyzes the workings of the Ardhisasa system and its capabilities regarding what is required to successfully implement electronic conveyancing in Kenya. It concludes by examining the challenges that impede this implementation.
- V. Chapter 5: Conclusion and Recommendations —The research culminates in a conclusion synthesizing key findings. Additionally, recommendations based on the research outcomes will be provided, offering insights into future actions and improvements in the field.

2.0 THEORETICAL FRAMEWORK

2.1 Introduction

This chapter will explore the theoretical framework that informs Kenya's adoption and implementation of the National Land Information Management System (NLIMS). The focus will be on understanding the relationship between institutional frameworks, technological adoption theories, and practical models to explain digital transformation in land management and conveyancing processes. This research is guided by the Institutional Entrepreneurship Theory, which highlights the role of key actors in driving institutional change through the adoption of technology in governance. Further, theories of technology adoption, including the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Diffusion of Innovation (DOI), will be examined to explain the factors that drive stakeholder acceptance and use of e-government systems.

This research is guided by Institutional Entrepreneurship Theory (IET), which, along with technology adoption theories such as the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Diffusion of Innovation (DOI), will be used to analyze whether the project management and organizational structure of NLIMS possess the necessary resources and capacity to implement electronic conveyancing in Kenya effectively. Additionally, the Fit-Viability Theory will be applied to assess the compatibility of NLIMS with Kenya's existing land institutions and its long-term sustainability. This theoretical foundation provides a structured lens for evaluating the challenges and opportunities associated with NLIMS implementation.

2.2 Institutional Entrepreneurship Theory

Institutional Entrepreneurship Theory was first developed by scholars in organizational studies, notably by authors such as Battilana, Leca, and Boxenbaum, who sought to integrate the concepts of agency and institutions within institutional theory.²³ The theory emphasizes the role of individuals or groups,

²³Battilana J, Leca B and Boxenbaum E, 'How Actors Change Institutions: Toward a Theory of Institutional Entrepreneurship' 3(1) *The Academy of Management Annals*, 2009, 65-107.

institutional entrepreneurs, who actively seek to create, change, maintain, or destroy institutions.²⁴ These entrepreneurs leverage their social capital, resources, and networks to advocate for new ideas and practices, often motivated by a desire to address perceived inefficiencies or injustices within existing institutional frameworks.²⁵

The theory outlines processes of institutional change that include the disruption of existing norms, where entrepreneurs challenge the status quo by highlighting the limitations of current practices.²⁶ They may introduce innovative practices or technologies that demonstrate the potential for improved outcomes, serving as models for broader adoption.²⁷ Once new practices gain traction, institutional entrepreneurs work to embed them within the institutional framework, formalizing new rules and norms to ensure sustainability.²⁸

Applying Institutional Entrepreneurship Theory to the NLIMS provides a framework for understanding how institutional entrepreneurs have influenced the country's development and implementation of e-government systems. In Kenya, the establishment of NLIMS was driven by the need to streamline government services and improve efficiency in public administration.²⁹ Institutional entrepreneurs, including government officials, advocates, and different stakeholders, recognized the inefficiencies in existing systems and sought to create a more integrated approach to information management.³⁰ Moreover, the entrepreneurs employed strategic framing to communicate the benefits of NLIMS to different audiences, emphasizing its potential to enhance service delivery and reduce corruption.³¹ This discourse was crucial in garnering public support and legitimizing the initiative, as it aligned with broader national goals of improving governance and accountability.³² As NLIMS began to take shape, the institutional

²⁴Weik E, 'Institutional Entrepreneurship and Agency' 41(4) *Journal for the Theory of Social Behavior*, 2011, 466-481.

²⁵Garud R, Hardy C and Maguire S, 'Institutional Entrepreneurship as Embedded Agency: An Introduction to the Special Issue' 27(7) *Organization Studies*, 2007, 957-969.

²⁶Scott W R, '*Institutions and Organizations*' Sage Publications, Thousand Oaks, CA, 2001.

²⁷ Dacin M T, Goodstein J, Scott W R, 'Institutional theory and institutional change: Introduction to the special research forum' 45(1) *Academy of Management Journal*, 2002, 45-56.

²⁸Suddaby R, Greenwood R, 'Rhetorical strategies of legitimacy' 50(1) *Administrative Science Quarterly*, 2005, 35-67.

²⁹Nyongesa LN, 'GIS-based National Land Information Management System (NLIMS), Kenya' FIG Working Week, Rome, 2012.

³⁰Nyongesa LN, 'GIS-based National Land Information Management System (NLIMS),2012.

³¹ Brennan G, 'The Impact of e-Conveyancing on Title Registration' *Springer International Publishing*, 2015.

³²Nyongesa LN, 'GIS-based National Land Information Management System (NLIMS),2012.

entrepreneurs worked to embed the new system within the existing institutional framework, formalizing policies and procedures that would sustain its use. This involved training government employees and establishing protocols for data management, ensuring that the system became an integral part of public administration.³³ Whereas Leadership from the Ministry of Lands has played a key role, gaps in organizational readiness—such as underfunding, lack of skilled personnel, and inconsistent policy enforcement—have slowed full implementation. These challenges highlight the importance of institutional structures and capacity-building, reinforcing the theory’s relevance in assessing the success and sustainability of digital transformation in Kenya’s land governance system.

2.2.1 The Concept of E-Government

Muir and Oppenheim defined e-government as the efficient delivery of government information and services online through the Internet or other digital means, bridging the interaction gap between citizens and the government.³⁴ E-government indicates a system of adequate provision of public services via information and communication technologies. In conveyancing, e-government provides electronic transactions between the government and other stakeholders, such as citizens or businesses, through new technologies, including the Internet.³⁵

The concept of electronic conveyancing in Kenya is an e-government transaction that aims to accomplish the government’s administrative activities, providing an easier way for the government to serve its citizenry through Information and Communication Technology (ICT).³⁶ E-government results in making the services convenient, transparent, and efficient.

This is more so the case, as traditionally, governments have been viewed as a complex bureaucratic establishment with a set of information silos that erects barriers to access to information which makes the provision of services cumbersome and frustrating.³⁷ However, according to the Institutional

³³Nyongesa LN, ‘GIS-based National Land Information Management System (NLIMS),2012.

³⁴ Muir and Oppenheim, ‘National information policy developments worldwide I: electronic government’,173-186.

³⁵ Evans D and Yen DC, ‘E-government: An analysis for implementation: Framework for understanding cultural and social impact’ 22(3) *Government Information Quarterly*, 2005, 354-373.

³⁶ Hussein R, et al, ‘E-government application: an integrated model on G2C adoption of online tax’ 5(3) *Transforming Government: People, Process and Policy*, 2011, 225-248.

³⁷Coleman S, ‘African e-governance-opportunities and challenges’ *Oxford University Press*, University of Oxford, 2006.

Entrepreneurship Theory, the rapid growth of ICT has the potential to transform the generation and delivery of public services by public institutions.³⁸

The 'Ardhisasa' system can be viewed as a creature of an E-government; this is more so the case as electronic conveyancing has enabled citizens, enterprises, and various stakeholders to carry out their transactions with the government more easily, quickly and at a lower cost.³⁹ Electronic provision of services has been identified as one of the most efficient vehicles for appropriate transparent and inclusive decision-making.⁴⁰

2.3 Theoretical Framework on E-government Adoption

The understanding of Information Technology (IT) adoption ought to be done to understand the uptake and adoption of e-government systems such as the National Land Information System (NLIMS).⁴¹ This research relied on the following theories to explain the adoption of IT in the conveyancing process: the Technology Acceptance Model (TAM) theory, the theory of planned behavior (TPB), the Unified theory of acceptance and use of technology (UTAUT), and the theory of reasoned action (TRA)

2.3.1 Theory of Reasoned Action

The Theory of Reasoned Action (TRA), developed by Martin Fishbein and Icek Ajzen in 1967, is a psychological theory that explains how individuals decide to engage in certain behaviors based on their attitudes and social norms.⁴² This theory suggests that an individual's decision to engage in a particular behavior is based on the outcome that the person expects due to behaving in that specific manner. Thus, a person's behavior is determined by an individual's attitude toward the result of the performance of that

³⁸ Stiftung B, 'Balanced E-Government: E-Government—Connecting efficient administration and responsive democracy' *Bertelsmann Foundation*, 2002, 24.

³⁹ Basu S, 'E-government and developing countries: an overview' 18(1) *International Review of Law, Computers & Technology*, 2004, 109-132.

⁴⁰ Bwalya KJ, 'Factors affecting adoption of e-government in Zambia' 38(4) *The Electronic Journal on Information Systems in Developing Countries*, 2009, 1-13.

⁴¹ Kumar V *et al*, 'Factors for successful e-government adoption: a conceptual framework' 5(1) *The Electronic Journal of e-Government*, 2007, 63-76.

⁴² Fishbein M, Ajzen I, 'Predicting and changing behavior: The reasoned action approach' 1(1) *Taylor & Francis*, 2011, 25.

behavior.⁴³ The central idea behind TRA is that a person's behavior is primarily driven by their intention to perform that behavior. Two key factors influence this intention: Attitude toward the behavior and subjective norms. The attitude toward the behavior refers to the individual's evaluation of the behavior—whether they see it as positive or negative. If someone believes that a particular action will lead to favorable outcomes, they will likely engage in that behavior. Subjective norms refer to the social pressures or influences a person perceives from others (such as family, friends, or society). If individuals believe that people around them want them to perform a specific behavior, they are more likely to have the intention to do so.⁴⁴

According to TRA, the successful implementation of NLIMS relies on stakeholders' positive attitudes and the social pressure they feel from others to use the system. When stakeholders view NLIMS as beneficial and are encouraged by external influencers to adopt it, their motivation and intention to implement it increase. In short, the more favorable attitudes and the stronger the perceived social support, the more likely stakeholders will actively work to implement NLIMS.

2.3.2 Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology(UTAUT) helps assess the probability of success for new technologies as well as understand the factors that drive the acceptance of technology.⁴⁵It aims to explain the user's intentions to use an information system and subsequent usage behavior.UTAUT holds that four key constructs: performance expectancy, effort expectancy, social influence being a direct determinant of usage intentions and behavior, and the facilitation of conditions as a direct determinant of use behavior.⁴⁶

⁴³Sheppard B H , 'The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research' 15(3) *Journal of Consumer Research*, 1988, 325.

⁴⁴Sheppard B H, 'The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research', 325.

⁴⁵Tan C W *et al*, 'Understanding the antecedents and consequences of e-government service quality: Transactional frequency as a moderator of citizens' quality perceptions' *ECIS*, 2010.

⁴⁶Venkatesh V *et al* , 'User acceptance of information technology: Towards a unified view' 27(3) *MIS Quarterly*, 2003, 425-478.

Performance expectancy refers to the degree to which an individual believes that using the system will help them attain gains in job performance; UTAUT suggests that this is the strongest predictor of individual behavior. In the context of e-government, and more particularly, e-conveyancing, the performance of e-government services enables citizens to access information and transact quickly at their place of convenience.⁴⁷ Effort expectancy refers to the degree of ease associated with using the system. This is achieved by comparing the new technology's ease of use and complexity with existing models. It explains whether e-government should be used or not. In the case of NLIMS, this theory will seek to evaluate the ease of use of the NLIMS, how the user interacts with the interface, and whether it is cost-effective or not.⁴⁸ Social influence refers to the degree to which an individual perceives that others believe he should use the new system or not. Social influence is a subjective norm influenced by various social factors, such as peer influence. The more positive the social influence is towards the use of the new system, the higher the usage of the system will be achieved.⁴⁹ Facilitating conditions is the degree to which an individual believes that an organization and technical infrastructure exists to support the use of the system.

In applying the Unified Theory of Acceptance and Use of Technology (UTAUT) to adopting the National Land Information Management System (NLIMS) in Kenya, the theory helps identify the key factors influencing stakeholders' acceptance of this system. Performance expectancy plays a crucial role, as stakeholders, including land registry officials and legal professionals, believe NLIMS will streamline conveyancing processes, reduce fraud, and enhance efficiency. Effort expectancy highlights the importance of an intuitive user interface and the ease of integrating NLIMS into daily workflows. This will drive adoption if users find it more straightforward than manual processes. Social influence emerges as a powerful motivator, where the government's endorsement and peer pressure from legal professionals can significantly boost the system's credibility and usage. Lastly, facilitating conditions such as adequate infrastructure, technical support, and training ensure users feel empowered to adopt NLIMS. Thus, UTAUT effectively frames the considerations that must be addressed to ensure the successful implementation and widespread acceptance of NLIMS in the conveyancing sector.

⁴⁷Venkatesh V *et al* , 'User acceptance of information technology: Towards a unified view' 425-478.

⁴⁸Venkatesh V *et al* , 'User acceptance of information technology: Towards a unified view' 157-178.

⁴⁹Venkatesh V *et al* , 'User acceptance of information technology: Towards a unified view' 157-178.

