SCHOOL OF LIBRARY ARCHIVES AND DOCUMENTATION STUDIES

(SLADS)

A RESEARCH REPORT ON

THE ASSESSMENT ON THE USE OF DIGITAL RECORDS MANAGEMENT SYSTEMS IN REDUCING LAND CONFLICTS: A CASE STUDY AT MINISTRY OF LAND, HOUSING, HUMAN SETTLEMENT DEVELOPMENT (MLHHSD):

BY

IBRAHIM ISMAIL MGANA

A research report submitted at school of library, archives and documentation studies (slads) in partial fulfillment of the requirements for the ordinary diploma in records and archives management (ram).

August,2026

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CERTIFICATION

I, the undersigned, certify that I have carefully read and examined this research proposal titled **"Assessment on the use of Digital Records Management systems in reducing land conflicts: A Case Study of the Ministry of Land, Housing, and Human Settlement Development (MLHHSD)."** I am satisfied that it meets the required academic standards and is approved for submission in partial fulfillment of the requirements for the award of a Ordinary Diploma in Records and Archives Management at School of Library and Documentation Studies (SLADS)

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Lastly, I am forever grateful to my family for their unconditional love, financial support, and prayers. Their belief in my abilities has been a source of strength and motivation.

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DEDICATION

This research report is dedicated to my beloved family for their unwavering support, encouragement, and prayers throughout my academic journey. Their sacrifices and belief in my abilities have been the cornerstone of my success. I also dedicate this work to all records management professionals who strive to improve land administration and reduce conflicts through effective record-keeping practices

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LIST OF ABBREVIATIONS

DRMS	Digital Records Management System
GIS	Geographical Information System
ICT	Information and Communication Technology
IRMT	International Records Management Trust
ISO	International Organization for Standardization
IT	Information Technology
LIS	Land Information System
LTSP	Land Tenure Support Programme
MLHHSD	Ministry of Land, Housing, and Human Settlement Development
SLADS	School of Library, Archives and Documentation Studies
URT	United Republic of Tanzania

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ABSTRACT

Land conflicts remain a persistent challenge in Tanzania, largely attributed to weaknesses in land records management systems, including incomplete documentation, misplaced files, duplication of land titles, and unauthorized alterations. This study assessed the use of digital records management systems (DRMS) in reducing land conflicts at the Ministry of Land, Housing, and Human Settlement Development (MLHHSD). The study specifically examined the contribution of DRMS in improving accuracy, accessibility, and security of land records; assessed the effectiveness of DRMS in enhancing transparency, accountability, and timeliness in land administration; and identified challenges facing the implementation and use of DRMS in managing land records.

The study employed a case study research design and was guided by the Records Continuum Theory. Data were collected from 36 respondents selected purposively from various departments at MLHHSD using interviews, questionnaires, observation, and documentary review. Data were analyzed using content analysis, identifying patterns and themes related to the research objectives.

The findings revealed that DRMS significantly contribute to improving accuracy of land records by reducing human errors associated with manual record-keeping. Accessibility of land information has improved through digital systems enabling quick retrieval, although challenges such as technical difficulties sometimes hinder access. The study found that security of land records has been enhanced through password protection, access controls, and audit trails, though cybersecurity threats remain a concern. Regarding effectiveness, DRMS were found to enhance transparency by recording all transactions electronically, thereby creating accountability. Timeliness in processing land transactions has improved, with digital systems reducing service delivery delays. However, challenges including inadequate ICT infrastructure, insufficient technical skills, data migration difficulties, cybersecurity risks, and policy gaps were identified as hindering full effectiveness of digital land records management.

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The study concludes that while DRMS have made significant contributions to reducing land conflicts through improved records management, their effectiveness is constrained by various challenges. The study recommends strengthening ICT infrastructure, providing continuous staff training, enhancing cybersecurity measures, improving data migration processes, and developing comprehensive policies and legal frameworks to support digital land records management.

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CHAPTER ONE

1.0 Introduction

This section provides an in depth overview of the research by discussing background of the study, the problem statement, research objectives, research questions, significance and scope of the study

1.1 Background of the study

Land has been a crucial asset that contributes to the economic prosperity and governance capacities of nearly all governments worldwide Besley and Ghatak (2010). Land records have played a fundamental role in property ownership, governance, and legal documentation for centuries. To which effective land administration requires well maintained records to ensure proper documentation, so as to reduce conflicts and enhance decision making. According to Shepherd (2020), Land records serve as legal evidence of ownership and transaction history, making them essential in determining rightful ownership and preventing fraud. Dearstyne (1985) also highlights that land records are crucial for supporting government operations, enabling informed decision making and protecting citizen's property rights. We see over time, the transactions from paper based records to digital systems has improved land records management, offering better security. Accessibility and efficiency. To which digital land records allow faster retrieval of information, automated updates, and secure storage, reducing the risks associated with the manual records keeping. In Tanzania, digital records have become increasingly relevant as land disputes and fraudulent transactions continue to pose challenges in property ownership. The shift towards digital land records aims to enhance transparency, accountability and efficiency in land administration by ensuring that property transactions are legally documented and protected from unauthorized alterations.

Historically, land records were documented on paper, leading to challenges such as loss, damage, and manipulation of information. To which ancient civilizations, including Egypt, Mesopotamia, and China, developed early methods of recording the land

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ownership on papyrus, clay tablets and stone inscriptions (Chandler, 2000). During the medieval period, European countries expanded their land documentation systems through written records which laid the foundation for modern property registries. In Africa, traditional methods of land documentation included oral records, symbolic representations and written agreements among community leaders (Okoth-Ogendo, 1991). With colonial rule, formal land registration systems were introduced, which influenced, influencing modern record keeping practices across the continent. These historical developments demonstrate how land documentation has evolved from rudimentary record keeping method to more structured and legally recognized systems. However, many countries including Tanzania have struggled with incomplete land records up-to-date leading to ownership conflicts, fraudulent land sales, and legal disputes. The need for more security and efficient systems has driven the adoption of digital land records as a solution to these long standing challenges though not promptly has driven the success of good record keeping through the country though there opt to be invasion of viruses into the system program, cyberattacks which lead to disclosure of information or breaches of the information among land institutions at a period of time.

In Tanzania land administration has evolved through various legal frameworks and policies aimed at ensuring that there is critical land ownership documentation. Through the national land policy (1995) and the Land Act No. 4 of 1999 emphasize the role of accurate land records for efficiency land management and disputes resolutions (URT, 1999). According to the International Records Management Trust (2011). Tanzania has recognized the need for digital transformation in land records management so as to address inefficiencies in traditional systems. The government has implemented several initiatives to digitize land records including the establishment of Land information system (LIS) and the introduction of electronic land registries. These digital systems aim to enhance accessibility, improve record security and reduce fraudulent transactions. Studies by Lussagga Kironde (2009) indicates the digital land records improve transparency by reducing opportunities for corruption and ensuring that property transactions are documented in real time. Additionally, the use of digital platforms facilities, the

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integration of land records with other government databases, promoting coordinated land governance.

Despite the benefits of digital land records management, the implementation in Tanzania has faced significant challenges. To which one of the key issues is the inconsistency in updating land records into the system, which leads to discrepancies in ownership information and delays in services delivery. According to Magigi (2013), many land offices in Tanzania still rely on outdated paper based records, making it difficult to verify property ownership. Moreover, the lack of trained personnel and inadequate technological infrastructure hinder the full adoption of digital land systems. The world Bank (2018) reported that many developing countries, digital land records remain underutilized due to limited internet connectivity, unreliable power supply and insufficient funding for system upgrades. Another challenge is resistance to change among stakeholders, including government officials, surveyors and property owners. To which many land administrators are accustomed to manual processes and are reluctant to adopt new technologies, slowing down the transitions to digital land records (Mwakyusa, 2020). Addressing these challenges requires strong enforcement, continuous capacity building programs, and increased investment in digital infrastructure.

The government of Tanzania has made considerable efforts to improve land records management through digitization but further advancements are necessary to achieve full transparency and efficiency. The ministry of lands, Housing, and Human Settlements Development has implemented projects such as the land tenure support programme (LTSP) to enhance digital land records systems (URT, 2017). Additionally, international organizations, including the United Nations and the World Bank, have supported Tanzanian's digital land governance initiatives through funding and technical assistance. According to Njiru (2021). Adopting the block chain technology in land records management could further enhance transparency by creating tamper proof of ownership records. Such innovations could help eliminate fraud, improve land tenure security and streamline property transactions. Overall, the transaction to digital land records

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management represents a significant step towards improving land governance in Tanzania. However, sustained efforts are needed to overcome the existing challenges and ensure that digital records effectively contribute to transparent and accountable administration.

1.2 Statement of the problem

Land is a critical socio-economic resource, and its proper administration depends heavily on accurate, reliable, and accessible land records. In many developing countries, including Tanzania, land conflicts have remained a persistent problem due to weaknesses in land records management systems (World Bank, 2019). Poor record-keeping practices such as incomplete documentation, misplaced files, duplication of land titles, and unauthorized alterations have contributed significantly to disputes over land ownership, boundaries, and land use rights (Deininger & Feder, 2009). These challenges are particularly evident in public land offices where manual and semi-manual systems dominate, making land records vulnerable to loss, manipulation, and delayed retrieval (IRMT, 2016). Manual land records management systems have been widely criticized for their inefficiency, lack of transparency, and susceptibility to human error. Studies indicate that paper-based systems often result in slow service delivery, limited accountability, and opportunities for corruption, all of which intensify land-related conflicts (Ngoepe & Keakopa, 2011; Kemoni, 2012). In the Tanzanian context, delays in accessing land records and inconsistencies between physical files and registry data have frequently led to overlapping claims and prolonged disputes, affecting both individuals and institutional credibility (URT, 2018).

In response to these challenges, governments have increasingly adopted digital records management systems (DRMS) as a means of improving land administration. Digital systems are designed to enhance accuracy, security, accessibility, and integrity of records while reducing operational inefficiencies associated with manual systems (ISO 15489, 2016). Scholars argue that effective digital records management can significantly reduce land conflicts by ensuring timely access to reliable land information, improving

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transparency in land transactions, and strengthening accountability in land administration processes (Asogwa, 2013; Shepherd & Yeo, 2003). Addressing these potential benefits, the implementation of digital records management systems has not automatically eliminated land conflicts. Empirical studies show that many public institutions continue to experience land disputes even after the introduction of digital systems, suggesting gaps between system adoption and effective utilization (Mnjama & Wamukoya, 2007; Mosweu & Kenosi, 2018). Challenges such as inadequate ICT infrastructure, insufficient technical skills among staff, resistance to organizational change, poor data migration from manual to digital formats, and weak enforcement of legal and policy frameworks have limited the effectiveness of digital records systems (Kalusopa & Ngulube, 2012; World Bank, 2020).

Despite the efforts to digitize land records in Tanzania. Challenges persist in ensuring complete transparency and efficiency land ownership documentation. Mkinga District Councils, like many public institutions, faces issues related to poor records management, outdated land databases and limited accessibility of land records (in the ministry of land housing, human settlement development (MLHHS). Thomassen (2001) emphasizes that without reliable land records, it is impossible to verify whether land transactions and ownership rights are legitimate. Additionally, Akor and Udensi (2020) stress that effective digital records can minimize disputes and enhance service delivery in land administration. However, Juma (2021) points out that the adoption of digital land records remains inconsistent due to inadequate employee training, lack of technological infrastructure and resistance to change (Technophobia). The absence of standardized regulatory frameworks further complicates the transition to digital systems. Consequently, inefficiencies in digital land records management contribute to fraudulent land transactions, ownership conflicts and delays in service delivery, the will focus on the use of digital records m management systems in reducing land conflicts, a case study of the Ministry of Land, Housing and Human Settlement Development.

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1.3 Objective of the study

1.3.1 General Objective

The general objective of this study is the use of digital records management systems in reducing land conflicts, a case study of the Ministry of Land, Housing and Human Settlement Development (MLHHDS)

1.3.2 Specific Objectives

i. To examine the contribution of digital records management systems in improving accuracy, accessibility and security of land records at ministry of land, housing and human settlement development (MLHHSD)

ii.To assess the effectiveness of digital records management systems in enhancing transparency, accountability and timeliness in land administration process at Ministry of land, housing, human settlement development (MHHSD)

iii. Identify the challenges facing the implementation and use of digital records management systems in managing land records at Ministry of land, housing and human settlement development. (MLHHSD)

1.4 Research Questions

i. How do digital records management systems contribute to improving accuracy, accessibility and security of land records at the ministry of land housing and human settlement development (MLHHSD)?

ii. How effective are digital records management systems in ensuring the security and protection of land records at the ministry of land housing and human settlement development (MLHHSD)?

iii What challenges face the implementation and use of digital records management systems in managing land records at the ministry of land housing and human settlement development (MLHHSD)?