2.3.3. Technology Acceptance Model

The Technology Acceptance Model (TAM), developed by Fred Davis in 1989, is a framework used to predict and explain how and why individuals adopt and use new technologies.⁵⁰ It focuses on two key factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Perceived Usefulness (PU) refers to the degree to which a person believes using a particular system will enhance their job performance or overall efficiency. If users feel that technology will make their tasks easier, quicker, or more effective, they are more inclined to adopt it.⁵¹ Perceived Ease of Use (PEOU) refers to the extent to which a person believes using the system will be free from effort. Even if a technology is considered valid, it may not be adopted if users perceive it to be too complex or challenging to use.⁵² These two perceptions influence an individual's Attitude Toward Using technology, which affects their behavioral Intention to use it. The stronger the belief in the usefulness and ease of use, the more likely a person will intend to use the technology.⁵³

When applied to the National Land Information Management System (NLIMS), TAM helps us understand the factors leading to the system's widespread acceptance by stakeholders in the conveyancing sector, such as land registry officials, legal practitioners, surveyors, and the public. Stakeholders are likely to adopt NLIMS if they believe it will improve land transactions' efficiency and accuracy. For instance, the system's ability to digitize and streamline processes, reduce paperwork, and minimize delays is highly beneficial, leading to a higher adoption rate.

Even if the system is valuable, stakeholders must perceive it as user-friendly. If NLIMS is designed with an intuitive interface and requires minimal training, the perception that it's easy to use will further encourage adoption. Other factors influencing the adoption of the NLIMS include Perceived Benefits in the Conveyancing Sectors—such as faster processing times, reduced fraud risk, and greater transparency in land transactions— which will further reinforce its perceived usefulness. Stakeholder Training and Support Providing adequate training and continuous support to users ensures that they understand the system's benefits and how to navigate its features, increasing perceived usefulness and ease of use. In conclusion, NLIMS must be perceived as beneficial and easy to use to be entirely accepted within the

⁵⁰Davis F D, 'Perceived usefulness, perceived ease of use, and user acceptance of information technology' 13(3) *MIS Quarterly*, 1989, 319-340.

⁵¹Davis F D, 'Perceived usefulness, perceived ease of use, and user acceptance of information technology' 319-340.

⁵²Davis F D, 'Perceived usefulness, perceived ease of use, and user acceptance of information technology' 319-340.

⁵³ Venkatesh V, 'Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model' 11(4) *Information Systems Research*, 2000, 342-365.

conveyancing sector. The more stakeholders recognize the system's ability to improve land transaction processes, the greater the likelihood of its adoption across the board.

2.3.4 Theory of Diffusion of Innovation

The Theory of Diffusion of Innovation (DOI), developed by Everett Rogers, explains how new ideas and technologies spread through a population over time.⁵⁴ The DOI theory sees innovations communicated through specific channels over time and within a particular social system.⁵⁵ People vary in their willingness to embrace new innovations, and the adoption process typically follows a normal distribution over time. This theory classifies adopters into five groups—innovators, early adopters, early majority, late majority, and laggards—each with differing levels of receptiveness to innovation.⁵⁶

The innovators are the first to adopt, followed by early adopters. Then, the innovation gradually diffuses to the early and late majority, with laggards being the last to adopt. The DOI theory identifies several factors that influence the likelihood and speed of adoption. One key factor is a relative advantage, which refers to an innovation's perceived improvement over the existing system. For instance, in the case of e-government services like e-conveyancing, if users perceive that the system offers significant benefits, such as faster transactions or increased convenience, they are more likely to adopt it. Another factor is compatibility, or how well the new technology aligns with the user's values, experiences, and current needs. Adopting will be easier if the National Land Information Management System (NLIMS) integrates smoothly with stakeholders' existing processes and technology.⁵⁷ Moreover, Complexity also plays a role, as users are more likely to adopt innovations, they find easy to use. If the NLIMS system is perceived as complicated or challenging to navigate, stakeholders might resist using it.

⁵⁴Rogers E M, 'Diffusion of Innovations: modifications of a model for telecommunications' in *Die Diffusion von Innovationen in der Telekommunikation* Springer Berlin Heidelberg, 1995, 25-38.

⁵⁵Rogers E M, 'Diffusion of Innovations: modifications of a model for telecommunications' in *Die Diffusion von Innovationen in der Telekommunikation* 25-38.

⁵⁶Rogers E M, 'Diffusion of innovations: modifications of a model for telecommunications' in *Die Diffusion von Innovationen in der Telekommunikation*, 25-38.

⁵⁷Varadarajan R and Yadav M S, 'Marketing strategy in an internet-enabled environment: a retrospective on the first ten years of JIM and a prospective on the next ten years' 23(1) *Journal of Interactive Marketing*, 2009, 11-22.

On the other hand, simple and intuitive innovations experience faster adoption. Observability refers to the visibility of the new system's results and benefits. The more stakeholders can see tangible benefits—such as improved efficiency or transparency in land transactions, the faster the system will spread.

Barriers such as trust and usability can impede adoption.⁵⁸ Trust in the system's security and integrity is essential, especially for sensitive tasks like land management.⁵⁹ Website navigability and aesthetics also affect how easily users interact with e-government platforms. Personalization and customization features can help increase user engagement and attract individuals to use e-government portals like NLIMS.⁶⁰ Repeatedly Additionally, political will, human capital, and the strength of the ICT infrastructure are critical national factors influencing the adoption of such systems. Strong support from the government, sufficient skilled personnel, and a robust telecommunications infrastructure are essential for effective implementation. Ultimately, the DOI theory will explain how innovations like NLIMS can spread through a country or sector, highlighting the importance of relative advantage, ease of use, trust, and infrastructure in driving adoption. These factors determine how quickly e-government systems are accepted and adopted, influencing the overall success of their implementation.

2.4 The Fit-Viability Theory

The Fit-Viability Theory is a comprehensive framework used to assess the suitability and feasibility of new technologies within organizations. Tjan initially developed it to evaluate organizations' adoption of the Internet, and it has since been applied to various technological systems.⁶¹ The theory considers technology to have two key dimensions: fitness and viability. In this research, the fit-viability theory will be used to assess the suitability of NLIMS in managing land records in Kenya and facilitating electronic conveyancing.⁶² Fit will assess the alignment of big data's key characteristics—volume, velocity, variety, and veracity—with the core functions of managing land records at Kenya's Ministry of Land, Housing,

⁵⁸Bwalya K. J, 'Factors affecting e-government adoption in Zambia' 38(4) *The Electronic Journal on Information Systems in Developing Countries*, 2009, 1-13.

⁵⁹Greenstein S, 'E-business infrastructure' 21(6) *Micro*, 2001, 70-71.

⁶⁰Varadarajan and Yadav, 'Marketing strategy in an internet-enabled environment', 11-22.

⁶¹Tjan A K, 'Finally, a way to put your internet portfolio in order' 79(2) *Harvard Business Review*, 2001, 76-85.

⁶²Kwaya T, 'Big Data in Land Records Management in Kenya: A fit and viability analysis' in Uden L et al. (eds), *KMO 2014*, 185 LNBIP, 2014, 15-24.

and Urban Development. Viability will examine the factors influencing the successful implementation of big data systems like NLIMS, including economic, social, technical, infrastructural, quality-related, and human considerations.

2.4.1 Fit

The first dimension of the theory is fit, which examines how well the new technology aligns with the organization's core competencies, structure, values, and culture. For NLIMS to succeed, it must complement the key functions and objectives of Kenya's land management institutions. This includes the ability of the system to effectively manage land records, provide accurate and timely data, and integrate with existing legal frameworks for land registration and conveyancing. The NLIMS needs to support the basic operational processes of land institutions, such as updating ownership records, facilitating land transactions, and ensuring that data is easily accessible for stakeholders like lawyers, surveyors, and landowners. A good fit would mean NLIMS enhances these core functions without disrupting them.

About the organizational structure, the NLIMS must align with the organizational setup of Kenya's Ministry of Lands and other relevant agencies. This includes ensuring that the system can be seamlessly adapted into existing workflows and structures without requiring a complete overhaul of institutional practices. For example, NLIMS is designed to streamline workflows, reduce paperwork, and offer digital access to land records. In that case, it should be compatible with the current roles and responsibilities of staff at land registries. It should also fit within the hierarchical structures of these organizations.

Additionally, Kenya's land management institutions, like many others, value transparency, accountability, and efficiency. NLIMS must support these values by providing a platform that reduces fraud, enhances data integrity, and ensures equitable access to land information. A strong cultural fit would mean that the system is seen as a tool for promoting the ethical management of land, respecting the country's legal frameworks, and addressing challenges such as corruption in land transactions.

2.4.2 Viability

The second dimension of the theory is viability, which evaluates whether the organization's external and internal environment is prepared to support the new technology.⁶³ This involves assessing factors such as economic costs, user readiness, and the organization's maturity to adopt and maintain the system.⁶⁴

Viability examines the need to assess the financial feasibility of implementing NLIMS. This involves analyzing the initial setup costs (such as software development, hardware, and training) and ongoing costs (like maintenance, system upgrades, and user support). The system must offer clear economic benefits that outweigh these costs, such as reduced transaction times, lower administrative fees, and greater efficiency in processing land records. NLIMS must provide long-term value by reducing manual processes and the time it takes to verify ownership or conduct conveyancing procedures. Further, viability will be used to examine the extent of user readiness for the NLIMS. For NLIMS to be viable, the system's users—both within the government and among the public—must be ready to adopt the technology. This includes land registry officials, surveyors, real estate developers, legal professionals, and citizens who may need to interact with the system. Viability requires that users receive adequate training and support to use the system effectively. A key concern is whether users are comfortable with the technology, which could involve assessing literacy levels, digital tools, and how to navigate the system's interface. If the system is too complex or unfamiliar, it may face resistance from users, reducing its chances of widespread adoption.

A well-developed organizational structure is essential for the successful implementation and sustainability of NLIMS. This involves the institution's ability to manage new technologies, handle technical issues, and continuously improve the system. Viability requires that the ICT infrastructure of the land management institutions is robust enough to support the new system, with reliable internet access, data storage capabilities, and cybersecurity measures. Viability will also examine the influence of external factors such as the political factors of the Kenyan government, the level of support from international donors or partners, and the overall ICT environment in the country in the overall successful implementation of the NLIMS if the government is committed to improving land management through digitization and political support for NLIMS, the system's chances of success increase. Moreover, the

⁶³Liang T.P. and Wei C.P, 'Introduction to the special issue: a framework for mobile commerce applications' 8(3) *International Journal of Electronic Commerce*, 2004, 7-17.

⁶⁴Kwaya T, 'Big Data in Land Records Management in Kenya: A fit and viability analysis' 15-24.

general level of ICT infrastructure across Kenya, including access to reliable internet and digital literacy among the population, will play a role in the system's viability.

Applying the Fit-Viability Theory to NLIMS helps evaluate whether the system suits Kenya's land management challenges. Fit ensures NLIMS aligns with land management agencies' institutional goals, processes, and values. Viability ensures that the organizational environment can support the system, from cost-effectiveness to user preparedness and technical infrastructure. Suppose NLIMS achieves a high degree of both fitness and viability. In that case, it would be better to successfully adopt and maintain it as an effective data system for managing land records in Kenya.

2.5 Conclusion

In conclusion, adopting and implementing the NLIMS in Kenya, particularly in the context of electronic conveyancing, is a complex process that requires a multi-dimensional analysis. This chapter has examined the theoretical frameworks that collectively address the central research problem by aligning with the study's three research questions.

The Institutional Entrepreneurship Theory aligns with the third research question by evaluating whether NLIMS's project management and organizational structure have the leadership, resources, and capacity needed for electronic conveyancing. It emphasizes the role of key actors within the Ministry of Lands and other stakeholders in driving institutional change while identifying gaps in leadership, funding, and skilled personnel that may hinder successful implementation.

The Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Diffusion of Innovation (DOI) respond to the second research question by identifying the significant challenges facing NLIMS adoption. These theories explain how stakeholder resistance, lack of technological infrastructure, and limited public awareness slow down the shift from manual processes, especially in regions where traditional land registration methods remain deeply entrenched.

Finally, the Fit-Viability Theory addresses the first research question by evaluating the legal and institutional alignment necessary for NLIMS to function effectively. It assesses how well the current legal frameworks and institutional structures support digital land management, emphasizing the need for

harmonized laws that integrate electronic conveyancing and ensure its accessibility and equity across all regions in Kenya.

This study integrates these theoretical frameworks to provide a comprehensive understanding on the challenges impeding the full transition to e-conveyancing in Kenya. It offers practical insights into overcoming institutional, technological, and behavioral barriers to support a thriving and equitable digital transformation of Kenya's land management system.

3.0 LEGAL FRAMEWORK ON ELECTRONIC CONVEYANCING IN KENYA

3.1 Introduction

The digitization of land transactions is a cornerstone of modernizing land administration systems worldwide. In Kenya, electronic conveyancing (e-conveyancing) is positioned as a transformative solution to the inefficiencies and challenges associated with the manual processes that have historically governed land registration and transactions. Despite its promise, implementing e-conveyancing in Kenya has faced significant legal and institutional hurdles, necessitating a comprehensive review of the existing legal framework to enable a seamless transition to digital systems.

This chapter critically examines the gaps in Kenya's legal framework that impede the successful adoption of e-conveyancing and proposes targeted reforms to address these challenges. These gaps include incomplete migration to a unified land register, as mandated by the Land Registration Act 2012. This has left many counties reliant on manual records, creating inconsistencies and delaying the transition to a fully digital system. Additionally, uncertainty surrounding the recognition of electronic signatures in land transactions presents a significant challenge. By focusing on issues such as the migration to a unified land register, the recognition of electronic contracts, and the regulation of electronic signatures, the chapter highlights the need for harmonized legislation to support digital transactions. This underscores the importance of integrating electronic registration processes under existing laws and implementing e-planning systems at the county level to align with the National Land Information Management System (NLIMS). These reforms are crucial for realizing the full potential of e-conveyancing, fostering a more efficient and transparent land administration system in Kenya.