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1.5 Significance of the study

For the Ministry of Land, Housing, and Human Settlement Development (MLHHSD)

The findings of this study inform policy makers in the Ministry of Lands, Housing and Human Settlements Development and other land administration and records management stakeholders on how land institutions manage land records using digital records management systems and the extent to which such systems contribute to reducing land conflicts. The study extensively provides insights into whether land offices are adhering to the existing legal, regulatory and policy frameworks governing land records management. The study informs land administration authorities and records management stakeholders about the challenges faced in the implementation and use of digital records management systems in managing land records. The findings assist decision makers in designing and implementing appropriate strategies aiming at strengthening digital records management practices to enhance transparency, accountability, accessibility and security of land records, which are critical in minimizing land disputes and conflicts. The study adds knowledge to land offices and records and archives management professionals by revealing the strengths, weaknesses, gaps and opportunities associated with the use of digital records management systems in land administration. This knowledge supports improvements in records handling procedures and service delivery within land institutions. Also, the study acts as a reference point and catalyst for reviewing, improving and amending existing policies, laws and guidelines related to land records management and conflict resolution. Academically, the study contributes to the existing body of knowledge on digital records management systems and land conflict reduction, thereby providing a foundation for future research in the field. It serves as a reference material for students and researchers interested in records management, land administration, and digital governance.

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1.6 Scope and limitation of the study

1.6.1 Scope of the study

The presented study was conducted at the Ministry of Lands, Housing and Human Settlements Development (MLHHSD). In particularly, study focused on the use of Digital Records Management Systems (DRMS) in reducing land conflicts through improved management of land records. Specifically, the study examined how the use of digital records management system enhances accuracy, accessibility, security, transparency, accountability and timeliness in land records management. It covered digital processes involved in the creation, storage, retrieval and use of land records at ministry of land housing and human settlement development and how these processes contributed in minimizing land disputes and conflicts. The target population included land officers, records management staff, ICT personnel and other officials directly involved in land records management and land administration. The scope of the study was limited to institutional practices and procedures related to digital land records management and their contribution to reducing land conflicts.

1.6.2 Limitations of the study

Several factors affected the implementation of the present study. Firstly, the study was limited to Ministry of Land Housing and Human Settlement Development only and did not cover other land institutions due to financial constraints. The researcher was a student who was self-financed and had limited financial resources, which restricted the coverage of the study to one institution. Therefore, the researcher used the available budget and allocate the resources which are effectively utilized to ensure the successful completion of the study. Furthermore, the study faced time limitations. Since this was an academic study, it had to be conducted within a specified time frame, which limited the duration for data collection and analysis. Despite this limitation, the researcher had to adhere to the research schedule and manage the available time effectively to achieve the study objectives.

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1.7 Definitions of key terms

1.7.1 Record

A document regardless of form or medium created, received, maintained and used by an organization (public or private) or an individual in pursuance of legal obligations or in a transaction of business, of which it forms a part which provides evidence. (Roper & Millar, 1999)

1.7.2 Records management

Refers to a field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records, including processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records. (ISO 15489-1 (2001).

1.7.3 Land records

A systematic documentation that captures information about land parcels, including ownership, tenure rights, boundaries, and land transactions used for legal, administrative and planning purposes. World bank (2019).

1.7.4 Digital records

Are information created, received, and maintained in electronic form by an organization or individual as evidence of activities, transactions or decisions, the records must remain authentic, reliable, usable, and have integrity throughout their lifecycle in order to serve legal, administrative and operational purpose. ISO 15489-1(2016).

1.7.4 Digital Land Records Management

Digital land records management refers to the systematic use of electronic systems to store, update, and retrieve land ownership data, ensuring accuracy and accessibility. Proper management of these records minimizes disputes and enhances accountability. According to Makhura (2015), organizations must maintain accurate land records to comply with legal standards and facilitate efficient land administration. Longemo (1999) defines records management as the structured control of records from their creation to

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their disposal. Agree et al. (1999) emphasize that effective records management enables stakeholders to access accurate land ownership information, reducing fraudulent land transactions and ensuring property rights are well-documented.

1.7.5 Digital Land Records Retention and Disposition Scheduling

Digital land records retention scheduling involves establishing guidelines on how long records should be maintained before they are archived or deleted. Penn, Pennix, and Coulson (1994) explain that retention schedules help organizations comply with legal obligations while maintaining operational efficiency. In land administration, retention schedules ensure that ownership records remain accessible for verification while outdated records are securely disposed of.

1.7.6 Legal framework

Refers to the system of laws, rules, regulations, and principles that are formally established to govern actions, decisions and relationships within a society or institution. It provides authority, structure and guidance on what is permitted, prohibited, and required by law, and it ensures order, accountability and justice in the application of legal rules. Garner (2014).

1.7.7 Transparency

Refers to the openness, clarity and accessibility of information, decisions and actions of institutions or authorities to the public. Allows stakeholders to see, understand and evaluate how decisions are made and how power and resources are used, thereby reducing secrecy and abuse of authority. Hood (2010).

1.7.8 Records Appraisal

Records appraisal involves evaluating records to determine their relevance, retention period, and final disposition. Lyaruu (2013) states that appraisal ensures that only essential records are preserved while outdated or redundant ones are properly disposed of. It forms the foundation for retention scheduling, ensuring that digital land records are maintained in line with legal and administrative requirements. Proper appraisal of land records enhances transparency by ensuring that ownership history remains available for

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verification. It also reduces the risk of manipulation, as records are categorized based on their Role and legal implications, promoting efficient land administration.

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CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews existing literature related to the use of Digital Records Management Systems (DRMS) in land administration and their contribution to reducing land conflicts. The review examines theoretical and empirical studies that explain how digital records management enhances accuracy, accessibility, transparency, accountability, and security of land records. It also analyzes the effectiveness of digital systems in land governance and identifies challenges affecting their implementation, particularly within the Ministry of Lands, Housing and Human Settlements Development (MLHHSD) in Tanzania.

Land conflicts in many developing countries have been closely associated with weak land records management systems, poor documentation, and limited accessibility to reliable ownership information (Deininger & Feder, 2009). Although several governments have introduced digital systems to improve land administration, studies indicate that the mere adoption of technology does not automatically guarantee efficiency or conflict reduction (Kalusopa & Ngulube, 2012). In Tanzania, efforts to digitize land records through systems such as the Land Information System (LIS) have aimed at strengthening tenure security and enhancing service delivery. However, persistent disputes and administrative inefficiencies suggest that challenges remain in the practical implementation and utilization of these systems.

2.1 Overview of Digital Records Management Systems in Land Administration

Digital Records Management Systems are electronic platforms designed to manage records from creation to final disposition while ensuring compliance with legal and regulatory requirements (ISO 15489, 2016). In land administration, DRMS are often integrated within Land Information Systems (LIS), which combine textual ownership data with spatial (geographical) information. A comprehensive document management system (DRMS) includes components such as electronic capture of documents, classification schemes, indexing mechanisms, metadata standards, retention scheduling, backup

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systems, and controlled access mechanisms. According to Shepherd and Yeo (2003), effective digital records systems mu st preserve the evidential value of records to support legal and administrative processes.

In Tanzania, land digitization initiatives aim to modernize land administration and reduce inefficiencies associated with paper-based systems. The shift from manual registries to electronic platforms represents a transformation in governance practices. However, the success of such systems depends on proper system design, adequate infrastructure, legal support, and trained personnel. understanding the structure and functions of DRMS is essential in assessing how they influence land records management and conflict reduction at Ministry of land housing and human settlement development MLHHSD.

2.2 Contribution of Digital Records Management Systems in Managing Land Records

Scholars argue that effective records management ensures that records remain authentic, reliable, and usable throughout their lifecycle (ISO 15489-1, 2016). In land administration, accuracy is critical because even minor errors in ownership details, parcel numbers, or boundaries can lead to serious disputes. Digital systems reduce human errors associated with manual record-keeping by automating data entry validation, indexing, and retrieval processes (Asogwa, 2013).

Accessibility is another major contribution of DRMS. In traditional paper-based systems, retrieving land files may take days or weeks due to misfiling or physical deterioration. Digital systems enable quick search and retrieval through metadata and indexing tools, improving service delivery and reducing delays in verifying ownership (Ngoepe & Keakopa, 2011). Faster access to land information minimizes suspicion and mistrust among landowners, which often fuel conflicts.

Security of land records is equally important. Manual records are vulnerable to loss, theft, fire, and unauthorized alterations. Digital systems incorporate password protection, user access controls, encryption, and audit trails to prevent tampering (Kalusopa & Ngulube, 2012). At the Ministry of Lands, Housing and Human Settlements Development, secure

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digital systems can help ensure that ownership information is protected from manipulation, thereby strengthening tenure security.

Furthermore, DRMS contribute to transparency by recording all transactions electronically. This creates accountability since every action can be traced to a specific officer. Therefore, digital records management plays a fundamental role in strengthening land governance and reducing opportunities for fraud and corruption.

2.3 Effectiveness of Digital Records Management Systems in Enhancing Transparency, Accountability, and Timeliness

Effectiveness in this context refers to the extent to which digital systems improve transparency, accountability, and efficiency in land administration processes. Transparency is enhanced when stakeholders can easily access accurate land information without unnecessary bureaucratic barriers (Hood, 2010). Digital platforms allow real-time updates of transactions, reducing secrecy and increasing public trust.

Accountability is strengthened through system-generated logs and audit trails. Digital systems record who accessed or modified a file and when the action occurred. This reduces opportunities for unauthorized changes and corruption (Thomassen, 2001). In land administration, such accountability mechanisms are crucial in preventing double allocation and fraudulent land transfers.

Timeliness is another measure of effectiveness. Manual systems often cause long delays in processing land transactions due to file tracing problems. Digital systems reduce processing time by enabling automated searches and streamlined workflows (World Bank, 2020). Faster service delivery minimizes disputes arising from prolonged uncertainty over ownership verification.

However, effectiveness is not automatic. It depends on proper utilization, maintenance, and institutional commitment. Where systems are poorly implemented or underutilized, the expected benefits may not be fully realized.

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2.4 Challenges Facing Ministry of Land Housing and Human Settlement Development (MLHHSD) in Managing Digital Land Records

Despite the potential benefits of DRMS, several challenges affect their implementation and use. one major challenge is inadequate ICT infrastructure, including unreliable internet connectivity and power supply. These issues limit system accessibility and performance (World Bank, 2018). another challenge is limited technical expertise among staff. Digital systems require specialized skills in data management, cybersecurity, and system maintenance. Without continuous training, errors and resistance to technology adoption may occur (Juma, 2021). data migration from paper to digital formats also presents difficulties. Incomplete or inaccurate digitization can result in inconsistencies between physical and electronic records, undermining trust in the system. cybersecurity risks, such as hacking and data breaches, pose additional threats. Weak security controls may compromise sensitive ownership information. Finally, policy and regulatory gaps may hinder full implementation. While Tanzania has land laws and policies, harmonizing them with digital governance frameworks remains an ongoing challenge.

2.5 Theoretical framework

A theoretical framework is the structure of concepts and theories that supports a research study. To which it explains the principles that guides the study and shows how variables are expected to relate to each other. Creswell (2014), a theoretical framework provides a lens through which a researcher interprets findings and explains relationships among variables.

In this study the theoretical framework will explains how digital records management systems (DRMS) influence land records management and how improved records management can contribute to reducing land conflicts. It will connect theory with practice at the ministry of land housing and human settlement development.