3.2 Land Administration and Management in Kenya

Land administration encompasses identifying, documenting, and disseminating information on land tenure, value, and usage to support land management policies. It includes cadastral surveying, land registration, and land information systems.⁶⁵ In Kenya, the Ministry of Lands and Physical Planning and the National Land Commission (NLC) are the primary institutions responsible for land administration. While the Ministry serves as an executive arm of the National Government, the NLC operates as an independent constitutional body. However, the overlap in their mandates has led to conflicts, prompting

⁶⁵Williamson I P, 'Land administration 'best practice'' providing the infrastructure for land policy implementation' 18(4) Land Use Policy (2001) 297-307 — <https://www.sciencedirect.com/science/article/pii/S0264837701000217> on 14 November 2024.

the NLC to seek clarification from the courts regarding the separation of powers between the two entities.⁶⁶ Further, the Institution of Surveyors of Kenya (I.S.K.) reported that the absence of a clearly defined institutional hierarchy in land administration has led to multiple land allocations, resulting in complex disputes.⁶⁷ Additionally, I.S.K. highlighted that inefficient land information systems contribute to these issues, as the growing volume of land data has overwhelmed existing manual management systems. These systemic shortcomings are also emphasized in reports by the Land Information Management Systems Technical Working Group (LIMS-TWG).⁶⁸

3.2.1 Land Information Management Systems Technical Working Group

The Land Information Management Systems Technical Working Group (LIMS-TWG) was established to support the implementation of the National Land Policy, as outlined in Section 5.1 of the Land Policy Implementation Framework.⁶⁹ The group's mandate was to advance the development of a comprehensive Land Information Management System (LIMS), a system designed to manage land-related data crucial for informed decision-making in land administration and management. LIMS-TWG identified several critical deficiencies in the existing land information systems, including the high cost of cadastral surveys, the centralization of cadastral processes, and slow, cumbersome procedures such as manual title land search and registration. Furthermore, Kenya lacked up-to-date data on various land uses, such as agriculture, forestry, wildlife, water, and infrastructure, which significantly hindered effective land planning, zoning, and overall management.

The working group outlined key measures for the Government to establish an effective Land Information Management System (LIMS). First, the system should be comprehensive, digital, efficient, user-friendly, accessible, cost-effective, transparent, and inclusive. Second, it must support accurate classification and mapping of all land categories, including those claimed by minority groups, pastoral communities, disputed areas, and irregularly allocated land. Third, the Government should develop national guidelines for land information management, addressing standards, security, dissemination, and pricing. Fourth, land

⁶⁶*National Land Commission v Attorney-General & 5 others; Kituo Cha Sheria & another (Amicus Curiae)* (Advisory Opinion Reference 2 of 2014) [2015] KESC 3 (KLR) (2 December 2015) (Advisory Opinion) — <https://kenyalaw.org/caselaw/cases/view/116512> on 14 November 2024.

⁶⁷ Njuguna H K and Mbaya M M, 'Land Reforms in Kenya: An Institution of Surveyors of Kenya (ISK) Initiative' (2001) Paper presented at New Technology for a New Century International Conference, FIG Working Week 2001, Seoul, Korea, 6-11 May 2001.

⁶⁸ Njuguna and Mbaya, 'Land Reforms in Kenya', 2001.

⁶⁹ National Land Policy, *Sessional Paper No. 3 of 2009*, 65.

information should be presented in a clear and accessible format, including well-organized hard-copy materials and simplified maps, while ensuring that existing records are updated, authenticated, and properly structured. Lastly, the Government must establish a National Spatial Data Infrastructure (NSDI) to facilitate the integration and accessibility of spatial datasets across different national and sectoral agencies.

The Government adopted a new Constitution to support broader land reforms and enacted subsequent legislation. The following sections of this chapter will critically assess whether these legal reforms have effectively addressed the deficiencies that previously hindered the successful implementation of the National Land Information Management System.

3.3 Constitutional Provisions on Land Management in Kenya

Historically, Kenya's land laws have been shaped by colonial influences, starting with appropriating all land as Crown Land and enacting laws such as the East African (Lands) Order in Council of 1901. Colonial legal dualism introduced English laws like the Transfer of Property Act of India of 1882, which was extended to the East Africa Protectorate in 1897. Although well documented, these laws, often complex and rooted in the foreign traditions of England, remain challenging to interpret and have contributed to enduring tension, litigation, and strife in land matters.⁷⁰

The Constitution of Kenya 2010 provided for the repeal of these old land laws and the enactment of new land legislation. The challenges that led to the repeal of these land laws include the lack of a coherent land policy framework, historical injustices, and disparities in land distribution. Other factors leading to the repeal of the old land laws include insecure tenure, excessive fragmentation, environmental degradation, rapid urbanization, rampant land grabbing, fraud, and corruption.⁷¹

The promulgation of the 2010 Constitution resulted in the enactment of new land laws that repealed the Wayleaves Act, Land Acquisition Act, Indian Transfer of Property Act 1882, Government Land Act, Registration of Titles Act, Land Titles Act, and Registered Land Act. However, some of these repealed statutes are still in effect, as the new laws have not been fully operationalized.

⁷⁰ Okoth-Ogendo HWO, *'The Political Economy of Land Law'* Unpublished, Doctor of Science of Law Thesis, Yale University, 1978.

⁷¹ Kamotho Waiganjo, *'The Constitution and New Land Acts'* Paper Presented to a C.L.E. at Panari Nairobi, Nairobi, August 2013.

Further, Chapter Five of the 2010 Constitution focuses on land and the environment, emphasizing equitable, efficient, productive, and sustainable land management. It establishes key principles for land governance, including equitable access, security of land rights, sustainable resource use, ecological conservation, and eliminating gender discrimination. The Constitution categorizes land into public, private, and community land to streamline land administration. Additionally, Article 67 establishes the National Land Commission to oversee public land management, among other responsibilities. Furthermore, Parliament is tasked with enacting legislation to revise, consolidate, and rationalize land laws, leading to the enactment of key statutes such as the Land Registration Act (2012), the Land Act (2012), and the Community Land Act (2016).

These statutes are discussed below:

3.4 The Land Act No. 6 of 2012

The Land Act 2012 is the primary legislation governing land matters in Kenya. ⁷²This Act implements Article 68 of the Constitution, which mandates the review, consolidation, and streamlining of land laws to ensure sustainable land management.⁷³The Act applies to public, private, and community land and defines the two main types of land tenure: freehold and leasehold. ⁷⁴ It also governs the allocation of land by the National Land Commission (NLC), which may, on behalf of the national or county governments, allocate public land through various methods such as public auction, targeted applications, tenders, lotteries, public requests for proposals, and exchanges of equal value. The Act stipulates that any reversion of land rights or interests shall be reverted to the national or county government. The Act further addresses issues related to charges and spousal rights in matrimonial property and safeguards against fraud, dishonesty, or misrepresentation in the creation of land charges (Section 81(4)).⁷⁵

The forms of tenure recognized by the Act include freeholds, leaseholds, partial interests defined by Parliament, and customary land rights if they are per the Constitution. The Act outlines various ways in which individuals can acquire land titles, including allocation, land adjudication, compulsory acquisition,

⁷² *Land Act (Act No. 6 of 2012)*.

⁷³ Article 68, *Constitution of Kenya (2010)*.

⁷⁴ *Land Act (Act No. 6 of 2012)*.

⁷⁵ Section 81(4), *Land Act (Act No. 6 of 2012)*.

prescription, settlement programs, transfers, transmissions, and long-term leases exceeding 21 years granted from private land. Additionally, leaseholders with terms exceeding 99 years may seek legal redress to challenge interests in private land acquired to circumvent unsecured creditors (Section 28 of the Land Registration Act).

Regarding public land management, the National Land Commission (NLC) is responsible for identifying, documenting, and maintaining a comprehensive database of all public land, ensuring it is georeferenced and authenticated by the relevant surveying authority. The Commission must assess public land based on factors such as land capability classification, resource mapping, and its overall potential use. This information must be accessible to the public and relevant institutions to support their mandates under the Act. Furthermore, the NLC may impose specific conditions, covenants, encumbrances, or reservations on land use as stipulated in the governing order or instrument.

Most importantly, the Act provides for the development and use of electronic systems in land management. Section 6(h) of the Act recognizes the use of electronic processes and empowers the Cabinet Secretary to oversee the development and implementation of a National Land Information Management System (NLIMS) in partnership with the National Land Commission (NLC).⁷⁶ This initiative aims to modernize and streamline land management processes. Including electronic systems is a critical function that needs to be fully leveraged to enhance the effectiveness of land administration.

Furthermore, Section 38 of the Act stipulates that no legal action can be initiated based on a contract unless it is in writing, signed, and witnessed by a competent individual. This section needs to be amended to accommodate contracts entered electronically. This would align with the evolving technological landscape and facilitate the use of electronic agreements in land transactions.

3.5 Land Registration Act, 2012

The Land Registration Act of 2012 unified the registration of titles to land by repealing several outdated statutes, including the Indian Transfer of Property Act, 1882; the Government Lands Act (Cap 280), the Registration of Titles Act (Cap 281), the Land Titles Act (Cap 282), and the Registered Land Act (Cap 300). Sections 9 and 10 of the Land Registration Act provide for the electronic maintenance of documents at the land registries and access to electronic registers. Sections 9 and 10 of the Act emphasize the electronic management of land records, ensuring registries maintain documents in a secure, accessible, and reliable

⁷⁶ Section 6(h), *Land Act* (Act No. 6 of 2012).

format, including digital records. Section 10 further mandates public access to electronic registers, reinforcing transparency in land administration.⁷⁷ The Land Registration (General) Regulations of 2017 codified these requirements, outlining the provisions for electronic transactions. These regulations cover various aspects, such as maintaining records in electronic form, conducting transactions digitally, establishing an electronic land system, ensuring access to online platforms, enabling electronic payments, and recording transactions in an electronic register. The Cabinet Secretary is empowered to develop guidelines for fully integrating electronic processes into land transactions.

Despite these advancements, certain provisions of the Land Registration Act require amendments to facilitate a seamless transition to electronic transactions. Such include, but are not limited to, Migration to One Register under the Land Registration Act, 2012. Although the Land Registration Act intends to consolidate these registration regimes through a migration process, as outlined in Section 6⁷⁸ and the Land Registration Units) Order, 2017, this process remains incomplete. Accelerating this process is essential, as the effectiveness of an electronic land registration system depends on a fully harmonized and integrated land registry.

3.6 The National Land Commission Act, 2012

The National Land Commission was established under Article 67 of the 2010 Constitution. This Act further provides for the commission's functions, powers, and other related purposes. Section 5 mandates that the commission develop and maintain an effective land information system for public land management.

3.7 The Kenya Information and Communication Act, 2013

The Kenya Information and Communications Act provides a legal framework for electronic commerce and related matters, aligning electronic formats for documents and transactions with traditional physical documents. Section 83G of the Act stipulates that where any law requires information or other matter to be in writing, this requirement is met if the information is presented electronically and remains accessible for future reference.⁷⁹ This provision reinforces the validity of electronic records and grants them equal weight as physical documents. Therefore, it is instructive to note that Section 83G supersedes contrary

⁷⁷ Regulation 90, *Land Registration (General) Regulations* (2017).

⁷⁸ Section 6, *Land Registration Act* (Act No. 3 of 2012).

⁷⁹ Section 83G, *Kenya information and Communications Act* (2013).

provisions of other statutes.⁸⁰It aims to streamline transactions and data management in a digital environment, facilitating efficiency and technological alignment.

However, Section 83B outlines exceptions to this general rule, excluding specific categories of documents and transactions, such as wills, negotiable instruments, and title records.⁸¹ Unless modified by a ministerial order. These exceptions remain, and they can add or remove certain classes of transactions. For instance, to allow for the electronic processing of title documents, these would need to be excluded from the list of exceptions through such an order.⁸²This necessity underpins the proposed amendments in the reforms in the latter part of this chapter.

Part VI of the Act further elaborates on the functions of the Communications Authority of Kenya (CAK), particularly in managing transactions and ensuring cybersecurity. The provisions include licensing requirements, the formation, and enforcement of electronic contracts, attribution of electronic messages, guidelines for acknowledging receipt of electronic messages, and securing electronic records. Additionally, it addresses compliance mechanisms for electronic signatures, the recognition and regulation of such signatures, and the designation of *protected systems* to safeguard critical infrastructure. The Act also facilitates the use of electronic records and signatures by government agencies, including the publication of electronic gazettes, creating a robust framework to support secure and efficient electronic transactions.

Despite these advancements, the actualization of electronic signatures, including advanced electronic signatures, remains stalled due to the lack of regulations prescribed by the Cabinet Secretary for ICT under Section 83R.⁸³ This section requires the Cabinet Secretary to define procedures for creating and authenticating electronic signatures while establishing standards to ensure security and reliability. Without these regulations, the full potential of electronic transactions, including land title processing, cannot be

⁸⁰ Nyadimo, E., *Report on Electronic Land Transactions, Registration, Conveyancing, and Other Related Activities under the Land Registration Act 2012*, Ministry of Lands and Physical Planning, 2018.

<https://www.kpda.or.ke/documents/Policies/Electronic%20Land%20Transactions.%20Registration.%20Conveyancing%20&%20Other%20Related%20Activities%20Task%20Force%20Report%202019.pdf> on 22 November 2024.