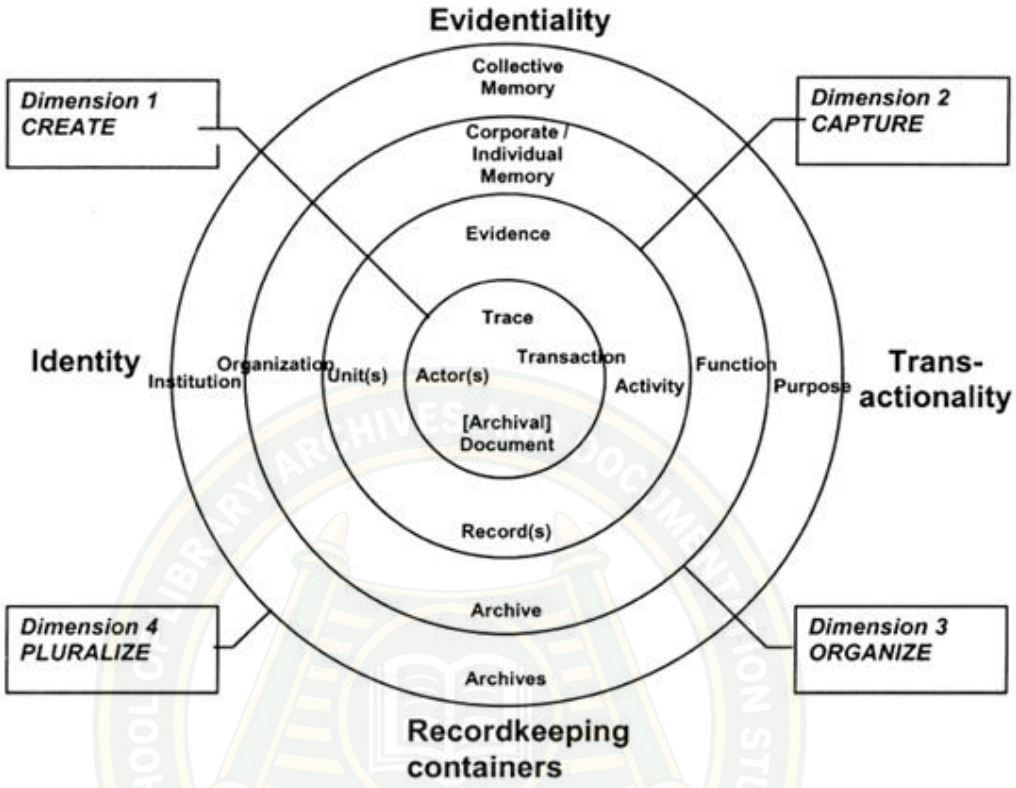
2.5.1 Records Continuum Theory

The records continuum theory offers an alternative approach to managing digital land records, emphasizing that records exist in a continuous state rather than distinct life cycle

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stages. This theory is particularly relevant to digital land records, where ownership data is constantly updated, retrieved, and maintained without a clear point of final disposition. Unlike the records life cycle model, which follows a linear approach, the continuum model views records as dynamic, meaning they remain relevant for legal and administrative purposes at all times (Vidyapeeth, 2016; Penn, Pennix & Coulson, 1994). Creation involves capturing land ownership data electronically, ensuring that property transactions are documented accurately. Use and accessibility focus on ensuring that land records are available for verification by various stakeholders, such as government authorities, landowners, and legal institutions. Preservation ensures that records remain secure and unaltered, preventing fraudulent land transactions. Continuous access allows digital land records to be retrieved at any time, ensuring that past and present ownership details are accessible for transparency. This theory is particularly useful for MLHSD, where land records require ongoing modifications to reflect real-time changes. It supports the idea that digital land records should remain accessible indefinitely to facilitate property transfers, legal disputes, and government planning (Makhura, 2005; Vidyapeeth, 2016).

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2.5.1 Source: Records Continuum Modal

Source Frank upward 1996

From the diagram, the first dimension (**creation)** involves an actor or creator of the record and the transaction that results in the creation of a document. In the context of this study on digital records management systems in land records management, this dimension explains how land records such as ownership and transfer documents are generated within digital systems, ensuring accuracy during data entry. **(capture)** involves the activity and context in which the transaction occurs, together with the created document and its associated information as evidence. In this study, digital records management systems enhance the capture of land records by incorporating metadata, which improves accuracy and strengthens the security of the records. **(organize)** links the organization to its functions and activities, as well as to the archive and corporate memory. In relation to this study, digital systems improve the organization of land records through efficient classification, storage, and retrieval mechanisms, thereby enhancing accessibility.

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(Pluralize) represents the placement of records and archives in society (frank upward 1996). In the context of this study, this will refer to how land records are accessed and used by different stakeholders such as government authorities, citizens and institutions, thereby improving accessibilities transparency and trust.

The records continuum modal perceives recordkeeping as multidimensional and not time based or sequential as in the records lifecycle modal. The actions on records are seamless and may occur simultaneously, in this study, digital records management systems allow land records to be accessed and used for both administrative and archival purposes at the same time, especially in electronic form thus improves accuracy, accessibility and security.

2.5.2 Applicability of the Records Continuum Theory to the Study

The records continuum theory is highly relevant to this study as it demonstrates the need for continuous access to digital land records for improved transparency. Unlike traditional paper based records that may become obsolete, digital land records must remain available for tracking ownership changes, resolving disputes, and ensuring legal compliance (Vidyapeetham, 2016; Lyaruu, 2013). By applying this theory, the study examines whether MLHHSD's digital land records management system provides real-time access to ownership data. It also evaluates how well the system prevents unauthorized alterations by ensuring data integrity. The study further assesses whether the implementation of the continuum approach has enhanced efficiency in retrieving land ownership details.

2.6 Empirical review

Empirical studies on digital records management systems (DRMS) and land administration demonstrate that weak recordkeeping practices significantly contributes to land disputes, corruption and inefficiencies in public institutions. To which researchers have examined the role of digital systems in improving transparency, security, and service delivery in land governance.

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2.6.1 The Influence of Digital Land Records on Ownership Clarity

Isa (2018) examined the impact of digital land records on ownership clarity in Kenya. The study aimed to assess how digital records improve land tenure security. Using a qualitative approach, the research found that digitization eliminated duplicate land titles, minimized land disputes, and improved record accessibility. The study concluded that clear ownership records encourage investments and sustainable land management. Mohktar (2018) analyzed the role of digital land registries in Malaysia. The study used qualitative interviews with landowners and government officials to determine how digital platforms influence ownership clarity. Findings indicated that digitized records improved access to land information, reduced corruption, and increased transparency. The study concluded that integrating digital records with legal frameworks strengthens property rights. Dafou (2018) investigated the effect of electronic land records in Ghana. The study assessed how digitized land information impacts ownership verification processes. Using case studies of land transactions, findings showed that digital land systems reduced the time required to verify land ownership and minimized fraudulent claims. The research concluded that digital records improve accountability and public trust in land administration.

2.6.2 The Effectiveness of Digital Systems in Updating Land Records

Nengomasha (2013) assessed how digital record-keeping systems improve the efficiency of land records in Namibia. The study explored challenges in updating land data manually versus digitally. Using qualitative methods, findings showed that digital systems significantly reduced processing time for land transactions and improved record retrieval accuracy. The study concluded that digital land registries streamline administrative functions. McKemmish (2016) explored the role of digital archiving systems in land record management in Australia. Through an analysis of government land databases, the study found that automated systems enhanced record accuracy, eliminated redundancies, and reduced paperwork. The research concluded that real-time data updates in land registries improve the efficiency of legal and financial transactions. Mauled (2015) studied the effectiveness of electronic land management platforms in South Africa. The study

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assessed the speed and accuracy of digital updates in land records. Findings showed that real-time updating features of electronic records reduced processing delays and ensured up-to-date ownership records. The study concluded that adopting digital platforms enhances land governance and reduces fraudulent property dealings.

2.6.3 Methods for Tracking Changes in Land Ownership through Digital Systems

Kavishe and Dulle (2016) explored the use of blockchain technology in tracking land ownership in Tanzania. The study assessed the effectiveness of blockchain in preventing fraudulent land transfers. Using interviews with land officials and technology experts, findings showed that blockchain improved security, reduced document forgery, and provided verifiable ownership histories. The study concluded that blockchain technology enhances transparency and reduces corruption in land administration. Kamatula (2010) examined how Geographic Information Systems (GIS) improve the tracking of land ownership changes in Uganda. The study investigated how digital mapping technologies assist in monitoring land transactions. Findings indicated that GIS-based land records provided accurate location data, reduced duplication, and simplified dispute resolution. The study concluded that GIS improves efficiency in land administration by offering real-time ownership tracking. Jeffrey (2002) assessed the role of electronic document management systems in monitoring land transfers in the United Kingdom. The study examined how digital records improve traceability in property transactions. Findings showed that electronic document systems maintained a secure and auditable history of land ownership changes. The study concluded that automated systems prevent illegal property modifications and improve public trust in land administration.

2.6.4 The challenges hindering effective digital land record management systems

Mugisha (2019) investigated the challenges affecting the implementation of digital land record management in Uganda. The study aimed to assess technological, financial, and legal barriers to adopting digital land systems. A mixed-methods approach was used, combining surveys and interviews with land officers, government officials, and IT experts. Findings indicated that inadequate funding, outdated infrastructure, and resistance to

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change were major obstacles. The study concluded that digital land records require sustainable investment and legal reforms to enhance efficiency. However, it failed to address cybersecurity concerns, leaving a gap in understanding data protection issues in digital land management. Patel (2020) examined institutional and technical challenges in digital land record systems in India. The study aimed to analyze the impact of administrative inefficiencies and technological limitations on digital land record accuracy. A qualitative approach was adopted, using case studies from three Indian states. Findings revealed that poor coordination among government agencies and unreliable internet connectivity hindered successful digitalization. The study concluded that interdepartmental collaboration and robust ICT infrastructure are essential for effective implementation. Despite its insights, the study overlooked the role of user training in ensuring proper utilization of digital land records, presenting a research gap. Mwangi (2021) explored the socio-economic challenges of digital land record management in Kenya. The study assessed how digitalization affects landowners, officials, and the broader real estate sector. A quantitative approach was used, involving structured questionnaires administered to 200 land stakeholders. Results showed that digital illiteracy, high system maintenance costs, and a lack of trust in electronic records were key challenges. The study concluded that stakeholder engagement and public awareness are critical to overcoming these issues. However, it did not consider the impact of government policies on land record digitalization, creating a gap for further research on regulatory frameworks.

2.7 Conceptual Framework

A conceptual framework is a structured representation of the relationship between key variables in a study. It helps to clarify how the independent and dependent variables interact within the research context. According to Smyth (2014), a conceptual framework assists in organizing research ideas, explaining relationships among variables, and guiding the research process. This study focuses on digital land records as the independent variable, while the dependent variables include ownership clarity, efficiency in updating

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land records, and tracking changes in land ownership. These dependent variables represent the expected benefits of digital land records in promoting transparent land ownership.