⁸¹ Section 83G, *Kenya information and Communications Act* (2013).

⁸² Nyadimo E, 'Report on Electronic Land Transactions, Registration, Conveyancing, and Other Related Activities under the Land Registration Act, 2012; the Land Act, 2012; and the Community Land Act, 2016' 12.

⁸³ Section 83R, *Kenya information and Communications Act* (2013).

realized. Addressing this regulatory gap is crucial for Kenya's seamless transition to digital processes and transactions.

3.8 Stamp Duty Act (CAP 480)

The Stamp Duty Act⁸⁴ outlines the procedures and requirements for stamping. While stamp duty fees are currently paid online through the e-Citizen portal, the process of affixing a stamp as proof of payment remains manual, requiring physical submission of documents at the registry. Section 2 of the Act defines a 'stamp' as an embossed, impressed, or adhesive mark created using a dye or franking machine, including stamping and being duly stamped. This definition inherently requires physical document submission, which limits the efficiency of the process.

To modernize and streamline the system, this definition must be expanded to encompass instruments processed and stamp duty paid electronically. This would facilitate a fully digital process, eliminating the requirement for physical document presentation.

3.9 The Evidence Act (CAP 80)

The Evidence Act⁸⁵ provides for and regulates the use of electronic evidence in Kenya. Section 78A of the Act outlines the conditions for its admissibility, ensuring its reliability and authenticity in legal proceedings.⁸⁶ This framework demonstrates the government's enthusiasm for embracing and integrating technology into legal processes. The provisions of this Act, particularly concerning the use of electronic evidence, align seamlessly with the goals of the ongoing transition to electronic conveyancing.

3.10 Survey Act (CAP 299)

The Survey Act governs surveys, geographical naming, and the licensing of land surveyors, among other related matters. The Survey Act governs surveys, geographical naming, and the licensing of land surveyors, among other related issues. A review of the Act reveals the need to amend Sections 5, 30, and 32 to facilitate the integration of an electronic Land Information Management System (LIMS). Section 5 vests the Director of Surveys with authority over all survey work but does not explicitly provide for digital survey methods or electronic data management systems, necessitating an update to align with modern

⁸⁴ *Stamp Duty Act* (Act No.4 of 2012).

⁸⁵ *Evidence Act* (Act No.12 of 2012).

⁸⁶ Section 78 A, *Evidence Act* (Act No.12 of 2012).

technology. Section 30, which prescribes the preparation and authentication of survey plans, remains reliant on manual processes, creating inefficiencies and delays in land registration; an amendment is needed to allow for the electronic submission and authentication of survey records. Section 32 governs access to and certification of survey records. Still, its provisions do not account for digital storage, retrieval, or verification of survey data, making introducing a framework for secure online access essential. Updating these sections would modernize Kenya's survey and land administration processes, improving efficiency, transparency, and accessibility.⁸⁷

3.11 The Computer Misuse and Cyber Crimes Act, 2018

The digitization of Kenya's land sector operations and transactions presents unique challenges and risks, necessitating robust safeguards in the digital environment. The Computer Misuse and Cyber Crimes Act is vital in guiding and regulating electronic transactions within the country. It ensures the safety of systems, particularly where human interaction is involved, and addresses risks associated with digitization, including computer-related offenses. The Act outlines provisions for the investigation, prosecution, sanctions, and penalties for such offenses, serving as a crucial deterrent against activities like unauthorized interference, unauthorized system interception, cyber espionage, and phishing attacks. It provides a framework to protect against malicious actors and maintain the integrity of digital operations. Any individual convicted under the Act face penalties, which may include fines, imprisonment, or both, depending on the severity of the offense.

3.12 Access to Information Act, 2016

The Access to Information Act⁸⁸ operationalizes Article 35 of the Constitution.⁸⁹ which guarantees every citizen the right to access information held by the State and information held by private individuals or entities where such access is necessary to exercise or protect a right or fundamental freedom. The Act establishes a structured framework to enhance access to information, encouraging routine and systematic disclosure by public and private institutions alike.

However, the right to access information under the Act is not absolute. Section 6 of the Act imposes specific limitations, restricting access to information whose disclosure may compromise Kenya's national

⁸⁷ Survey Act (Act No. 9 of 2009)

⁸⁸ *Access to Information Act* (Act No.31 of 2016).

⁸⁹ Article 35, *Constitution of Kenya* (2010).

security, obstruct the due process, or threaten any individual's safety, health, or life.⁹⁰ These restrictions aim to balance the public's right to information with the need to protect sensitive interests. Significantly, Section 17(3)(c) of the Act aligns closely with the goals of the Ardhisasa system by requiring all public entities to computerize their records and information management systems within three years of the Act's applicability.⁹¹ This provision seeks to enhance efficiency in accessing information and accelerate the transition to digital systems across government institutions. Consequently, there is an urgent need to expedite the digitization process to meet the timelines stipulated in the Act and fully realize the objectives of electronic governance and transparency.

3.13 Registration of Documents Act (CAP 285)

The Registration of Documents Act governs the registration of instruments that establish, declare, limit, or extinguish any right, title, or interest—whether vested or contingent—relating to immovable property in Kenya.⁹² However, the statutory framework, as currently constituted, does not anticipate the integration of digital registration processes. This lacuna necessitates legislative amendments to incorporate the electronic filing and registration of documents. Section 7 of the Act delineates the conditions under which the Registrar may refuse to register a document.⁹³ This provision requires revision to address electronic documents explicitly. Likewise, Section 19, which prescribes the types of records the Registrar must maintain, should be amended to permit the use of electronic records.⁹⁴ Such reforms are indispensable for advancing the digitization of the registration system, improving efficiency, and ensuring accessibility. These recommendations align with the need to modernize the legal framework and promote the full adoption of electronic conveyancing.

3.14 County Governments Act, 2012

Several land transactions necessitate the involvement of County Governments, particularly in planning matters.⁹⁵ Transactions such as the issuance of rates clearance certificates and development control

⁹⁰ Section 6, *Access to Information Act* (Act No.31 of 2016).

⁹¹ Section 17(3)(c), *Access to Information Act* (Act No.31 of 2016).

⁹² *Registration of Documents Act* (CAP 285)

⁹³ Section 7, *Registration of Documents Act* (CAP 285)

⁹⁴ Section 19, *Registration of Documents Act* (CAP 285)

⁹⁵ Nyadimo E, '*Report on Electronic Land Transactions, Registration, Conveyancing, and Other Related Activities under the Land Registration Act, 2012; the Land Act, 2012; and the Community Land Act, 2016*' 15.

applications fall within the jurisdiction of the County Governments.⁹⁶ Consequently, these transactions should be processed electronically and be fully compatible with the National Land Information Management System (NLIMS) if electronic conveyancing is to be fully adopted in Kenya. The Physical Land Use and Planning Act,⁹⁷ serves as the procedural law governing development control applications. Part V of the Act provides detailed provisions concerning development control applications. Specifically, this section delineates the powers of local authorities (now County Governments) to regulate development by approved plans, issue development permissions, specify the procedures for submitting development applications, approve such applications, and register documents related to development control.⁹⁸

Similarly, Section 12 of the Urban Areas and Cities Act assigns the management of cities and municipalities to the County Government, which administers these functions through a board, a manager, or other designated officers. The procedural law governing development control and other land transactions at the county level must mandate that all counties implement an e-planning system fully integrated with NLIMS. This would facilitate greater efficiency and consistency in managing land transactions at the County level, ensuring that the system is comprehensive and streamlined.

3.15 Legal Framework Gaps and Proposed Reforms for the successful implementation of E-Conveyancing in Kenya

3.15.1 Migration to One Register under the Land Registration Act, 2012

To ensure the success of the electronic land registration system, the migration process under Section 6 of the Land Registration Act and the Land Registration (Registration Units) Order, 2017 must be expedited. The Act repealed multiple laws, including the Government Lands Act, Registration of Titles Act, Registered Land Act, Land Titles Act, and Indian Transfer of Property Act, which required separate registers in different locations. For instance, Central and Coastal registries in Nairobi and Mombasa handle GLA, RTA, and LTA records, while RLA registers exist in Nairobi and other regions. However, the intended consolidation remains incomplete. A harmonized registry is crucial for efficient digital land registration, reducing redundancies, and enhancing accessibility in land transactions.

⁹⁶ Nyadimo E, 'Report on Electronic Land Transactions, Registration, Conveyancing, and Other Related Activities under the Land Registration Act, 2012; the Land Act, 2012; and the Community Land Act, 2016' 15.

⁹⁷ *Physical Land Use and Planning Act* (Act No.13 of 2019).

⁹⁸ Part V, *Physical Land Use and Planning Act* (Act No.13 of 2019),

3.15.2 Recognition of Electronic Contracts in Land Transactions under S.38 of the Land Act 2012

Section 38 of the Land Act stipulates that no legal action can be initiated based on a contract unless it is in writing, signed, and witnessed by a competent individual. This section needs to be amended to accommodate contracts entered electronically. This would align with the evolving technological landscape and facilitate the use of electronic agreements in land transactions.

3.15.3 Regulation for Electronic Signatures under the Kenya Information and Communications Act, 2013

Though electronic signatures and advanced electronic signatures have been provided for in the Act, their actualization cannot occur without the Cabinet Secretary for ICT making regulations in terms of Section 83R of the Act.⁹⁹ This section mandates that the Cabinet Secretary prescribes the creation of an electronic signature. It is noteworthy that such regulations have yet to be made. Therefore, there is a need to enact these regulations to enable a seamless transition to electronic land transactions.

3.15.4 Integration of Electronic Registration Processes under the Registration of Documents Act (CAP 285)

The Registration of Documents Act governs the registration of instruments related to immovable property in Kenya.¹⁰⁰ However, the current framework does not account for integrating digital registration processes, creating a gap that necessitates legislative amendments to facilitate electronic filing and registration of documents. Section 7 of the Act,¹⁰¹ Section 19, which outlines conditions for refusing to register a document, requires revision to include electronic documents explicitly.¹⁰², which defines the types of records the Registrar must maintain, should be amended to permit electronic records. These amendments are essential for advancing the digitization of the registration system, improving efficiency, and ensuring accessibility, all of which align with the broader goal of modernizing the legal framework and fully adopting electronic conveyancing.

⁹⁹Section 83G, *Kenya information and Communications Act* (2013).

¹⁰⁰ *Registration of Documents Act* (CAP285)

¹⁰¹ Section 7, *Registration of Documents Act* (CAP 285)

¹⁰² Section 19, *Registration of Documents Act* (CAP 285)

This has been implemented in Australia through the Electronic Lodgment Networks, which enable the lodging of registry instruments and other documents in electronic form for land titles legislation.¹⁰³ It also has enabled the preparation of registry instruments and other documents in electronic form for lodging under the land titles legislation.

3.15.5 All counties should implement an e-planning system for land management.

Transactions such as the issuance of rates clearance certificates and development control applications fall within the jurisdiction of the County Governments.¹⁰⁴ These transactions should be processed electronically and be fully compatible with the National Land Information Management System (NLIMS). The procedural law governing development control and other land transactions at the County level must mandate that all counties implement an e-planning system fully integrated with NLIMS.¹⁰⁵

3.15.6 Deadline for Digitizing Government Records

Section 17(3)(c) of the Access to Information Act¹⁰⁶ aligns with the mandate of the Taskforce, stipulating that every public entity must computerize its records and information management systems within three years of the Act's applicability to facilitate more efficient access to information. The Act came into operation in September 2016, making the three-year deadline a crucial milestone for transitioning to electronic systems in government. To ensure compliance with this requirement and accelerate the adoption of digital systems, it is imperative to expedite the digitization process to meet the prescribed timelines.

3.16. Conclusion

The successful implementation of e-conveyancing in Kenya is currently impeded by significant legal and institutional gaps that hinder the establishment of a fully integrated and efficient electronic land registration system. Although various laws, such as the Land Registration Act, the Land Act, and the Kenya Information and Communications Act, provide a foundation for digital land transactions, critical elements

¹⁰³ *Electronic Conveyancing Act 2014*, Western Australia; *Electronic Conveyancing (Adoption of National Law) Bill 2012*, New South Wales; *Electronic Conveyancing National Law* (Queensland).

¹⁰⁴ Nyadimo E, 'Report on Electronic Land Transactions, Registration, Conveyancing, and Other Related Activities under the Land Registration Act, 2012; the Land Act, 2012; and the Community Land Act, 2016' 15.

¹⁰⁵ Nyadimo E, 'Report on Electronic Land Transactions, Registration, Conveyancing, and Other Related Activities under the Land Registration Act, 2012; the Land Act, 2012; and the Community Land Act, 2016' 16.

¹⁰⁶ Section 17(3)(c), *Access to Information Act* (Act No.31 of 2016).

such as the migration to a unified register, recognition of electronic contracts, and the regulation of electronic signatures remain underdeveloped. Additionally, the absence of a harmonized framework for electronic registration under the Registration of Documents Act and the failure to enforce the digitization of government records further exacerbate the challenges.

Kenya's legal framework remains fragmented and insufficient to support the transition to fully electronic land transactions. To modernize land administration, urgent legislative amendments and a more robust institutional framework are necessary. These reforms should address the recognition of electronic documents, streamline the regulatory environment, and ensure the full integration of electronic systems across all levels of government. Only with a comprehensive legal and institutional overhaul will Kenya be able to unlock the full potential of e-conveyancing and establish a more efficient, accessible, and transparent land registration system.

4.0 PROJECT MANAGEMENT AND ORGANISATION STRUCTURE OF THE NLIMS

This chapter critically examines Kenya's National Land Information Management System (NLIMS), specifically addressing the challenges faced during its implementation and the strategic approaches necessary for its successful realization. Building upon the foundational concepts and objectives outlined in preceding chapters, it delves deeper into the practical realities faced by the various stakeholders involved in the operational aspects of NLIMS. It highlights the systemic barriers, stakeholder dynamics, and technological requirements that influence its deployment.

Moreover, the NLIMS project has encountered significant hurdles, including inadequate funding, insufficient technical expertise, and resistance to change within various institutions. This chapter explores these challenges and proposes a framework of targeted recommendations. In making its case, the chapter argues that these challenges are the primary factors hindering the successful implementation of NLIMS, particularly in counties outside Nairobi, where manual processes remain prevalent. Through this lens, the chapter aims to provide valuable insights for policymakers, practitioners, and stakeholders committed to enhancing electronic land governance across Kenya.

4.1 The National Land Information Management System (NLIMS)

The National Land Information Management System (NLIMS) was conceived to improve the efficiency and effectiveness of land management services in Kenya.¹⁰⁷This initiative aligns with the principles outlined in the Constitution, Vision 2030, and the National Land Policy, which collectively emphasize the need for a robust framework for land administration.¹⁰⁸As part of its strategic direction, the NLIMS has been incorporated into the core functions of the Ministry of Lands, as detailed in both the Ministerial Strategic Plan and the Ministerial Performance Contract .¹⁰⁹

At the heart of the NLIMS mission is establishing an integrated land information system that leverages Geographical Information Systems (GIS). This system is designed to include electronic Land Ownership

¹⁰⁷ National Land Commission, Development and Implementation of an Automated National Land Information Management System (NLIMS), 2013 — <https://lands.go.ke/national-land-information-management-system-nlims/> on 19 December 2024.

¹⁰⁸Ministerial Strategic Plan 2008-2012. — https://www.uhc2030.org/fileadmin/uploads/ihp/Documents/Country_Pages/Kenya/Kenya%20ministry_of_public_health_and_sanitation_strategic_plan%202008-2012.pdf on 19 December 2024.

¹⁰⁹ Ministerial Performance Contract of financial year 2009/10-2010/11 — <https://treasury.go.ke/wp-content/uploads/2021/02/Annual-Public-Debt-Report-2009-2010.pdf> on 19 December 2024.

Records and electronic Land Registration Maps, thereby ensuring that citizens have prompt access to high-quality, relevant land information products and services.¹¹⁰

The anticipated outcome of this initiative is the development of a standardized and integrated online platform that allows users to access NLIMS services seamlessly. This platform is expected to enhance information accessibility at various levels, promote cost-effective administration, and foster transparency and good governance practices. Furthermore, it aims to bolster the capacity of GIS and IT within the Ministry, facilitating ongoing capacity-building efforts.

The NLIMS project aims to achieve several key objectives. It focuses on creating a robust institutional framework to support the system, designing and deploying an integrated GIS-based land information management system, and digitizing existing land records to enhance security and accessibility. Furthermore, the initiative seeks to establish a modern geodetic reference framework and develop an online portal to facilitate easier access to land-related data. A crucial component of the project is strengthening the Ministry's ability to manage, operate, and oversee the NLIMS efficiently.¹¹¹

4.1.2 The National Land Information Management System Directorate

The National Land Commission, responsible for developing and maintaining an efficient Land Information Management System at both national and county levels, established the NLIMS Directorate to oversee the initiative.¹¹² The Directorate formulated a master plan to define NLIMS's institutional framework, which involved conducting a situational analysis, setting a strategic vision, and evaluating key stakeholders.¹¹³

As part of its mandate, the Directorate assessed the status of ongoing projects within the Ministry of Lands, structured the project framework, and appointed a steering committee along with implementation teams. Additionally, it developed a reporting mechanism to keep both internal and external stakeholders informed, fostering effective communication and engagement. The initiative also included the creation of an online project portal for easy access by the Ministry of Lands and efforts to build capacity in change

¹¹⁰ National Land Information Management System-2013, 5.

¹¹¹

National Land Commission Act No. 5 of 2012, Laws of Kenya; Ministry of Lands, NLIMS Master Plan 2011-2014, 2011 — <https://lands.go.ke/national-land-information-management-system-nlims/> On 19 December 2024.

¹¹³ The NLIMS Master Plan 2011-2014.

management. A key aspect of the plan was the comprehensive restructuring of business processes, which involved reviewing existing workflows and documenting them.¹¹⁴

As a result, the directorate analyzed system requirements to identify user needs, evaluate existing systems, and prepare proposals for hardware and software acquisition for NLIMS. It designed modules to manage data such as cadastral records, adjudication documents, settlement information, land valuation, registration, and physical development plans. The development phase involved harmonizing parcel data, creating interoperable modules for GIS and ownership databases, and drafting user manuals. Plans included system testing, data migration, parallel operation of old and new systems, quality assurance, and user training. A successful implementation would enable a complete transition to the digital system, replacing manual processes while ensuring ongoing training and system monitoring.

The NLIMS Directorate, established under the National Land Commission Act, was initially responsible for system development. However, the Land Laws Amendment Act of 2016 shifted these responsibilities to the Ministry of Lands, relegating the Directorate to an advisory role.

4.2 System Rollout and Launch of NLIMS

The NLIMS project involved assessing records to determine their importance for long-term preservation while discarding outdated documents to optimize storage space at the Ministry of Lands in accordance with legal requirements¹¹⁵ This process also included safeguarding vital records as required by law and developing structured retention and disposal schedules.¹¹⁶

On May 30, 2016, the NLIMS Directorate launched a pilot project after acquiring the necessary hardware and developing software for land administration services.¹¹⁷ This marked significant progress toward the objectives outlined in the Master Plan. However, full implementation was dependent on completing data migration, user training, and developing additional modules for integration into the system.¹¹⁸ Below are some of the features envisaged in the NLIMS:

¹¹⁴ National Land Commission, Master Plan for NLIMS 2011-2014, 17.

¹¹⁵ Public Archives and Documentation Service Act (Cap 19) Laws of Kenya.

¹¹⁶ National Land Commission, Master Plan for NLIMS 2011-2014.

¹¹⁷ NLIMS Launch at Radisson Blu Nairobi, on 30th May 2016.

¹¹⁸ NLIMS Launch at Radisson Blu Nairobi, on 30th May 2016.

4.3 Features of the NLIMS System

The NLIMS is structured around three main features: Adherence to the principles of Cadaster 2014, the Incorporation of the ISO Standard Land Administration Domain Model (LADM), and the Implementation of the Social Tenure Domain Model (STDM)

4.3.1 Model System in Line with Principles of Cadaster 2014

The Principles of Cadaster 2014 were developed as part of an international initiative to better modernize land administration systems to meet contemporary society's needs. This initiative was outlined by the International Federation of Surveyors (FIG), which published these principles and set a goal for their implementation by 2014. Cadastre 2014 highlighted the importance of effective land governance and management for sustainable development. Traditional land administration systems often struggle with inefficiencies, lack of transparency, and an inability to accommodate modern land use and ownership complexities. As a result, Cadaster 2014 was established to address these challenges, emphasizing inclusivity in land administration by recognizing and formalizing various forms of land tenure, including informal and customary rights prevalent in many developing countries.¹¹⁹

The principles advocate for integrating modern technology, such as Geographic Information Systems (GIS) and digital databases, to enhance the efficiency and accuracy of land records, making it easier to manage and access land information. Additionally, Cadaster 2014 underscores the need for land administration systems to support sustainable land use practices, incorporating considerations for environmental protection, land use planning, and the management of natural resources. Good governance and transparency are also central to the principles, promoting accountability and stakeholder participation to reduce corruption and enhance the legitimacy of land governance.¹²⁰

Recognizing that land administration systems must be responsive to changing social, economic, and environmental conditions, Cadaster 2014 advocates for adaptable frameworks that allow systems to evolve. This flexibility accommodates new technologies, policies, and societal needs. Furthermore, the successful implementation of these principles requires building the capacity of institutions and individuals

¹¹⁹ Kaufmann, J., and Steudler, D., Cadastre 2014: A vision for a future cadastral system. 1998, 24 — [Kaufmann, J., and Steudler, D., Cadastre 2014: A vision for a future cadastral system. 1998](#). On 19 December 2024.

¹²⁰ Kaufmann and Steudler, *Cadastre 2014*, 42.

involved in land administration, which includes training personnel, improving infrastructure, and ensuring that stakeholders possess the necessary knowledge and skills to engage effectively in land governance.¹²¹

The NLIMS aims to embody these principles to enhance land administration in Kenya through:

4.3.1.1 Comprehensive Land Information

The NLIMS provides a centralized repository of land-related data, including ownership details, land use classifications, boundaries, and historical transaction records. This comprehensive database facilitates better decision-making by government agencies and stakeholders involved in land management. Having all relevant information in one place will reduce the time and effort required to access land data, improving service delivery. This involves network infrastructure with dedicated internet connectivity and sufficient bandwidth to ensure that end-users obtain this information efficiently and on time.¹²² Further, Land is a sensitive issue in Kenya, and land-related data is highly confidential.¹²³ To ensure information security, strict measures have been implemented, including password protection, audit trails, user access restrictions, and firewalls.¹²⁴ The NLIMS employs a robust access control and authentication system,

¹²¹ Kaufmann J and Steudler D, *Cadastre 2014: A Vision for a Future Cadastral System*, International Federation of Surveyors, 1998, 21.

¹²² Lemmen, C. H. et al. 'The modelling of spatial units (parcels) in the Land Administration Domain Model (LADM).' Proceedings of the XXIV FIG International Congress 2010: Facing the Challenges Building the Capacity, April 2010. International Federation of Surveyors, FIG, 2010 — http://fig.net/pub/fig2010/ppt/ts04k/ts04k_lemmen_vanoosterom_et_al_ppt_4214.pdf on 20 December 2024.

¹²³ Wangalachi, S. N., 'Sustainable Land Management in a Bid to Alleviate Poverty and Prevent Deforestation in Kenya.' International Journal of Afro-Asian Studies 1, 2011:45 — https://books.google.com/books?hl=en&lr=&id=hL83iEN4LhoC&oi=fnd&pg=PA45&dq=Wangalachi,+S.+N.,+%22Sustainable+Land+Management+in+a+Bid+to+Alleviate+Poverty+and+Prevent+Deforestation+in+Kenya.%22+International+Journal+of+Afro-Asian+Studies+1,+2011:p.45.+&ots=ULgczoppZ7&sig=Z_flnIx75aVx0vV4k0mu8k58WPo on 20 December 2024.

¹²⁴ Kasaine, A. et al., 'Developing a National Land Information Management System – the Kenyan Strategy.' Presentation at the 2016 World Bank Conference on Land and Poverty the World Bank - Washington DC, March 14-18, 2016 — https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Kasaine%2C+A.+et+al.%2C+%E2%80%9CDeveloping+a+National+Land+Information+Management+System+%E2%80%93+the+Kenyan+Strategy.%E2%80%9D+Presentation+at+the+2016+World+Bank+Conference+on+Land+and+Poverty+the+World+Bank++Washington+DC%2C+March+14-18%2C+2016.+&btnG= on 22 December 2024.

allowing multiple users with varying access levels to interact only with components relevant to their roles. This approach has simplified the system, fostering early adoption among staff and stakeholders.¹²⁵

The NLIMS online portal offers free and paid services for public access. The general public can access information such as cadastral maps, plot numbers, and land categories, but owner details remain confidential. Meanwhile, professionals in the conveyancing field—such as surveyors, planners, valuers, land administrators, and lawyers—are granted extended access.¹²⁶ These professionals must first register in the system, after which they can request specific information required for their professional duties. This tailored access ensures security while effectively supporting professional functions.¹²⁷

4.3.1.2. Traceability of Land Titles

A key feature of the NLIMS is its ability to trace land title history. Users can access records of all transactions related to a specific parcel of land, including transfers, leases, and encumbrances. This traceability is vital for resolving disputes, verifying ownership, and addressing historical land tenure injustices. The service is available to the public upon payment of the required fees.¹²⁸

It has been suggested that the system should implement a secure mechanism for verifying the authenticity of users who make payments, ensuring they receive the service while preventing unauthorized access.¹²⁹

However, it is essential to note that an official search provided by NLIMS does not constitute adequate due diligence when purchasing property. The Supreme Court affirmed this in the landmark case of *Dina Management Limited v County Government of Mombasa & 5 others*,¹³⁰ where the court held that a title document alone is insufficient proof of land ownership where the root of the title is contested. Therefore, a more comprehensive root title search is necessary alongside the official search from NLIMS.

¹²⁵ Swazuri M. A., ‘Embracing Stakeholders’ participation for an NLIMS that serves Kenyans’ 2016.

¹²⁶ Kasaine, A. et al., ‘Developing a National Land Information Management System – the Kenyan Strategy.’ 2016.

¹²⁷ Kasaine, A. et al., ‘Developing a National Land Information Management System – the Kenyan Strategy.’ 2016.

¹²⁸ Kasaine, A. et al., ‘Developing a National Land Information Management System – the Kenyan Strategy.’ 2016.

¹²⁹ Kasaine, A. et al., ‘Developing a National Land Information Management System – the Kenyan Strategy.’ 2016.