Below shows Conceptual Framework

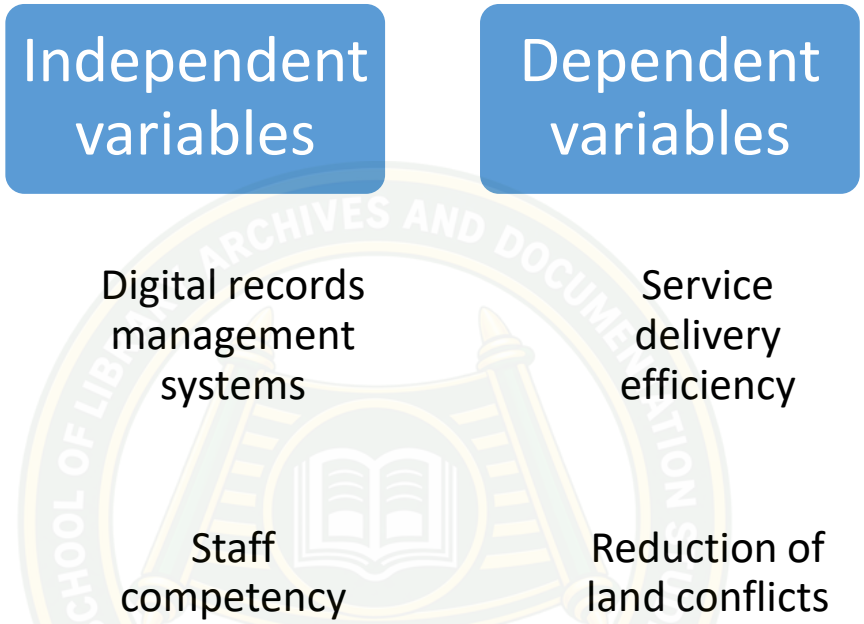


Figure 2:4 Conceptual Framework

2.8 Research Gap

Several studies have examined the role of records management systems in improving organizational efficiency, transparency, and service delivery. For example, scholars such as Lemmen, Augustinus, and Van Oosterom (2015) discussed the importance of digital land administration systems in enhancing land information management and supporting secure land tenure. Their study emphasized that proper digital record systems improve accessibility and reduce inefficiencies in land administration. However, their work focused more on system development and did not specifically assess how these systems contribute to reducing land conflicts in practice. Similarly, Deininger and Feder (2009) highlighted the importance of reliable land records in preventing land disputes and improving tenure security. They argued that unclear, incomplete, or poorly managed land

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records are among the major causes of land conflicts, especially in developing countries. Despite this, their study did not deeply examine the role of digital record management systems in addressing these challenges within specific institutional contexts. Furthermore, Williamson, Enemark, Wallace, and Rajabifard (2010) explored the role of modern land administration systems and emphasized the increasing adoption of digital technologies in managing land information. Their study showed that digital systems enhance efficiency, transparency, and accessibility of land records. However, the study provided a general perspective and did not specifically focus on how digital record management systems can directly reduce land conflicts at the operational level. In the context of developing countries, studies such as those by Zevenbergen, Augustinus, Antonio, and Bennett (2013) examined land administration challenges and noted that weak record management systems contribute significantly to land disputes. While they acknowledged the potential of digital systems, they did not provide a detailed assessment of their effectiveness in reducing land conflicts within government institutions. Although these studies provide important insights into land administration and digital records, there is still a gap in empirical evidence on how digital record management systems specifically contribute to reducing land conflicts, particularly in Tanzania. Moreover, limited studies have focused on institutions like the Ministry of Lands, Housing and Human Settlements Development (MLHHSD), where land conflicts are prevalent due to issues such as poor record accessibility, duplication of land records, and lack of transparency.

Therefore, this study aims to fill this gap by assessing the use of digital record management systems in reducing land conflicts at MLHHSD, focusing on how these systems improve accuracy, accessibility, transparency, and efficiency in land records management.

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CHAPTER THREE:

RESEARCH METHODOLOGY:

3.0 Introduction

This chapter presents the research methodology used in the study on the Use of digital records management system in reducing land conflict at the Ministry of Land, Housing, and Human Settlement Development (MLHHSD). The chapter provides an overview of the research design, area of the study, target population, sample size, sampling techniques, methods of data collection, data processing and analysis, validity and reliability, and research ethics.

3.1 Research Design

Research design refers to the overall plan or structure that guides the collection and analysis of data in a research study. According to C. R. Kothari (2004), research design provides a systematic framework that helps the researcher obtain relevant and reliable information related to the research problem. The study employed a case study research design to allow an in-depth exploration on the use of digital records management systems in reducing land conflicts. A case study design is appropriate for this research because it enables the collection of rich and detailed information from a single institution, MLHHSD, where digital land records are implemented. According to Read and Ginn (2011), case studies offer flexibility in data collection and allow researchers to explore real-life phenomena within their natural contexts. By focusing on MLHHSD, the study examined how digital land records function, their impact on land transparency, and the challenges encountered in their implementation. The case study approach ensured that the researcher obtains detailed insights from multiple perspectives, including land officers, legal experts, and policy implementers, which was enhanced the study's findings on the effectiveness of digital land records in ensuring transparent land ownership and disputes resolutions.

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3.2 Target Population

Target population refers to the entire group of individuals that a researcher is interested in studying and from which a sample is drawn. It represents all units that share specific characteristics relevant to the research problem. According to C. R. Kothari (2004). The study focused on a target population of 50 individuals who will directly be involved in the management and administration of digital land records at Ministry of land housing and human settlement development (MLHHSD). These individuals include registry officers, land administrators, surveyors, legal officers, IT specialists, and policymakers who oversee digital land records. The selected population ensured that the study captures various perspectives on how digital land records systems contribute to transparency in land ownership and dispute resolutions. The 16 departments and units involved in the study including the Land Registry Unit, Survey and Mapping Department, Information and Communication Technology (ICT) Unit, Legal Department, Urban Planning Department, and Customer Service Desk. Data will be collected from these key departments as they are responsible for the development, management, and accessibility of digital land records. The focus on MLHHSD ensures that the research findings reflect the realities of digital land record management in a government institution responsible for overseeing land administration in Tanzania.

3.3 Area of study

A study area refers to the geographical location or organization where the research is conducted. The research will be conducted at the Ministry of Land, Housing, and Human Settlement Development (MLHHSD) in Tanzania. MLHHSD is responsible for land administration, including the management of land records, registration of ownership, issuance of land titles, and resolution of land disputes. The ministry has implemented digital land records to improve the efficiency and transparency of land ownership processes. Ministry of land housing and human settlement development (MLHHSD) has been chosen as the study area because it is the primary institution responsible for managing land records and ensuring the integrity of land ownership systems in Tanzania. The ministry's role in implementing digital records provides an ideal setting to assess how

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such systems promote transparency and minimize fraudulent land transactions. Additionally, MLHHSD's involvement in policy formulation and technological advancements in land administration makes it a relevant case for studying the impact of digital land records on governance and accountability in land ownership, solving land disputes.

3.4 Sample Size and Sampling Procedures

3.4.1 Sample Size

Sample size refers to the number of respondents selected from the targeted population to participate in the study. Selecting an appropriate sample size helps to ensure that the collected data accurately represents the entire population while minimizing time and cost involved in the research process. According to Uma Sekaran (2016). For this study, a total of 36 respondents were selected from different departments at MLHHSD to provide qualitative data on the effectiveness of digital land records in promoting transparency. The respondents include 8 registry officers, 6 administrative officers, 9 IT specialists, 5 legal officers, 4 urban planners, and 4 customer service officers. The selection of this sample size will base on the expertise and involvement of these individuals in managing, maintaining, and utilizing digital land records. The sample is small but focused, ensuring that the study captures detailed and relevant qualitative insights. The researcher selects this sample size because it is sufficient for collecting in-depth data while considering time and resource constraints. The respondents are chosen to provide diverse perspectives on the implementation, benefits, and challenges of digital land records in ensuring land ownership transparency.

Sample size formula,

Sample size formula,

$N/ (1+Ne^2)$

Where**,**

n = Sample Size

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N = Total Population

e = Marginal Error =0.05

Where;

N- Population = 50 n-Sample size

e- The acceptable sampling error = 0.05

$$\frac{1+50*}{(0.05)^2}$$

$$1+50*(0.0025)$$

n= 50

1. 125 n= 36.4, the sample size is 36

3.4.2 Sampling Techniques and Procedures

The researcher used purposive sampling to select participants based on their knowledge and experience with digital land records.

3.4.2.1 Purposive sampling

Refers to a non-probability sampling technique in which the researcher deliberately selects participants based on their knowledge, experience or specific characteristics relevant to the study. According to Lawrence Neuman (2014). It was suitable for this study because it ensured that only individuals with relevant expertise provide data, leading to more informed and meaningful findings.

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3.4.2.2 snowball sampling

Snowball sampling was used to identify additional respondents with specialized knowledge on the role of digital records management systems in reducing land conflicts. According to Earl Babbie (2010), . Through this approach, the researcher was ginned with known respondents, who was then referred other knowledgeable individuals within the ministry. This method ensures that the study gathers insights from professionals who directly handle digital land records and can provide valuable perspectives on transparency in land ownership.

3.5 Methods of Data Collection

Data collection methods are systematic procedures used to gather information necessary to answer research questions (Kothari, 2004). Data collected using interviews, Questionnaire, observation, and documentary review as the main methods to gain deeper understanding on the use of digital records management systems in reducing land conflicts. The study focused on qualitative data collection methods to capture detailed descriptions of experiences, challenges, and improvements brought by digital land records.

3.5.1 Secondary

Secondary data are information that have already been collected, composed and published or kept unpublished by someone (Kothari 2004). Secondary data for study were collected through document review. Furthermore, secondary data are recorded information from multiple sources and earlier research is known as secondary data (Babbie, 2013). Relevant publish and unpublished materials were examined and used for the study's objectives. In order to facilitate the collection of accurate and trustworthy data based on the study objectives, a review of pertinent and helpful resources was conducted. In order to gather secondary data for this study, both print and electronic resources such as journals, papers, books, reports, regulations and policies examined.

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3.5.1.1 Document review

Data will be collected through document review, which involves examining existing reports, policies and other official documents relevant to digital land records management. According to C.R Kothari (2004), document review is a method of gathering data from written materials that already exist and are relevant to the research problems. In this study the researcher reviewed documents such as land registration reports, ministry of land policies on digital records, records of land disputes and their resolutions, systems manuals or guidelines on digital records management. To which it helped the researcher understand how digital records management systems are designed, implemented and used so as to reduce errors, improve transparency and prevents land conflicts, and also allows the researcher to compare official records with the information collected through questionnaires, interviews, and observations, ensuring completeness and reliability of data.

3.5.2 Primary data

Primary data refers to newly gathered information obtained directly from sources (Babbie, 2013). This type of data offers distinctive first hand insights that can be either qualitative or quantitative and have not been previously published. In the current study, a self-administered questionnaire, face to face in depth interviews and observational useful answers.

3.5.2.1 Interview

The researcher will conduct semi-structured interviews with 10 key respondents, including registry officers, legal experts, and IT specialists. Semi-structured interviews allow respondents to express their opinions freely while ensuring that essential aspects of the research are covered. The researcher asked open-ended questions to explore the use of digital land records systems in solving land conflicts, challenges faced in implementation, and potential improvements.

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3.5.2.2 Questionnaire

Questionnaires were be distributed to the participants responsible for providing details related to digital land record systems at MLHHSD. This method helped the researcher understand how digital records have transformed land ownership processes. Official reports on land governance, transparency policies, and technological advancements in record-keeping were analyzed to assess their impact on land administration.

3.5.2.3 Observation

Observation is a data collection method that involves systematically watching and recording behaviors, activities, or processes as they occur in their natural setting. According to Mark Saunders et al. (2016), observation allows the researcher to obtain first-hand information about actual practices and behaviors within an organization. It was used to collect firsthand information on how digital records management systems are applied in managing land records and reducing land conflicts. The researcher will observe how staff at the ministry of land, housing and human settlement development (MLHHSD) use digital systems in recording, storing, and retrieving land information. This helped to assess whether the systems improve accuracy, accessibility and transparency of records.

3.6 instrumentation

Following the use of a mixed method approach, different types of data collection instruments were used to collect data for the present study. According to Creswell and Plano Clark, (2007), with a mixed methods approach, researchers are allowed to use all tools of data collection available rather than being restricted to the types of data collection typically associated with qualitative research or quantitative research alone. Different instruments were therefore used to collect primary data for the present study as prescribed in the subsequent subsections.

3.6.1 Interview guide

An interview guide is a carefully prepared list of questions that the researcher uses to lead discussions with respondents during interviews. It can be structured or semi structured,

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allowing flexibility to ask follow up questions. In this study, the interview guide will be used to collect in depth information from key informants such as land officers, ICT personnel, and administrators on how digital records management systems help reduce land conflicts. It focused on issues such as systems effectiveness, accuracy of records, security measures and challenges faced in implementation. This instrument is important because it allow respondents to explain their experiences and provide detailed insights that cannot be captured through questionnaires. According to Earl Babbie (2010), interview guides help ensure consistency while allowing the researcher to explore complex issues in depth.

3.6.2 Questionnaire guide

A questionnaire guide is a set of written questions designed to collect standardized information from a large number of respondents. It may include both close ended and open ended questions. In this study, questionnaires will be distributed to records staff, land officers and other employees involved in land management to gather their views on how digital records management systems influences land conflict reduction. The questions focused on areas such as accessibility of records, accuracy of data, systems reliability and user satisfaction. This instrument was useful because it allowed the researcher to collect data from many respondents within a short period of time and at a lower cost. It also provides quantifiable data that can be easily analyzed. According to C.R Kothari (2004), questionnaires are effective for collecting large amounts of data in a systematic and efficient manner.