¹³⁰ *Dina Management Limited v. County Government of Mombasa & 5 others*, Supreme Court of Kenya Petition No. 30 of 2020 (2023) KESC.

4.3.1.3 Support for Land Management Functions

The NLIMS will automate various land management processes, such as land registration, valuation, and spatial planning. Automation will streamline these processes, reducing bureaucratic delays and enhancing efficiency. This will be made possible by a distributed GIS-based enterprise system that leverages computing resources and ICT infrastructure to serve many entities at the county and national levels. By digitizing these functions, the system will also minimize the reliance on physical documentation, which can be prone to loss or damage.

4.3.1.4 Integration with Other Systems

The NLIMS will be designed to integrate with other governmental and non-governmental systems, allowing for seamless data exchange. The applications developed under the NLIMS are network-aware, allowing various entities to utilize the NLIMS irrespective of their points of operation, be it at headquarters or the county offices.¹³¹ This integration is crucial for creating a unified approach to land management across different sectors, such as finance, urban planning, and environmental management. By facilitating data sharing, the NLIMS will enhance collaboration among various stakeholders, leading to more informed decision-making.

4.3.2. ISO Standard Land Administration Domain Model (LADM)

The Land Administration Domain Model (LADM), defined by ISO 19152, provides a globally recognized framework for managing land administration systems.¹³² It encompasses critical areas of land governance such as land tenure, land value, land use, and development, aiming to promote transparent, efficient, and accountable land management practices. In Kenya, the National Land Information Management System (NLIMS) integrates the LADM framework to align its land administration processes with international standards.¹³³ This integration ensures consistency and enhances interoperability, which is vital for improving the efficiency of land transactions.

¹³¹Kasaine, A. et al., ‘Developing a National Land Information Management System – the Kenyan Strategy.’ 2016.

¹³² Lemmen, C. H. et al. ‘The modelling of spatial units (parcels) in the Land Administration Domain Model (LADM).’ Proceedings of the XXIV FIG International Congress 2010: Facing the Challenges-Building the Capacity, April 2010. International Federation of Surveyors, FIG, 2010

¹³³ Clifford Okembo, Christiaan Lemmen, David Kuria & Jaap Zevenbergen, ‘Land administration domain model profile for Kenya. *Survey Review*.’ 3-5, —

Research on developing a tailored Kenyan LADM profile highlights the importance of adapting the LADM framework to address the specific needs of Kenya's land administration system; by employing LADM-based data models, Kenya's Ardhisasa platform benefits from improved data interoperability, facilitating seamless integration with other systems. This enables better data management, system performance, and optimized land administration services.

Implementing LADM principles within Ardhisasa also facilitates the modernization of land administration processes in Kenya. Standardizing data models under LADM reduces the potential for manual errors, streamline workflows, and enhances the system's overall efficiency. Studies on Ardhisasa's modernization underscore the advantages of incorporating LADM-based models, which have led to better system outcomes. Additionally, LADM's flexibility allows for the inclusion of 3D cadastral modeling, which is crucial for managing complex land rights such as multi-story buildings. Integrating 3D modeling into Ardhisasa, in line with LADM standards, improves the registration and management of sectional titles and other complex land rights, although challenges remain in fully implementing this feature.

The NLIMS adopts the LADM model through:

4.3.2.1 Standardization of Data in the NLIMS

Adopting LADM will standardize land-related data formats and terminologies, improving data quality and reliability. This will facilitate the management and sharing of information across different platforms and systems, both locally and internationally, enhancing the integration of NLIMS with other land management systems.

4.3.2.2 Interoperability of the NLIMS

LADM's adoption will enable the NLIMS to communicate with other systems, promoting seamless data exchange effectively. This interoperability ensures that various stakeholders, including government agencies, the private sector, and civil society, can access and utilize land data. Through interoperability, NLIMS will foster collaborative land management and governance efforts.¹³⁴

<https://doi.org/10.1080/00396265.2023.2293360> on 28 December 2024.

¹³⁴ Clifford Okembo, Christiaan Lemmen, David Kuria & Jaap Zevenbergen, '*Land administration domain model profile for Kenya, Survey Review.*'3-5, —

<https://doi.org/10.1080/00396265.2023.2293360> on 28 December 2024.

4.3.2.3 Support for Diverse Land Tenure Systems of the NLIMS

LADM is adaptable to various land tenure systems, which is particularly significant for Kenya's diverse land landscape. The NLIMS will be capable of managing multiple forms of land ownership, such as public, private, and communal lands. This inclusiveness will ensure that all types of land tenure are appropriately recognized and managed within the system.

4.3.2.4 Enhanced Reporting and Analysis of the NLIMS

The structured approach of LADM allows NLIMS to generate detailed reports and analyses on land use, ownership patterns, and other critical metrics. These data-driven insights will support informed decision-making and policy development. By providing valuable information on land management trends, NLIMS will assist government authorities in identifying areas that need improvement, enabling better resource allocation and strategic planning.

4.3.3 Social Tenure Domain Model (STDM)

The Social Tenure Domain Model (STDM) is a land information management framework developed by the Global Land Tool Network (GLTN) under UN-Habitat. It aims to bridge the gap in conventional land administration systems by accommodating various forms of land tenure, including informal and community-based arrangements. This inclusivity is essential for addressing Kenya's unique land management challenges.

The NLIMS has adopted the SDTM model through:

4.3.3.1 Recognition of Informal Tenure

STDM allows for documenting and recognizing informal land tenure arrangements, which are prevalent in many communities. Incorporating these arrangements into the National Land Information Management System (NLIMS) will provide a more accurate representation of land ownership and usage. This recognition is crucial for ensuring that informal landholders have access to rights and protections, promoting social equality.

4.3.3.2 Community Engagement and Support for Social Justice

The STDM framework encourages community participation in land management processes. The NLIMS will foster a sense of ownership and responsibility among stakeholders by involving local communities in

documenting and managing land tenure. Community engagement will also enhance the accuracy of land data, as local knowledge can provide valuable insights into land use and ownership patterns. STDM promotes social justice in land administration by accommodating diverse land tenure systems. This feature is significant in addressing historical injustices and ensuring marginalized communities have access to land rights and resources. The NLIMS will play a vital role in rectifying past grievances related to land ownership, thereby contributing to social cohesion and stability.

4.4 System Roll Out of the NLIMS

The National Land Commission (NLC), through its dedicated National Land Information Management System (NLIMS) Directorate, has made remarkable progress in implementing the NLIMS strategy, marking a transformative shift in the management of land information in Kenya.¹³⁵ Central to this advancement has been the establishment of a robust human resource capacity, achieved through an extensive recruitment drive. The NLIMS Directorate has a highly specialized team of 13 experts in Spatial Information Management, GIS development, and Spatial Database management. These professionals serve as Quality Control officers, guaranteeing all outsourced work's accuracy, reliability, and security and safeguarding sensitive land data, which is critical to national interests.

A significant milestone in NLIMS implementation is developing a fully integrated system. In close collaboration with the ICT Directorate, the NLIMS Directorate crafted detailed system requirements for the first phase of the system's deployment. Acknowledging the complex interdependencies between NLIMS and other governmental systems, a tender was issued to supply integrated systems solutions. This system encompasses three key components: a Citizen Relationship Management (CRM) module to handle public interactions with the Commission, an Enterprise Resource Planning (ERP) module to optimize internal resource management, and the NLIMS itself to manage and streamline land data. The successful bidder awarded the contract in early 2015, has already rolled out the ERP system, while the CRM module is rapidly nearing completion, with all Functional Requirement Documents (FRDs) finalized and the ongoing customization of the Electronic Document Management System (eDMS) and CRM to meet user needs.

¹³⁵ Kasaine, A. et al., *Developing a National Land Information Management System – the Kenyan Strategy.* 2016.

The NLIMS component, which is tailored to Kenya's unique land administration framework, requires further customization due to the country's distinct land management workflows and recent legal reforms. These reforms have significantly altered some processes, necessitating a comprehensive review. While key workflows have been identified, the NLIMS data model has been developed using the Land Administration Domain Model (LADM) as a foundational template, carefully selecting elements that apply specifically to Kenya. The programming and customization work is underway in alignment with international best practices, ensuring the system can effectively manage land data in Kenya's legal and operational landscape.

A cornerstone of NLIMS is the Spatial Data Conversion Laboratory, which acts as the engine for the system's data collection, collation, and conversion efforts. This state-of-the-art laboratory, fully operational since its establishment, is equipped with high-performance scanners, plotters, GIS workstations, and barcode scanners—critical tools for transforming physical documents into digital formats. The laboratory is essential in digitizing maps, plans, and other land-related documents, facilitating the efficient management and accessibility of land data across the country.

Given the complexity of spatial referencing in Kenya, which involves three primary spatial reference systems—Universal Transverse Mercator (UTM), Cassini-Solder, and local coordinate systems—the Directorate, in partnership with the National Mapping Agency (Survey of Kenya), is developing an innovative transformation scheme to ensure seamless national coverage. This scheme will allow for efficient spatial data integration across various systems, enabling the accurate representation of land parcels throughout the country, regardless of the reference system in use.

Developing NLIMS standards and guidelines is another critical initiative to ensure the system's success. Given limited funding and human resource constraints, the NLC has forged collaborative partnerships with counties to develop tailored LIMS solutions that align with the broader NLIMS framework. The NLC has created comprehensive standards and guidelines to support this effort, with input from key stakeholders across the land sector. These standards will govern the implementation of LIMS by various agencies, ensuring consistency, compatibility, and integration with NLIMS. The formulation of these guidelines is in its final stages, with the operationalization of these standards scheduled for 2016.

In partnership with the Institute of Geomatics, GIS, and Remote Sensing at the Dedan Kimathi University of Technology, the NLC has attracted funding for the development of an Africanized Land Administration

Domain Model (A-LADM), which will be specifically tailored to the African context.¹³⁶ The cross-cutting nature of NLIMS aligns with Kenya's devolved governance structure, prompting the NLC to establish a collaboration with the Nyeri County Government. This partnership will provide critical infrastructure, equipment, and support to help Nyeri County develop its own LIMS, which will serve as a model for other counties. This localized LIMS will create a unified, nationwide NLIMS, ensuring that all counties can benefit from the efficiencies and economic opportunities a comprehensive land management system offers.

Despite the significant technological strides and robust capabilities of the National Land Information Management System (NLIMS), one fundamental question remains unanswered: Why has electronic conveyancing not yet become the norm, especially in counties outside Nairobi, where manual processes continue to prevail? This next segment will tackle this question head-on, offering a detailed analysis of the barriers that impede the full-scale adoption of electronic conveyancing.

4.5 Challenges hindering the full implementation of the NLIMS in all 47 Counties in Kenya

4.5.1. Inadequate Funding and Resource Allocation

A significant reason for NLIMS's failure to achieve implementation across all 47 counties is the chronic underfunding of its operations.¹³⁷ Although initial funding from the government and donors laid the groundwork for the system, the financial resources were insufficient to sustain its development. The digitization of land records, especially in rural counties, requires substantial investment in infrastructure, such as advanced servers, data centers, and secure backup systems. However, registries in most counties lack essential computing equipment, which hampers digitization efforts and perpetuates the reliance on manual systems. For instance, while Nairobi and Mombasa benefit from relatively better infrastructure, counties like Wajir and Tana River remain excluded. To this extent, it has been held that the main challenge facing the digitization project of the NLIMS is the shortage of resources, both human and equipment.¹³⁸

¹³⁶ Kuria, D. et al., 'Developing a National Land Information Management System-The Kenyan Strategy.' *World Bank Conference on Land and Poverty*, 2016.

¹³⁷ Makoro, Dennis., 'Use of Land Management Information System (NLIMS) A case study of Ministry of Land, Housing and Urban Development, — <http://repository.tukenya.ac.ke:8080/xmlui/handle/123456789/1202> on 28 December 2024.

¹³⁸ Mbaria, C. N. (2009)'Kenya's experience towards the establishment of land information management system: Automation of Kenya's land records.' Presentation slides. Nairobi: Ministry of Lands —

The uneven prioritization of urban and rural areas further exacerbates the resource disparity. Due to their higher transaction volumes and visibility, urban registries have received a disproportionate share of funding. This has resulted in partial digitization in select regions, leaving most of the country behind—the Ministry’s dependence on donor funding compounds the problem. Donor priorities often shift, causing funding interruptions and project timeline delays. For instance, the Kenya National Spatial Data Infrastructure (KNSDI), initiated under the NLIMS to facilitate online access to spatial data, was discontinued after donor funding ceased. As a result, only the City Council of Nairobi benefited from its development.¹³⁹ Without a consistent and robust financial commitment from the government, the long-term sustainability of NLIMS remains in jeopardy.¹⁴⁰ Additionally, the operational costs of maintaining a digital system¹⁴¹—such as software licenses, system upgrades, and training programs—have not been adequately budgeted.¹⁴² Counties outside urban centers frequently report breakdowns of existing digital systems due to a lack of maintenance and technical support. These financial constraints highlight the urgent need for a more equitable and sustained funding model to ensure nationwide implementation of NLIMS.

4.5.2. Technological Challenges

The technological infrastructure supporting NLIMS is insufficient and outdated, posing a significant barrier to its expansion across all counties.¹⁴³ Many registries operate with antiquated Geographic Information Systems (GIS) and Database Management Systems (DBMS) that cannot handle the volume of land records required for a national system. These systems are prone to frequent failures, resulting in data corruption and loss, which undermines the credibility of NLIMS.

<https://www.slideserve.com/kaya/kenya-s-experience-towards-the-establishment-of-land-information-management-system-powerpoint-ppt-presentation> on 30 December 2024 .

¹³⁹ Zubeda Yusuf Mucheke, ‘Challenges to Electronic Conveyancing in Kenya ,Case Study Ministry of Lands ’Unpublished, Doctor of Philosophy in Law Thesis, Open University of Tanzania, 2017, 210 —

<https://repository.out.ac.tz/1883/1/PhD%20Thesis%20-%20Mucheke%20Zubeda%20Yussuf%20%20FINAL%2012.11.2017.pdf>> on 2 January 2025.

¹⁴⁰ Z.Mucheke , ‘Challenges to Electronic Conveyancing in Kenya ,Case Study Ministry of Lands.’210.

¹⁴¹ Cassidy, A. and Cassidy, D., A Practical Guide to Reducing IT Costs. J. Ross Publishing, 2009.

¹⁴² Z. Mucheke, ‘Challenges to Electronic Conveyancing in Kenya, Case Study Ministry of Lands.’284.

¹⁴³ Mbaria, ‘Kenya’s experience towards the establishment of land information management system’, —

<https://www.slideserve.com/kaya/kenya-s-experience-towards-the-establishment-of-land-information-management-system-powerpoint-ppt-presentation> on 30 December 2024.

Interoperability issues between systems used by various departments further complicate implementation. For example, the Survey Department, which is tasked with mapping and boundary demarcations, uses separate systems that do not integrate seamlessly with the land registration databases. This lack of synchronization necessitates manual data reconciliation, which is time-consuming and error-prone. These inefficiencies discourage the adoption of NLIMS in counties where manual systems, although slower, are perceived as more reliable.

Cybersecurity vulnerabilities exacerbate the problem. The Ministry has not implemented adequate security protocols, leaving the system susceptible to data breaches and unauthorized access. Land records are particularly sensitive and often targeted for fraud and manipulation. Stakeholders, including county officials and conveyancers, are reluctant to trust a system perceived as insecure. This lack of trust and technological deficiencies hinder the system's adoption in counties beyond Nairobi and other urban centers.

4.5.3. Deficiencies in the Legal Framework

A comprehensive legal framework to support NLIMS impedes its implementation across all counties. Existing laws, such as the Land Registration Act, allow digitization but fail to address the broader requirements of electronic conveyancing. For example, there are no enforceable guidelines on digital signatures or electronic contracts, which is essential for a fully operational digital land management system.

Jurisdictional disputes between the Ministry of Lands and the National Land Commission further complicate matters. Both institutions claim overlapping responsibilities in land administration, creating confusion and delays in decision-making. Counties outside urban centers are particularly affected, as they rely heavily on clear directives from national authorities to implement new systems. This conflict has led to a lack of accountability, with neither institution taking full responsibility for ensuring NLIMS's success. Additionally, the legal framework does not provide sufficient safeguards against cyber fraud and unauthorized transactions. Counties are reluctant to adopt a system without explicit legal protection for electronic records, fearing that digital transactions could lead to disputes over land ownership. The lack of legal clarity deters stakeholders, particularly conveyancers and financial institutions, from fully engaging with the system, further stalling its rollout.

4.5.4. Coordination and Governance Challenges

Fragmented governance and poor coordination are among the primary reasons for NLIMS's failure to expand across all counties. The Ministry of Lands operates in silos, with various departments working

independently on their digitization efforts. This has resulted in redundant systems that fail to communicate effectively, creating inefficiencies and duplication of efforts.

The ongoing jurisdictional conflict between the Ministry of Lands and the National Land Commission compounds these challenges. Both institutions have competing mandates, which delay the approval of critical NLIMS components. Counties that depend on national-level coordination for technical support and policy directives are left without clear guidance, stalling their digitization efforts.

Weak leadership and the absence of a centralized project management framework exacerbate these issues. Implementing NLIMS requires a coordinated, multi-stakeholder approach, but the lack of unified oversight has led to missed deadlines and inconsistent progress. Counties with limited administrative capacity are particularly disadvantaged, as they cannot independently navigate the complexities of digitization without strong support from the central government.

4.5.5. Human Resource and Skill Deficiencies

The shortage of skilled personnel within the Ministry of Lands is a significant barrier to NLIMS's success.¹⁴⁴ The system requires technical expertise in modern database management, GIS technologies, and cybersecurity protocol skills that are scarce across most counties. Training programs have been sporadic and limited to selecting staff, primarily in urban centers, leaving rural registries ill-prepared to manage and operate the system.

Many county registries rely on manual systems because their staff lacks the technical knowledge to transition to digital platforms. The absence of continuous professional development programs further compounds this issue, as even trained personnel struggle to keep up with the evolving demands of a digital system.¹⁴⁵ This uneven distribution of skills creates bottlenecks, particularly in counties that lack the resources to hire or train specialized staff.

¹⁴⁴Lizahmy Ntonjira, 'Developing Land Information Management System(LIMS) for County Governments in Kenya : A Case Study Kirinyaga County.' 2017 — <https://www.oicrf.org/documents/40950/43224/Developing+Land+Information+Management+System+LIMS+for+County+Governments+in+Kenya.pdf/a89518ca-767e-8895-f503-95f693ca3bba?t=151019392759> on 31 December 2024.

¹⁴⁵ Mbaria, C. N. 'Kenya's experience towards the establishment of land information management system: Automation of Kenya's land records.' 2009 — <https://www.slideserve.com/kaya/kenya-s-experience-towards-the-establishment-of-land-information-management-system-powerpoint-ppt-presentation> on 30 December 2024.

Additionally, the Ministry has not developed a robust capacity-building strategy to ensure that counties can sustain their digitization efforts.¹⁴⁶ Without a long-term plan to address these human resource gaps, NLIMS's expansion will remain limited to urban centers, leaving rural counties dependent on inefficient manual processes.

4.5.6. Resistance from Key Stakeholders

Resistance from stakeholders, including conveyancers, legal practitioners, and registry users, has significantly slowed the National Land Information Management System (NLIMS) adoption. This resistance stems largely from inadequate consultation and engagement during the system's design and rollout phases. Key stakeholders, such as the Law Society of Kenya (LSK), have expressed concerns over their exclusion from critical decision-making processes, leading to mistrust in the system.

A significant point of contention among legal practitioners was the perceived threat to their role in land transactions, mainly due to concerns surrounding Section 34 of the Advocates Act.¹⁴⁷ Initially, there was apprehension that NLIMS would allow non-advocates to lodge transfers and other instruments for registration, potentially undermining the role of conveyancing advocates. While this concern has been addressed, advocates are now required to create official accounts on the system and update them annually by uploading their practicing certificates, but mistrust still lingers. The primary worry was financial: if the system enabled anyone to conduct conveyancing transactions independently, it could significantly diminish the demand for legal services in property transfers, directly impacting conveyancing advocates' income.

Beyond legal concerns, stakeholders also question the reliability and security of NLIMS. Despite their inefficiencies, many conveyancers and financial institutions perceive manual systems as more predictable and easier to navigate. The Ministry's failure to effectively communicate the benefits of NLIMS—such as improved efficiency, transparency, and reduced transaction costs—has further alienated stakeholders, particularly in rural counties where traditional paper-based systems are deeply ingrained.

¹⁴⁶ Mbaria C N, 'Kenya's experience towards the establishment of land information management system: Automation of Kenya's land records' Presentation Slides, Ministry of Lands, Nairobi, 2009 — <https://www.slideserve.com/kaya/kenya-s-experience-towards-the-establishment-of-land-information-management-system-powerpoint-ppt-presentation> on 30 December 2024.

¹⁴⁷ Section 34, Advocates Act (Cap 16, Laws of Kenya).

Additionally, there are no clear incentives to encourage stakeholder participation. Without tangible benefits or guarantees of system efficiency, many stakeholders remain skeptical and prefer to continue using familiar manual processes rather than transition to an unproven digital system. This reluctance has contributed to the slow and uneven rollout of NLIMS nationwide.

4.7 Conclusion

The National Land Information Management System (NLIMS) embodies Kenya's aspiration for a modern, efficient, and transparent framework for land governance, as envisioned in the Constitution, Vision 2030, and the National Land Policy. It promises to revolutionize land administration by integrating Geographical Information Systems (GIS), streamlining workflows, and fostering accountability. However, as this chapter has been critically examined, the journey toward realizing this transformative vision is fraught with significant challenges.

From the outset, the chapter identified systemic barriers, ranging from chronic underfunding and technological deficiencies to fragmented governance and stakeholder resistance. These challenges highlight a sobering reality: while the NLIMS framework is innovative and robust in theory, its practical implementation remains uneven. Urban centers experience progress while rural counties languish under outdated manual processes.

A multi-pronged approach is imperative to close this gap and achieve the lofty goals set for NLIMS. Policymakers must prioritize equitable resource allocation, ensuring counties outside urban hubs receive the funding and technological infrastructure necessary for digitization. A national capacity-building strategy must address the persistent human resource deficits, empowering local staff with the skills required for seamless adoption. Stakeholders' buy-in must be cultivated by effectively communicating NLIMS's benefits and incentives to address their concerns, particularly from legal practitioners, financial institutions, and registry users. These measures will ensure NLIMS can fulfill its transformative potential, delivering a robust, unified, transparent land administration system across all 47 counties.

5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a comprehensive summary of the findings from this research, a detailed conclusion drawn from the study, and practical recommendations for the effective implementation of the National Land Information Management System (NLIMS) in Kenya. The research investigated the slow adoption of electronic conveyancing, particularly the legal, technological, and administrative challenges impeding full implementation. The following three objectives guided this research:

- I. This study aims to identify and analyze the legal framework required for the successful and equitable implementation of electronic conveyancing across all regions of Kenya, with a particular focus on counties outside Nairobi and neighboring areas.
- II. To evaluate the project management and organizational structure of NLIMS ('Ardhisasa' System) to determine whether they possess the necessary capacity and resources to implement electronic conveyancing in Kenya effectively.
- III. To investigate and assess the significant challenges that hinder the full implementation of electronic conveyancing, especially in regions where reliance on manual processes persists.

5.2 Summary of Findings

5.2.1 Legal and Regulatory Framework

In my detailed examination of the legal framework for electronic conveyancing in Kenya, I identified several critical gaps that must be addressed to ensure the successful implementation of the National Land Information Management System (NLIMS). The current legal framework is fragmented, with multiple laws governing different aspects of land transactions. This fragmentation creates inconsistencies and inefficiencies, challenging the implementation of a unified electronic conveyancing system.

One significant issue is harmonizing these various land registration laws to support a unified electronic system. The migration to a single, consolidated land register under the Land Registration Act has not been completed, which is crucial for the success of the electronic land registration system. Specifically, Section 6 of the Land Registration Act¹⁴⁸ and the Land Registration (Registration Units) Order, 2017¹⁴⁹ outline

¹⁴⁸ Section 6, *Land Registration Act* (Act No. 3 of 2012).

¹⁴⁹ Regulation 90, *Land Registration (General) Regulations* (2017).

the process for this migration, but it remains incomplete. Expediting this migration is essential for creating a harmonized registry.

Additionally, the legal framework does not adequately recognize electronic contracts and signatures. Section 38 of the Land Act¹⁵⁰ Stipulates that no legal action can be initiated based on a contract unless it is in writing, signed, and witnessed by a competent individual. This section needs to be amended to accommodate contracts entered electronically, align with the evolving technological landscape, and facilitate the use of electronic agreements in land transactions.

The Kenya Information and Communications Act provides for electronic signatures. Still, the actualization of these provisions is stalled due to the lack of regulations prescribed by the Cabinet Secretary for ICT. Section 83R of the Act mandates the Cabinet Secretary to define procedures for creating and authenticating electronic signatures while establishing standards to ensure security and reliability.¹⁵¹ Without these regulations, the full potential of electronic transactions, including land title processing, cannot be realized. Addressing this regulatory gap is crucial for Kenya's seamless transition to digital processes and transactions.

The Land Registration (General) Regulations of 2017 set out provisions for electronic transactions, but further amendments are needed to allow seamless electronic processing of land transactions. The Registration of Documents Act also requires revision to explicitly address electronic documents and permit their use in the registration process. Section 7 of the Act, which outlines conditions for refusing to register a document, needs to be revised to include electronic records.¹⁵² Section 19, which defines the types of records the Registrar must maintain, should be amended to permit electronic documents.¹⁵³

Moreover, several land transactions involve county governments, particularly in planning matters. Procedural laws governing development control and other land transactions at the county level must mandate implementing an e-planning system that is fully integrated with NLIMS. The Physical Land Use and Planning Act and the Urban Areas and Cities Act should be amended to require all counties to implement an e-planning system fully compatible with NLIMS.

¹⁵⁰ Section 38, *Land Act* (Act No. 6 of 2012).

¹⁵¹ Section 83R, *Kenya information and Communications Act* (2013).

¹⁵² Section 7, *Registration of Documents Act* (CAP 285)

¹⁵³ Section 19, *Registration of Documents Act* (CAP 285)

The Access to Information Act mandates that all public entities computerize their records and information management systems within three years of its applicability.¹⁵⁴ This deadline underscores the urgency of expediting the digitization process to meet the prescribed timelines and fully realize the objectives of electronic governance and transparency. However, the legal framework lacks safeguards against cyber fraud and unauthorized transactions. Explicit legal protections for electronic records are necessary to build trust and encourage the adoption of electronic conveyancing.