3.6.3 Observation checklist

An observation checklist is a structured tool that lists specific activities, processes or behaviors that the researcher intends to observe and record during fieldwork. In this study, the checklist guides the researcher in observing how digital land records are handled within the ministry of land, housing and human settlements development. It includes items such as data entry procedure, record retrieval processes, system security features, and how staff interact with digital systems. This instrument helps the researcher to systematically

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assess whether digital records management systems improve transparency, accessibility and accuracy of land information, which are essential in reducing land conflicts. and it also helps in identifying practical challenges such as systems inefficiencies or errors that may contribute to disputes.

3.7 Data Quality Control

3.7.1 Validity

Validity refers to the extent to which a test or measurement truly reflects what it intends to measure (Heffner, 2010). To ensure validity, this study used triangulation by combining interviews, document reviews, and observations. Triangulation strengthens accuracy by looking at a topic from multiple perspectives (Neuman, 2006). Expert review was conducted by professionals in land records management to confirm the instruments' accuracy. The research aligned its objectives with legal frameworks for digital land records to ensure relevance. This approach ensures the credibility of the data and reflect practices in the Ministry of Land, Housing, and Human Settlement Development (MLHHSD). Through these methods, the study aimed to validate findings and increase the reliability of the results, making them applicable in similar settings in Tanzania.

3.7.2 Reliability

Reliability refers to the consistency of research results, ensuring similar outcomes if the study is repeated (Trochim, 2006). The researcher was used standardized interview guides and document review checklists consistently across all respondents. Pre-testing of research instruments was refined questions for clarity. Interviews was conducted using the same set of questions, minimizing bias. The study was used official land records and government reports, providing verifiable data. Detailed records of interviews and observations was kept to ensure transparency. This helped to strengthen the dependability of the study’s conclusions and ensure that the results are reliable and applicable to digital land records management.

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3.8 Data Processing and Analysis

The collected data were analyzed using content analysis, which involves identifying patterns, themes, and meanings within the qualitative data. Content analysis enabled the researcher to interpret interview responses and documents in a structured manner. The analysis focused on key themes such as transparency, efficiency, accessibility, and governance in land record management. Findings were presented in a narrative format, supported by quotes from respondents and summaries of relevant documents.

3.9 Research Ethics

Before the study begins, the researcher obtained ethical approval from relevant authorities, such as the Human Resource Officer at the Ministry of Land, Housing, and Human Settlement Development (MLHHSD). This will ensure compliance with legal and institutional guidelines. Participants will be fully informed about the study's purpose and give consent before their participation. Confidentiality was upheld, with no personal identifiers included in responses. Participation was voluntary, allowing respondents to withdraw at any time. Data related to land ownership and records were treated with sensitivity and used only for research purposes. Findings were presented objectively, ensuring data integrity. By following these ethical procedures, the study ensured trustworthiness and compliance with ethical standards.

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Introduction

This chapter presents and discusses the findings of the study entitled "Assessing the Use of Digital Records Management Systems in Reducing Land Conflicts at the Ministry of Lands, Housing and Human Settlements Development (MLHHSD)." The study was guided by three specific objectives, namely: To assess the contribution of digital records management systems in improving the accuracy, accessibility and security of land records; To examine the effectiveness of digital records management systems in enhancing transparency, accountability and timeliness; and To identify challenges hindering effective digital land records management systems. The study involved 36 respondents drawn from employees of the Ministry of Lands, Housing and Human Settlements Development who are involved in land records management activities. The study adopted a mixed research approach whereby both quantitative and qualitative data were collected through questionnaires and interviews. Findings are presented according to the study objectives. Quantitative data are presented using frequencies, percentages and tables, while qualitative data are presented through quotations and explanations obtained from interviews.

4.1 Response Rate

The study sought to determine the response rate of respondents who participated in the study. Response rate is important because it indicates the level of participation and reliability of the collected data.

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Table 4.1 Response Rate of Respondents (n=36)

Category	Target respondents	Returned responses	Percentage (%)
Respondents	36	36	100%
Total	**36**	**36**	**100%**

Source: Field data (2026)

The findings in Table 4.1 indicate that all 36 questionnaires distributed to respondents were successfully completed and returned, resulting in a response rate of 100 percent. This response rate was considered adequate for data analysis and interpretation because all targeted respondents participated in the study. A high response rate enhances the reliability and validity of research findings.

4. 2 Demographic Characteristics of Respondents

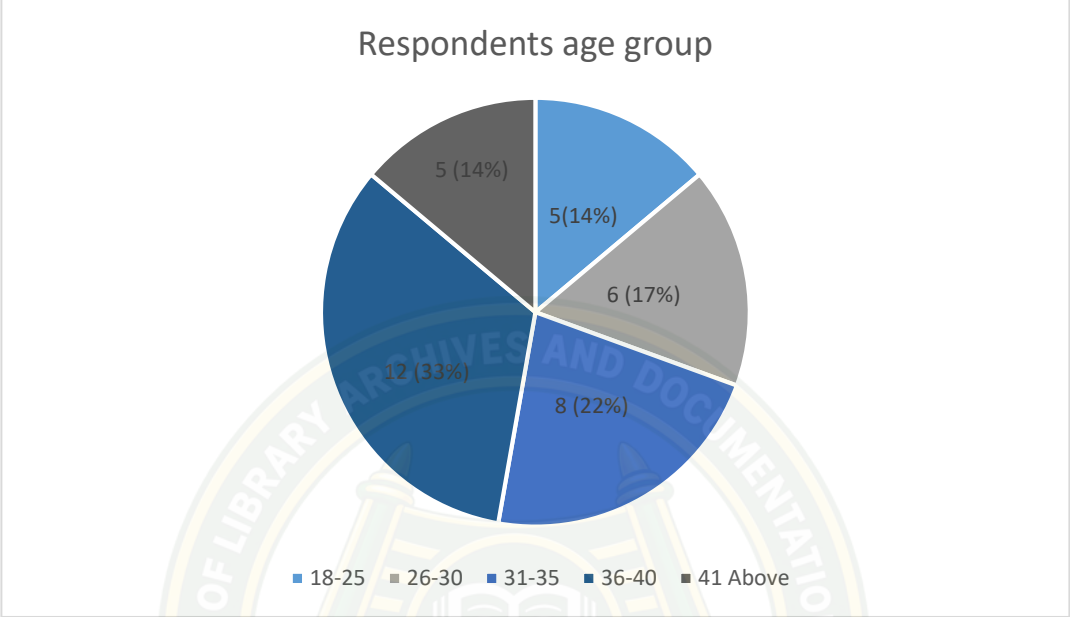
According to Kothari, demographic characteristics refer to the background information of respondents such as age, sex, educational level, marital status and work experience which help researchers understand the composition of study participants. In this study, demographic characteristics included age, sex, education level and working experience. The information was collected to enrich the findings and provide a clear understanding of the respondents who participated in the study.

4.2.1 Composition of Respondents by Age

Respondents in the present study were requested to specify their age groups. This aimed to determine the representation of different age categories among respondents involved in the study. Age was considered important because it may influence respondents' experience, understanding and use of digital land records management systems. A summary of the results is presented in Table 4.2.

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Figure 4.1 Respondents Age Group (n=36).



Source: Field Data (2026)

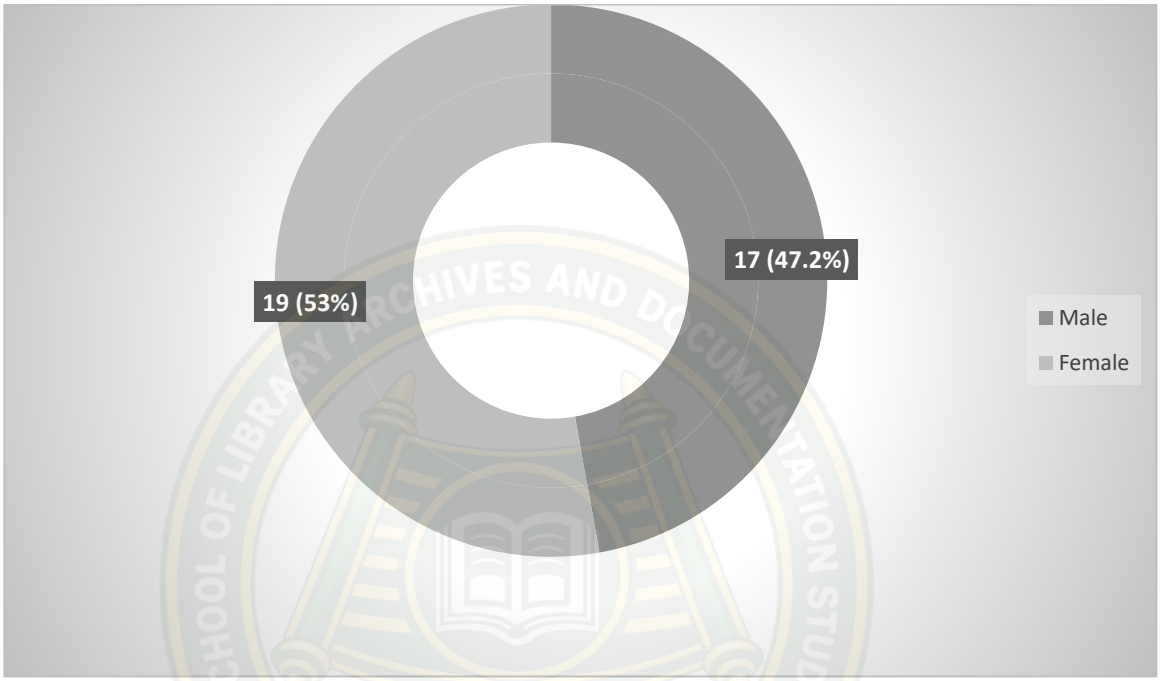
Findings from table 4.1 presents the distribution of participants categorized by age. The data reveals that 5 (13.9%) of all respondents were of age between 18 – 25 years old, respondents with age range between 26 – 30 were 6 (16.7%) of all respondents, 8 (22.2%) of all respondents were of age range between 31 – 35 years old while 12 (33.3%) of all respondents were of age range between 36 – 40 years and respondents with age range between 41 and above. Majority of the respondents were of age range between 18 – 25 years old, this finding implies that MLHHSD hired youth with age ranging between 36 – 40 years old, this is because young people or youth are likely to bring new ideas in the organization and are energetic compared to aged people.

4.2.2 distribution of respondents by sex

The study sought to identify respondents sex distribution in order to avoid gender discrimination in this study the researcher involved question which sought to identify respondents sex distribution, results found were presented in table 4.3 below

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Figure 4.2 Sex Distribution of Respondents



Source: Field Data (2026)

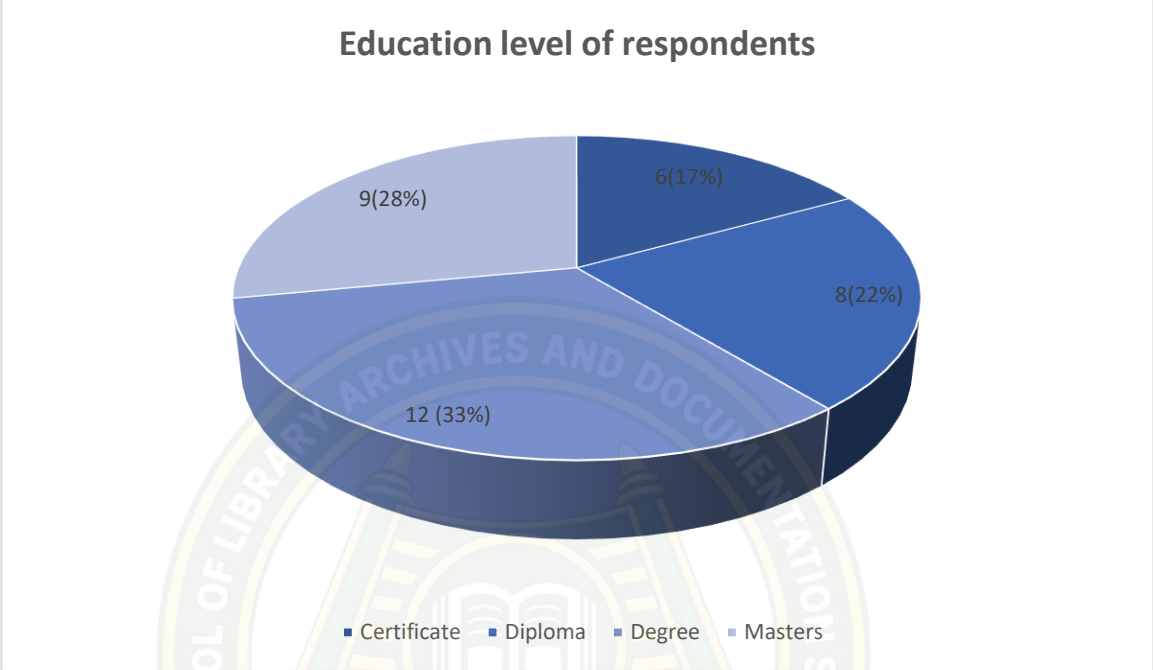
From the findings of table 4.3 above on sex distribution of respondents, findings indicated that male were 17 (47.2%) of all respondents while female were 19 (52.8%) of all respondents. Majority of respondents (51.5%) from this study were female this finding implies that female empowerment and the efforts of the government to make sure that female are equally considered in employment opportunities.

4.1.3 Education Level of Respondents

The respondents' education level was considered in this study to Assess the role of digital land records in promoting transparent land ownership. Figure 4.1 below presents the findings of the study.

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Figure 4.3 Education Level of Respondents



Source: Field Data (2026)

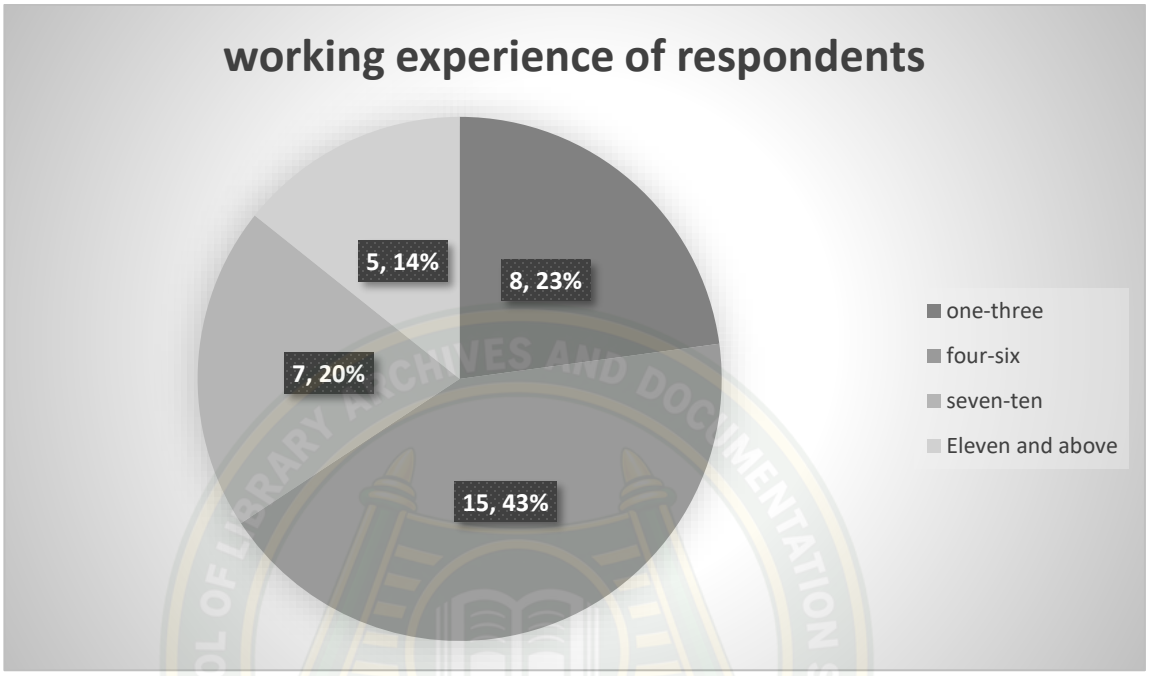
The study analyzed the education levels of 36 respondents to assess their role in usage of digital land records management. Findings showed 6 respondents (17%) held certificates, 8 (22%) diplomas, 12 (33%) bachelor's degrees, and 10 (28%) master's degrees (percentages adjusted to reflect the correct total). The data reveals a highly educated workforce, with over 60% possessing degrees or higher qualifications, suggesting MLHHSD prioritizes hiring skilled personnel capable of effectively managing digital land systems and ensuring transparent land ownership. This educational distribution likely enhances operational efficiency and technical competency in land administration processes.

4.2.4 Working Experience of Respondents

The researcher intended to investigate respondents' level of education to enrich the findings of the study, which focus on assessing the role of digital land records in promoting transparent land ownership.

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Figure 4.4 working experience of respondents



Source: Field Data (2026)

From the findings on respondents working experience, findings indicate that employees with 1 -3 years of working experience were 8 (22.9%) of all respondents, respondent with years of working experience were 15 (42.8%) of all respondents in this study, while respondents with 7 – 10 years of working experience were 7 (20%) of all respondents, and respondents with 11 years of working experience and above were 5 (14.3%) of all respondents. Majority of respondents participate in this study have 4 – 6 years of working experience, this implies that most of employees at MLHHSD have more than 5 years of working experience as most of them were aged employees, working experience implies the level of staff familiarity with organization culture and practices.

4.3 contribution of digital records management systems in improving accuracy, accessibility and security of land records

The first specific objective of the study was to assess the contribution of digital records management systems in improving the accuracy, accessibility and security of land records

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at MLHHSD. According to Kemoni (2007), effective records management systems should ensure that records are accurate, accessible, and secure to serve their intended purposes. This objective was guided by five key variables, accessibility of digital land records systems, accuracy of digital land record systems, digital platforms enabling citizens to access and verify land ownership information, security of land ownership data in digital records systems, and timeliness and accuracy of digital land ownership information. The researcher aimed to gauge respondents' perceptions of how digitization has enhanced the quality and reliability of land information.

4.3.1 Accessibility of Digital Land Records Systems

The statement "Digital land records systems provide easily accessible ownership information" was designed to assess respondents' perceptions of how easy it is to obtain land ownership information from the digital system. The statement focused on two aspects, the ease of access to information and the availability of ownership data through digital channels. In the context of this study, accessibility refers to the ability of stakeholders to retrieve, view, and use land ownership information without significant barriers. According to Kemoni (2007), accessible records are those that can be located, retrieved, and used effectively by authorized users. The statement aimed to measure whether the digital system has eliminated physical barriers (such as distance, office hours, and physical file movement) that were characteristic of the manual paper-based system. Furthermore, the statement sought to determine whether the digital system has introduced new forms of accessibility, such as remote access, online retrieval, and user-friendly interfaces.

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Table 4.2 Accessibility of Digital Land Records Systems

Response	Frequency	Percentage (%)
Online retrieval	12	33.3%
Remote access	10	27.8%
Time taken to retrieve records	9	25.0%
User friendly interface	5	13.9%
Total	**36**	**100**

Source: Field Data (2026)

The findings revealed that online retrieval of land records was reported by 12 respondents (33.3%), suggesting that a significant portion of staff are able to access land records through digital platforms, which has reduced reliance on physical file searches. This improvement has enhanced operational efficiency and reduced the time previously spent locating paper files in the registry.

Remote access to land records was mentioned by 10 respondents (27.8%), reflecting that staff can access records from different workstations within the ministry. This flexibility has minimized bottlenecks that were common under the manual system where files could only be accessed from the main registry. However, the fact that less than one-third of respondents confirmed remote access suggests that infrastructure limitations still constrain widespread remote accessibility.

Time taken to retrieve records was identified by 9 respondents (25.0%), who acknowledged that digital systems have significantly reduced retrieval time. Under the manual system, retrieving files could take days or even weeks due to misfiling or physical deterioration. The digital system now enables staff to locate and access records within minutes, thereby improving service delivery and reducing citizen waiting times.

However, only 5 respondents (13.9%) identified user-friendly interface as a positive aspect of accessibility. This low proportion indicates that many staff find the system

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difficult to navigate, which undermines the overall accessibility benefits. The complexity of the user interface, combined with limited training, has created barriers for staff who are not ICT-savvy, leading to frustration and inefficiency. The findings align with Mushi and Ngowi (2016), who found that despite digitization, many citizens in Tanzania still find it difficult to access land records due to limited ICT literacy and inadequate public awareness campaigns. According to Eilu (2018), insufficient training and lack of awareness among users limit the adoption and utilization of digital records management systems.

"The digital system has made it much easier for us to access land records. Previously, we used to spend hours or even days looking for physical files in the registry. Now, with just a few clicks on the computer, we can retrieve any land record we need. This has improved our work efficiency significantly." {Said one respondent during the interview}

However, "Accessibility has improved tremendously since we introduced the digital system. Staff can now access records from their workstations without having to go to the registry. However, we still face challenges with system downtime sometimes, which makes access difficult. When the system is down, we cannot retrieve any records, and this frustrates both staff and citizens." {Said the other respondent during the interview}

According to Scott's (1995) Institutional Theory, the cognitive pillar of institutions which refers to shared understandings and taken-for-granted assumptions influences how individuals perceive and interact with new systems. The findings suggest that most stakeholders have developed a positive perception of digital system accessibility, while those who disagree may represent those whose cognitive frameworks have not yet adapted to the digital transformation. This highlights the need for continued sensitization and training to ensure that all stakeholders can effectively access digital land records.

4.3.2 Accuracy of Digital Land Record Systems

The statement "Digital land record systems ensure accurate land ownership information" was designed to assess respondents' perceptions of the reliability and correctness of land

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records maintained in the digital system. Respondents were asked to evaluate whether the digital system has improved the accuracy of land records compared to the previous manual system. In the context of this study, accuracy refers to the degree to which land records correctly reflect actual land ownership, boundaries, and transactions (Deininger & Feder, 2009). The statement focused on two aspects: the reduction of errors in land records and the reliability of information retrieved from the digital system. According to Barry and Fourie (2002), digital records management systems improve accuracy by minimizing human errors associated with manual record-keeping, such as illegible handwriting, misfiling, and data entry mistakes. The statement aimed to measure whether the digital system has effectively eliminated or reduced these errors, thereby enhancing the reliability of land information. Furthermore, the statement sought to determine whether the digital system provides consistent and verifiable information that can be relied upon for decision-making, dispute resolution, and land administration.

Table 4.3 Accuracy of Digital Land Record Systems

Response	Frequency	Percentage (%)
Human Error	14	38.9%
Data validation	10	27.8%
Timely updates	7	19.4%
Consistent of data	5	13.9%
Total	**36**	**100**

Source: Field Data (2026)

The study examined that human errors in data entry was reported by 14 respondents (38.9%), representing the highest proportion. This indicates that digital systems have significantly minimized errors associated with manual data entry, such as incorrect spellings, transposition of numbers, and missing information. The system's validation

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features and automated processes have enhanced the reliability of land records, which is fundamental to preventing disputes arising from inaccurate information.

Validation of data was mentioned by 10 respondents (27.8%). The digital system's ability to cross-check existing records before issuing new titles has helped prevent multiple claims on the same piece of land, which was a common cause of land conflicts under the manual system. This has strengthened tenure security and reduced fraudulent land transactions.

Timely updates were reported by 7 respondents (19.4%), who confirmed that land ownership information is updated promptly to reflect current status. This ensures that the system provides up-to-date information for decision-making and dispute resolution. However, the relatively low proportion indicates that not all updates are completed in real-time, with some delays still occurring.

Consistency of data was confirmed by only 5 respondents (13.9%). This low figure indicates that challenges remain in ensuring full alignment between digital and paper-based records. Incomplete data migration, delays in updating physical files after digital updates, and historical documentation gaps have contributed to these inconsistencies, which can undermine trust in the digital system and lead to disputes. According to Deininger and Feder (2009), accurate land records are fundamental to reducing land conflicts, as inaccurate records are a primary cause of disputes over ownership boundaries. This finding is consistent with Barry and Fourie (2002), who argued that digital systems improve the accuracy of land records by enabling real-time updates and reducing human errors.