The law was found to be a challenge to the implementation of e-conveyancing and NLIMS as statutes exempt land transactions from being conducted electronically, for example, Section 3(3) of the Law of Contract,¹⁵⁵ That requires land transactions to be in writing, and the Sectional Properties Act requires sectional plans to be presented for registration in paper form. There is, therefore, a need to amend and repeal such laws. To address these challenges, I propose targeted legal reforms, including amendments to recognize electronic contracts and signatures, harmonization of land registration laws, and the development of comprehensive regulations for electronic transactions. These reforms are crucial for creating Kenya's efficient, transparent, and equitable land administration system. By addressing these legal gaps, we can support the successful implementation of electronic conveyancing and realize the full potential of NLIMS.

5.2.2 Challenges hindering the full implementation of the NLIMS

In Chapter 4, I uncovered several key findings regarding the challenges hindering the full implementation of the National Land Information Management System (NLIMS) across all 47 counties in Kenya. Firstly, I discovered that inadequate funding and resource allocation severely limit the system's capacity to expand.¹⁵⁶ Although initial support from the government and donors laid the groundwork for NLIMS, the ongoing financial resources have proven insufficient for the necessary technology, infrastructure, and personnel training, which is particularly critical in rural counties. As a result, many areas continue to rely on outdated manual systems.

¹⁵⁴ Section 17(3)(c), *Access to Information Act* (Act No.31 of 2016).

¹⁵⁵ Section 3(3) *Law of Contract Act* (Cap 23 Laws of Kenya)

¹⁵⁶ Makoro, Dennis., 'Use of Land Management Information System (NLIMS) A case study of Ministry of Land, Housing and Urban Development.'—

<http://repository.tukenya.ac.ke:8080/xmlui/handle/123456789/1202> on 28 December 2024.

I also identified significant technological deficiencies, especially in less urbanized areas where essential computing equipment, servers, and secure backup systems are lacking.¹⁵⁷ This disparity in technological capabilities between urban and rural counties exacerbates the digital divide, further hampering uniform adoption of the system. Additionally, I found critical gaps in the legal framework that supports NLIMS. Existing laws do not adequately address the use of digital signatures and electronic contracts, creating ambiguity around electronic land transactions. The jurisdictional disputes between the Ministry of Lands and the National Land Commission complicate matters, resulting in confusion and delays that hinder effective governance.

Moreover, the fragmented governance structures and poor interdepartmental coordination have surfaced as significant impediments.¹⁵⁸ I noticed that various departments within the Ministry of Lands operate in isolation, lacking the necessary integration, which leads to redundancies and inefficiencies in the digitization efforts. Poor engagement with key stakeholders, such as legal practitioners and real estate agents, has also become apparent. This lack of engagement has fostered mistrust and reluctance to embrace NLIMS, primarily due to concerns regarding system reliability and the perception of exclusion from critical decision-making processes. Consequently, stakeholders often prefer to continue using traditional methods rather than adopt an unproven digital system, further delaying NLIMS adoption.

I observed that the Ministry has struggled to effectively communicate the benefits of NLIMS, such as enhanced efficiency, transparency, and reduced transaction costs. This communication deficiency has alienated potential users, particularly in rural areas where traditional systems are entrenched, creating an environment of skepticism. Finally, I recognized that systemic resistance to change stems from inadequate consultation of stakeholders during the design phases and a lack of visible benefits from the new system.¹⁵⁹ This resistance highlights the necessity for better incentives and more apparent strategies to encourage

¹⁵⁷ Mbaria C N, 'Kenya's experience towards the establishment of land information management system: Automation of Kenya's land records' Presentation Slides, Ministry of Lands, Nairobi, 2009 — <https://www.slideserve.com/kaya/kenya-s-experience-towards-the-establishment-of-land-information-management-system-powerpoint-ppt-presentation> on 30 December 2024.

¹⁵⁸ Kaufmann and Steudler, *Cadastre 2014*, 42.

¹⁵⁹ Mbaria, C. N. (2009) 'Kenya's experience towards the establishment of land information management system: Automation of Kenya's land records.' — <https://www.slideserve.com/kaya/kenya-s-experience-towards-the-establishment-of-land-information-management-system-powerpoint-ppt-presentation> on 30 December 2024.

participation in the transition toward a digital land management framework. Additionally, I identified specific human resource gaps that further complicate the implementation of NLIMS. Many land registry officials lack the requisite digital skills for operating NLIMS, and there are significant staff shortages within the Ministry of Lands, stretching resources thin and impacting service delivery.

In summary, my findings indicate that while NLIMS has the potential to transform land governance in Kenya, its implementation is fraught with challenges. Addressing funding shortages, legal ambiguities, governance issues, and stakeholder engagement requires a multifaceted approach. Strategic recommendations to overcome these barriers are critical for rebuilding confidence and ensuring the successful deployment and adoption of the system across all counties.

5.3 RECOMMENDATIONS ON ACHIEVING ELECTRONIC CONVEYANCING

A comprehensive approach addressing legal framework gaps and aligning policies with evolving technology is essential to ensure the successful adoption of electronic conveyancing in Kenya. Below are key recommendations that would support the smooth transition to electronic land registration and promote an efficient and modernized system:

5.3.1 Accelerating Migration to a Unified Land Register

The transition to a single land register, as mandated by the Land Registration Act of 2012, is essential for facilitating electronic conveyancing. However, this process remains unfinished. Accelerating the integration of multiple land registers established under previous laws, including the Government Lands Act, the Registration of Titles Act, and the Registered Land Act, is imperative. This unification will lay the groundwork for a streamlined, accessible, secure electronic land registration system.

5.3.2 Amending the Land Act to Include Electronic Contracts

Under Section 38 of the Land Act, 2012,¹⁶⁰ only written contracts signed and witnessed in person are legally recognized for land transactions. This is a significant limitation of electronic conveyancing. For electronic conveyancing to be feasible, this provision must be amended to accommodate electronic contracts explicitly. By aligning the law with modern digital practices, such as electronic signatures and

¹⁶⁰ Section 81(4), *Land Act* (Act No. 6 of 2012).

online agreements, Kenya will foster a legal environment that supports using digital contracts in land transactions. This calls for amendment of Section 38 of the Land Act and The Law of Contracts Act, allowing land transactions and agreements to be concluded electronically.

5.3.3 Finalizing Regulations for Electronic Signatures

The Kenya Information and Communications Act, 2013 recognizes the use of electronic signatures but excludes their use in executing wills, negotiable instruments, and documents indicating title to land.¹⁶¹ The exclusion of electronic conveyancing from the scope of electronic transitions provided by the Act means that the NLIMS attempts to land transactions concluded electronically will not be possible. Therefore, the Cabinet Secretary must promptly enact the necessary regulations under Section 83R of the Act to define the process for creating, verifying, and using electronic signatures in electronic conveyancing. This will ensure the legal validity of electronic signatures in land transactions, which is vital for successfully implementing e-conveyancing.

5.3.4 Amending the Registration of Documents Act to Accommodate Electronic Filing

The current framework under the Registration of Documents Act (Cap 285) does not account for the registration of electronic documents. Sections 7 and 19 of the Act should be revised to explicitly permit the registration of electronic instruments and the maintenance of electronic records.¹⁶² This will enable the seamless integration of digital documents into the land registration process, improving efficiency and accessibility, similar to the model adopted in Australia through their Electronic Lodgment Networks.

5.3.5 Implementation of County-Level E-Planning Systems

To support electronic conveyancing, all counties should implement an e-planning system for land management.¹⁶³ This system would allow for the electronic processing of key land transactions, such as issuing rates clearance certificates and development control applications, at the county level. These systems should be fully integrated with the National Land Information Management System (NLIMS) to ensure smooth coordination and consistency across all levels of government, promoting transparency and reducing delays in land-related transactions.

¹⁶¹Section 83B, *Kenya Information and Communication Act* (2013).

¹⁶² Section 7, *Registration of Documents Act* (CAP 285).

¹⁶³ Z. Mucheke, 'Challenges to Electronic Conveyancing in Kenya, Case Study Ministry of Lands.'284.

5.3.6 Expediting the Digitization of Government Records

The Access to Information Act mandates that public entities digitize their records within three years of its enactment.¹⁶⁴ However, this deadline has passed, and the digitization process needs to be fast-tracked. The government must prioritize digitizing land records to comply with this mandate and facilitate the adoption of electronic systems across public institutions. This would support the shift to electronic conveyancing and improve access to government records, making land transactions more efficient and transparent.

5.3.7 Phased Implementation of the NLIMS

Implementing NLIMS should be done in phases to account for budgetary constraints, human resource capacity, and logistical considerations. Currently, NLIMS is operational only for Nairobi County, limiting its full effectiveness. To extend its reach, a phased approach should be adopted for counties contiguous to Nairobi, including Kiambu, Machakos, Kajiado, and Murang'a.

This can be done by launching pilot programs in each county, as in Kirinyaga County.¹⁶⁵ Further, establishing dedicated data capture and scanning teams will ensure continuous updates to digital land records and prevent duplication. Collaboration among land officers, ICT professionals, research institutions, county governments, and other stakeholders is vital to standardize the system and integrate best practices for its effective operation. Increased budgetary allocations and support from donors will be required to ensure the sustainability of NLIMS beyond Nairobi. Furthermore, a structured capacity-building program should be developed to equip land officers and relevant personnel with the necessary skills to manage and operate the system efficiently. By adopting this approach, the government can ensure a smooth transition from manual to digital land transactions across counties, enhancing transparency, efficiency, and security in land administration.

5.3.8 Infrastructure Development

Developing and upgrading the necessary technological infrastructure is vital for the success of e-conveyancing.¹⁶⁶ This includes ensuring reliable internet connectivity, secure data storage solutions, and

¹⁶⁴ Section 17(3)(c), *Access to Information Act* (Act No.31 of 2016).

¹⁶⁵ Lizahmy Ntonjira, 'Developing Land Information Management System(LIMS) for County Governments in Kenya : A Case Study Kirinyaga County' —

<https://www.oicrf.org/documents/40950/43224/Developing+Land+Information+Management+System+LIMS+for+County+Governments+in+Kenya.pdf/a89518ca-767e-8895-f503-95f693ca3bba?t=151019392759> on 31 December 2024.

¹⁶⁶ Z. Muccheke, 'Challenges to Electronic Conveyancing in Kenya ,Case Study Ministry of Lands.'284.

user-friendly interfaces for all stakeholders. Investing in infrastructure will support the efficient operation of the e-conveyancing system and enhance user experience. Most importantly, to improve the security and integrity of the system, strict security measures must be implemented for data storage, electronic documents, and financial transactions associated with e-conveyancing. Compliance with international security accreditation standards is necessary to build public confidence. Such infrastructure should be implemented in all 47 counties to enable the complete transition to electronic conveyancing.

5.3.9 Regular Capacity Building and Training Workshops

Capacity building and management change are crucial to ensuring smooth adoption. Land officers, ICT personnel, and conveyancers should regularly train to gain relevant digital skills. Seminars on change management should also be conducted to allay employees' fears over job security, skill upgrades, and workplace transitions. Institutional strengthening by restructuring land management departments will help enhance efficiency and reduce bureaucratic bottlenecks.

5.3.10 Stakeholder Engagement and Public Participation

Effective stakeholder engagement and public participation are crucial for implementing e-conveyancing in Kenya. Involving all relevant parties, including land officers, ICT professionals, conveyancers, legal entities, and the public—ensures that the system meets the diverse needs of its users and fosters transparency and trust. Countries like Australia, New Zealand, and Estonia have adopted a consultative, multi-sectoral, and user-driven approach, leading to successful digitization of land transactions.¹⁶⁷ In Kenya, the Ministry of Lands has faced challenges due to insufficient public participation and lack of involvement from key stakeholders, such as the Law Society of Kenya, in determining the methodology for digitizing land transactions. This oversight has led to resistance and inefficiencies in adopting electronic conveyancing. To address these issues, it is imperative to establish structured guidelines for public participation, ensuring that all stakeholders are actively engaged throughout the development and implementation phases. This approach will enhance the system's effectiveness and promote a sense of ownership among users.

¹⁶⁷ Z. Mucheke, 'Challenges to Electronic Conveyancing in Kenya, Case Study Ministry of Lands.'284.

5.4 Conclusion

In conclusion, the journey toward electronic conveyancing in Kenya reflects the immense potential for modernization in land transactions and the challenges ahead. While the Ministry of Lands and Physical Planning has taken commendable steps through the National Land Information Management System (NLIMS) to digitize land records, the transition to a fully functional electronic conveyancing system is still a work in progress. There is much to be done, from thoroughly scanning land records across various registries to understanding how the public perceives new digital platforms like eCitizen and the NLIMS website for conveyancing services.

This dissertation has endeavored to highlight that moving towards electronic conveyancing is not just about technology; it's about people and their interactions with the land administration system. This research also aimed to identify gaps in the legal framework impeding the successful adoption of electronic conveyancing and laying the legal groundwork to support a seamless and trustworthy transition. This proactive approach is vital in ensuring that regulations are implemented and addressing the concerns of all stakeholders involved. Ultimately, embracing electronic conveyancing can usher in a more efficient, transparent, and user-friendly land registration system that aligns with international best practices and truly serves the people of Kenya. With the right reforms, we can create a land administration system that prioritizes accessibility and equity, paving the way for sustainable development and growth across the nation.

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