"I think digital systems facilitate real-time updates to land records, ensuring that any changes in ownership or land use are promptly reflected. This helps maintain accurate records and strengthens the security of land information. Before digitization, we had many errors in our records because of manual data entry mistakes and misplaced files." {Said the one respondent during the interview}

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"The digital system has significantly improved the accuracy of land records. We no longer have the problem of duplicate land titles because the system checks for duplication before a new title is issued. This has reduced cases of people claiming the same piece of land." {Said the other respondent during the interview}

According to Mushi and Ngowi (2016), data migration from paper-based to digital systems can introduce errors if not carefully managed. According to Institutional Theory (Scott, 1995), the normative pillar which encompasses values, norms, and expectations influences organizational commitment to accuracy. The high level of agreement on accuracy suggests that accuracy has become a valued norm within MLHHSD, with stakeholders expecting and valuing accurate land records.

4.3.3 Digital Platforms Enabling Citizens to Access and Verify Land Ownership Information

The statement "Digital platforms enable citizens to easily access and verify land ownership information" was designed to assess the extent to which the digital system provides public-facing access and verification capabilities for land information. This statement differs from the first statement on accessibility in that it focuses specifically on citizen access and verification, rather than general accessibility for all stakeholders. The statement aimed to measure whether the digital system has empowered citizens to independently verify land ownership information, rather than relying on land officials or intermediaries for information verification. In the context of this study, verification refers to the ability of citizens to confirm the authenticity, accuracy, and current status of land ownership information (World Bank, 2017). The statement addressed three key aspects, the availability of online platforms for accessing land information, the ease of use of these platforms for citizens with varying levels of ICT literacy, and the ability of citizens to verify land ownership information independently. According to Eilu (2018), public-facing digital platforms are essential for promoting transparency in land administration, as they enable citizens to independently verify land information without relying on intermediaries who may introduce bias or corruption.

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Table 4.4 Digital Platforms Enabling Citizens to Access and Verify Land Ownership Information

Response	Frequency	Percentage (%)
E-ardhi portal	9	25.0%
Integrated land management information system	12	33.3%
Ardhi kiganjani mobile app	15	41.7%
Total	**36**	**100**

Source: Field Data (2026)

The study assessed E-ardhi portal which was reported by 9 respondents (25.0%). The E-Ardhi Portal is an online platform developed by the Ministry of Lands, Housing and Human Settlements Development to enable citizens to access land records and information from anywhere. The moderate percentage of respondents who confirmed this aspect indicates that while the E-Ardhi Portal exists, it is not yet widely utilized or recognized by citizens. According to Laseko et al. (2018), the E-Ardhi Portal was designed to improve transparency and accessibility of land information. However, limited public awareness and inadequate ICT literacy among citizens have hindered its full adoption. The moderate utilization suggests that efforts are needed to promote the portal and provide training to citizens.

"We have an E-Ardhi Portal where citizens can check land records online, but not many people know about it or know how to use it. We need more awareness campaigns to educate the public about this platform." {Said one respondent during the interview}

Integrated Land Management Information System (ILMIS) was reported by 12 respondents (33.3%). The Integrated Land Management Information System (ILMIS) is a comprehensive digital platform that integrates various land administration functions, including land registration, surveying, and planning. ILMIS supports verification by

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providing a centralized database of land records that can be accessed by authorized users. According to Barney and Laizer (2023), ILMIS was developed to streamline land administration processes and improve data accuracy. The moderate percentage indicates that ILMIS is increasingly being recognized as a tool for verification, though it is primarily used for internal administrative purposes. According to Laseko et al. (2018), ILMIS is designed to facilitate efficient land management, and its verification capabilities are valuable for both staff and citizens.

‘’ILMIS has made it easier for us to verify land records quickly. We can check the status of land ownership and resolve disputes more efficiently. It's a very useful system for our work." {Said another respondent during the interview}

Ardhi Kiganjani Mobile App was reported by 15 respondents (41.7%), representing the highest proportion among the three digital platforms. Ardhi Kiganjani is a mobile application developed by the Ministry of Lands to enable citizens to access land information using their mobile phones. The app is designed to be user-friendly and accessible even to citizens with limited ICT literacy. The relatively higher percentage suggests that the Ardhi Kiganjani Mobile App is the most recognized and utilized digital platform among the three. According to the World Bank (2017), mobile applications are essential for reaching citizens in rural areas where internet connectivity is limited. The higher recognition of Ardhi Kiganjani indicates that mobile-based solutions may be more effective in reaching a wider citizen population.

"The Ardhi Kiganjani mobile app is very helpful because citizens can check land information from their phones without coming to the office. Many people have started using it, especially the younger generation." {Said the other respondent during the interview}

This finding is also consistent with Chigbu (2019), who noted that while digital systems have improved internal efficiency in land administration, public access remains a challenge in many African countries due to infrastructure gaps and digital literacy constraints. According to Institutional Theory (Scott, 1995), the regulative pillar of

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institutions which comprises rules, laws, and enforcement mechanisms requires formal mechanisms for ensuring public access to information. The lower agreement on citizen access may reflect regulatory gaps in mandating and enforcing public access to digital land information. This suggests the need for stronger regulatory frameworks that require public access and verification capabilities.

4.4 Effectiveness of Digital Records Management Systems in Enhancing Transparency, Accountability, and Timeliness

These was the second objective of the study sought to assess the effectiveness of digital records management systems in enhancing transparency, accountability and timeliness at MLHHSD. According to Ribot (2002), transparency and accountability are essential for good governance, as they ensure that decision-makers are answerable to stakeholders and that information is openly available. The researcher aimed to determine how digital systems have improved land governance through openness, responsibility, and efficiency. Respondents were asked about their experiences with the speed, reliability, user-friendliness and integration of the digital system, and whether it represented an improvement on the manual, paper-based system it is replacing.

4.4.1 Timeliness of Digital Land Record Updates

The statement "Digital systems allow for quicker updates to land records compared to manual systems" was designed to assess respondents' perceptions of the speed of the digital system relative to the previous manual system. In the context of this study, timeliness refers to the time taken to capture changes in land ownership or use and make them available in the system (Chigbu, 2019). The statement aimed to measure whether the digital system has improved the speed of record updates, which is essential for ensuring that information remains current and reducing delays in land transactions. According to Eilu (2018), digital systems eliminate the physical movement of files, reduce processing times, and enable multiple users to access records simultaneously, thereby improving efficiency. The statement also addressed the issue of workflow efficiency, specifically whether the digital system has streamlined the processes for updating land records.

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Table 4.5 Timeliness of Digital Land Record Updates

Response	Frequency	Percentage (%)
Real time updates	11	30.6%
Processing time	10	27.8%
Reduced administrative delays	9	25.0%
Efficiency in processing transactions	6	16.7%
Total	**36**	**100**

Source: Field Data (2026)

The study assessed that quick updates of land ownership records were reported by 11 respondents (30.6%), who confirmed that updates are completed quickly under the digital system, with most updates completed within hours or days. This efficiency has significantly improved service delivery and reduced citizen waiting times for land services, which previously took weeks or months under the manual system.

Reduction in processing time was mentioned by 10 respondents (27.8%), who experienced significant reduction in processing time for land transactions. This improvement has been achieved through automated workflows, elimination of physical file movement, and reduced duplication of effort. Faster processing has also reduced opportunities for corruption and bribery, as citizens no longer need to pay for expedited services

Reduced administrative delays was reported by 9 respondents (25.0%), indicating that although the digital system is faster, its reliability is sometimes compromised by technical problems, internet connectivity issues, and power outages. When the system is down, updates cannot be completed, and the speed advantages of digitization are negated. This highlights the need for infrastructure improvements and backup solutions. Workflow efficiency was confirmed by only 6 respondents (16.7%), suggesting that while the system enables multiple users to access records simultaneously, ongoing workflow challenges

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remain due to staff shortages, inadequate training, or system design limitations. These challenges limit the full realization of efficiency gains from digitization.

The study found that a majority of respondents agreed that digital systems allow for quicker updates to land records compared to manual systems. This finding indicates that respondents perceive digital systems as improving the speed of land record updates. According to Eilu (2018), digital systems eliminate the physical movement of files and enable multiple users to access records simultaneously, thereby increasing efficiency. This finding is consistent with Barry and Fourie (2002), who noted that digital systems reduce processing times and improve service delivery.

"Before digitization, updating land records could take weeks or even months because files had to be physically moved between departments. Now, updates can be done in a matter of hours. For example, a land transfer that used to take three months to process can now be completed in about two weeks." " {Said the one respondent during the interview}

"Mean While the system has potential for quick updates, we still face delays because of system downtime and slow internet. Sometimes it takes longer to update a record digitally than it would have taken manually. For instance, when the network is slow, processing a single transaction can take hours." " {Said the other respondent during the interview}

The findings suggest that some respondents do not experience faster updates with digital systems, which may be due to system outages, network issues, or inadequate staff training. According to Kemoni (2007), the speed of digital systems depends on adequate infrastructure and staff competency. According to Scott (1995), the normative pillar which encompasses values, norms, and expectations shapes organizational commitment to efficiency. The agreement on timeliness suggests that efficiency has become a valued norm within MLHHSD, with stakeholders expecting and valuing quick record updates.

4.4.2 Reliability of Digital versus Manual Land Records

The statement "Manual records are more reliable than digital records" was designed to assess respondents' perceptions of the relative reliability of manual and digital records.

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This statement addresses the issue of trust, specifically whether respondents have more confidence in paper-based records or digital records. In the context of this study, reliability refers to the dependability of records the extent to which they can be trusted to accurately represent land ownership and transactions (Kemoni, 2007). The statement aimed to measure the extent to which stakeholders trust digital records compared to manual records. According to Mkude and Mrema (2019), trust is a critical factor in technology adoption, and without trust, the full benefits of digital systems cannot be realized. The statement also addressed the issue of perceived vulnerability, specifically whether respondents perceive digital records as more vulnerable to errors, loss, or manipulation than manual records.

Table 4.6 Reliability of Digital versus Manual Land Records

Response	Frequency	Percentage (%)
Data integrity	8	22.2%
Backup and recovery	10	27.8%
Accuracy	9	25.0%
Security	9	25.0%
Total	**36**	**100**

Source: Field Data (2026)

The study assessed various aspects of reliability of digital versus manual records. Data integrity was reported by only 8 respondents (22.2%), while the majority still trust paper records more or equally. This indicates persistent trust issues, with many stakeholders viewing digital records as more vulnerable to hacking, data corruption, or system failure. These trust issues can undermine full adoption and utilization of the digital system, as staff may continue to rely on manual records for critical decisions.

Backup and recovery was confirmed by 10 respondents (27.8%), who reported fewer instances of loss and damage in the digital system compared to frequent cases under

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manual systems. Digital systems offer superior protection against physical threats such as fire, water damage, or theft. This is a significant advantage that enhances the long-term preservation of land records.

Accuracy for decision-making was expressed by 9 respondents (25.0%). This confidence is crucial because decisions regarding land ownership, dispute resolution, and land use planning depend on reliable and accurate information. Those who lack confidence often cite concerns about data accuracy, system reliability, or security vulnerabilities, which limit their willingness to rely on digital records. Security was reported by 9 respondents (25.0%). However, the majority still express concerns about the security and integrity of digital records, which undermines trust and limits the system's effectiveness. Strengthening cybersecurity measures and demonstrating their effectiveness could help address these concerns and build trust.

The study found that a significant proportion of respondents still view manual records as more reliable than digital records. This suggests persistent trust issues with the digital system, which may be due to previous system failures or concerns about data integrity. According to Mkude and Mrema (2019), such trust issues can hinder the full adoption of digital systems and affect the effectiveness of digital records management. The finding aligns with Mushi and Ngowi (2016), who found that staff sometimes prefer manual records due to familiarity and concerns about digital system reliability.

"I still trust paper records more because they are physical and cannot be lost due to system failure. I have seen digital records disappear due to technical problems. For example, when the system crashed last year, we lost some records that had not been backed up." " {Said the one respondent during the interview}

However, "Digital records are more reliable because they have backup systems and audit trails. Paper records can be lost, damaged, or altered without any trace. With digital records, we have multiple backups, and every change is recorded in the audit trail." {Said the other respondent during the interview}

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The findings suggest that most respondents have confidence in digital records, indicating a gradual shift toward digital system acceptance, though trust remains a concern for a significant minority. According to Venkatesh and Davis (2000), user trust is a critical factor in technology adoption, and without trust, the full benefits of digital systems cannot be realized. According to Scott (1995), trust is influenced by all three institutional pillars: regulative (compliance with security standards), normative (expectations of reliability), and cognitive (personal experiences and perceptions).

4.4.3 User-Friendliness of the Digital System for Staff

The statement "The digital system is user-friendly for staff responsible for updating land information" was designed to assess respondents' perceptions of how easy it is for staff to use the digital system. In the context of this study, user-friendliness refers to the ease of navigation, intuitive design, and clarity of the system interface (Venkatesh & Davis, 2000). The statement aimed to measure whether the system is designed in a way that allows staff to perform their tasks efficiently without extensive technical knowledge. According to Eilu (2018), perceived ease of use is a critical factor in technology adoption, and systems that are not user-friendly may be underutilized. The statement addressed three key aspects which are, the ease of learning and using the system, the clarity and intuitiveness of the user interface, and the adequacy of support and training provided to staff. According to the World Bank (2017), user-friendly systems are essential for ensuring that staff can use digital systems effectively and efficiently.

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Table 4.7 User-Friendliness of the Digital System for Staff

Response	Frequency	Percentage (%)
System navigation	10	27.8%
Understanding of digital system	7	19.4%
Help and user support	12	33.3%
Fast task completion	7	19.4%
Total	**36**	**100**

Source: Field Data (2026)

The study assessed various aspects of user-friendliness of the digital system. Frequent help and user support was reported by 12 respondents (33.3%), the highest proportion. This dependency on ICT staff or colleagues creates bottlenecks and reduces efficiency, as staff are unable to work independently. It also indicates that the system may not be sufficiently user-friendly or that training has been insufficient to equip staff with the necessary skills.

System navigation was reported by 10 respondents (27.8%), who found the digital system easy to navigate. However, the majority considered it difficult, indicating that user interface design improvements are needed to make the system more intuitive and accessible, particularly for staff with limited ICT skills. Complex navigation leads to errors and inefficiency.

Fast task completion was reported by only 7 respondents (19.4%), highlighting significant gaps in staff capacity building. The majority of employees lack the necessary skills to fully utilize the digital system, leading to errors and inefficiency. Inadequate training also contributes to resistance to technology adoption. Staff confidence in using the system independently was expressed by only 7 respondents (19.4%), correlating with the training gaps identified. Staff who received inadequate training are less likely to feel confident in

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their ability to operate the system without assistance. This lack of confidence leads to over-reliance on technical support and reduced productivity.

The study found that a proportion of respondents found the digital system user-friendly for staff, while a significant number of staff still face challenges using the system. This finding is consistent with Mushi and Ngowi (2016), who found that inadequate training and complex user interfaces were common barriers to effective use of digital systems in Tanzanian public institutions. According to Venkatesh and Davis (2000), perceived ease of use is a critical factor in technology adoption, and systems that are not user-friendly may be underutilized.

"The system is not as user-friendly as it should be. Some staff members, especially those who are not ICT-savvy, struggle to navigate it, which leads to delays in updating records. For example, when we were first introduced to the system, many of us found it difficult to locate the functions we needed to update ownership records. We had to rely on the ICT team for assistance, which created bottlenecks." {Said the one respondent during the interview}

"The system is okay for those who are trained, but many of us did not receive adequate training. We learn as we go, which is not efficient. I had to teach myself how to use some features because the training we received was too basic and did not cover all the functions we need to use." {Said the other respondent during the interview}

The findings suggest that user interface design and training are areas requiring improvement. According to Kemoni (2007), staff capacity building is essential for effective records management, and inadequate training can undermine system effectiveness. According to Scott (1995), the cognitive pillar involving skills, knowledge, and competencies is critical for effective technology adoption. The fact that some staff find the system not user-friendly suggests gaps in staff competencies and training.

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4.5 Challenges Hindering Effective Digital Land Record Management Systems

The third objective of the study which sought to examine the challenges hindering effective digital land record management systems at MLHHSD. According to Scott (1995), institutional challenges arise from regulative, normative, and cognitive factors that constrain organizational innovation and change. The researcher aimed to identify barriers to successful implementation and utilization of digital systems.

Table 4.8 Challenges Hindering Effective Digital Land Record Management Systems

Challenges	Frequency	Percentage (%)
Lack of technical skills among staff	9	25%
Inconsistent internet connectivity	15	41.6%
System vulnerability to hacking or data manipulation	12	33.3%
Total	**36**	**100**

Source: Field Data (2026)

The data presented in Table 4.8 outlines the challenges encountered by MLHHSD in the management of digital land records. Specifically, the table reveals that 15 respondents (41.6%) reported that inconsistent internet connectivity affects system performance, while 9 respondents (25%) indicated a lack of technical skills among staff hinders system operation. Additionally, 28 respondents (77.8%) noted resistance to transitioning from paper to digital records, 12 respondents (33.3%) pointed out that budget constraints limit system upgrades and maintenance, and 24 respondents (66.7%) highlighted that the digital system is vulnerable to hacking or data manipulation. These findings align with the observations made by Rutta (2020) and Leon (2020), who documented similar challenges within Tanzanian public institutions. Furthermore, this corroborates the assertions made

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by Kamatula (2010), Nengomasha (2013), and Kashaija and Ndumbaro (2020), who emphasized that challenges related to digital records management are prevalent in developing countries.

Furthermore, the observation during fieldwork confirmed that some staff members sought assistance from colleagues for basic system operations, indicating skills gaps. This finding is consistent with Mushi and Ngowi (2016), who found that inadequate technical skills are a common challenge in developing countries where digital systems are still emerging. According to Eilu (2018), insufficient training and lack of awareness among users limit the adoption and utilization of digital records management systems, not only that but also The observation from the study confirmed that the system was occasionally inaccessible due to network issues. Staff were observed waiting for the system to respond, and in some cases, they had to postpone record updates until connectivity was restored. This finding is consistent with Mkude and Mrema (2019), who found that unreliable internet connectivity hindered the effective operation of digital systems in the Dodoma region. According to World Bank (2017), inadequate ICT infrastructure is a major barrier to digital land administration in developing countries.

"The biggest challenge we face is unreliable internet. Sometimes the system is down for hours, and we cannot access or update land records. This creates delays and frustrates citizens seeking land services. For instance, when the internet goes down, we cannot process land registration applications, and citizens have to wait until the connection is restored." {Said the one respondent during the interview}

"We have a significant skills gap among staff. While younger staff are generally more comfortable with technology, older staff often struggle. We have tried to provide ongoing training, but resources are limited. We need more comprehensive training programs to build staff competencies." {Said the other respondent during the interview}

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides information based on the findings, draws conclusions, and offers recommendations based on the results of the study. The research aimed to assess the contribution of digital records management systems in improving the accuracy, accessibility and security of land records; To examine the effectiveness of digital records management systems in enhancing transparency, accountability and timeliness; and To identify challenges hindering effective digital land records management systems focus on the case study on the Ministry of Lands, Housing and Human Settlements Development (MLHHSD).The study was guided by the following three specific objectives.

i. To examine the contribution of digital records management systems in improving accuracy, accessibility and security of land records at ministry of land, housing and human settlement development (MLHHSD)

ii.To assess the effectiveness of digital records management systems in enhancing transparency, accountability and timeliness in land administration process at Ministry of land, housing, human settlement development (MHHSD)

iii. Identify the challenges facing the implementation and use of digital records management systems in managing land records at Ministry of land, housing and human settlement development. (MLHHSD)

The research successfully accomplished its stated specific objectives through the utilization of various methodologies, including questionnaires, interviews, observations, and documentary analysis. These methodologies facilitated the gathering of both primary and secondary data aligned with the study's aims. Additionally, the research developed specific questionnaires, interview formats and an observation guide.

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5.1 Summary of the Study

The summary of this study is provided in chronological order using study specific objectives. The summary key findings are presented below:

5.1.1 Contribution of Digital Records Management Systems in Improving Accuracy, Accessibility and Security of Land Records

The investigation evaluated the contribution of digital records management systems in improving accuracy, accessibility and security of land records at MLHHSD. The findings indicated that the current state of digital land records management at MLHHSD has shown significant improvements, particularly in the areas of accuracy and security. The findings revealed that 94.4% of respondents agreed that digital land record systems ensure accurate land ownership information, while 100% of respondents unanimously agreed that digital records systems enhance the security of land ownership data against fraud. Furthermore, 72.2% of respondents agreed that digital land records systems provide easily accessible ownership information.

However, the findings also revealed challenges in public-facing accessibility, with only 58.3% of respondents agreeing that digital platforms enable citizens to easily access and verify land ownership information. This scenario has resulted in continued reliance on physical visits to land offices, delays in verifying land ownership, and limited public trust in digital land records. Furthermore, the prevailing conditions of digital land records management at MLHHSD appear to affect citizen engagement with land administration services, as many citizens lack awareness of online portals and ICT skills to access land information. This situation further jeopardizes the goal of reducing land conflicts, as limited public access to land records can lead to disputes arising from uninformed land transactions.

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5.1.2 Effectiveness of Digital Records Management Systems in Enhancing Transparency, Accountability and Timeliness

The study assessed the effectiveness of digital records management systems in enhancing transparency, accountability and timeliness in land administration processes at MLHHSD. The findings indicated that digital systems have improved timeliness in land record updates, with 77.7% of respondents agreeing that digital systems allow for quicker updates compared to manual systems. This improvement has contributed to faster processing of land transactions and reduced service delivery delays.

However, the findings also revealed significant challenges. A substantial proportion of respondents (36.1%) still view manual records as more reliable than digital records, indicating persistent trust issues with the digital system. Additionally, 36.1% of respondents disagreed that the system is user-friendly for staff, while 63.9% agreed that there are frequent delays in updating digital land records. Furthermore, only 41.7% of respondents agreed that the digital system integrates well with other government databases, highlighting limited interoperability. These challenges reflect gaps in achieving full transparency, accountability and timeliness in land administration.

5.1.3 Challenges Facing MLHHSD in Managing Digital Land Records

The research highlighted numerous challenges associated with the management of digital land records at MLHHSD. Some of these difficulties were directly observed by the researcher, while others were reported by participants. Key issues included inconsistent internet connectivity (97.2%), lack of technical skills among staff (77.8%), resistance to transitioning from paper to digital records (77.8%), budget constraints limiting system upgrades and maintenance (72.2%), and vulnerability to hacking or data manipulation (66.7%). These challenges reflect inadequate implementation of digital records management practices and limited institutional capacity.

Furthermore, the difficulties in managing digital land records adversely impact decision-making processes due to system downtime or unavailability of records, which

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subsequently hampers service delivery and infringes upon citizen rights. The existing challenges raise concerns about the quality of land administration services at MLHHSD and pose risks of inadequate future references if prompt action is not taken to address these issues.

5.2 Conclusion

The findings of this study highlight the critical role that digital records management systems play in the delivery of land administration services at MLHHSD. Respondents confirmed that operations at MLHHSD cannot proceed without the support of records, underscoring their essential contribution to the organization's sustainability and the reduction of land conflicts. Despite the pivotal function of digital records in facilitating MLHHSD's operations, this vital resource remains inadequately managed in several aspects. The research identified significant deficiencies in the management of digital land records at MLHHSD. Inconsistent internet connectivity (97.2%) emerged as the most significant infrastructure challenge, affecting system performance and causing delays in service delivery. Additionally, the lack of technical skills among staff (77.8%) hinders system operation, leading to inefficiencies and errors. Furthermore, resistance to transitioning from paper to digital records (77.8%) undermines full system adoption, while budget constraints (72.2%) limit system upgrades and maintenance. The digital system's vulnerability to hacking or data manipulation (66.7%) also raises concerns about data security and integrity. The study also revealed deficiencies in the adherence to legal and regulatory frameworks governing digital records management, such as the absence of standardized digital records management policies and inadequate enforcement of existing legal frameworks. Additionally, challenges such as limited public access to digital land records, poor system integration with other government databases, and the low priority assigned to records management personnel threaten MLHHSD's efforts to enhance land administration and reduce land conflicts. Therefore, it is imperative for MLHHSD management to take decisive action to address these challenges and safeguard their digital land records. The transition to comprehensive digital records management is crucial for

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the long-term preservation of land records at MLHHSD, as digital solutions are identified as effective measures to mitigate risks associated with disasters such as fires, floods, and unauthorized alterations.

5.3 Recommendations

The study draws its recommendations from its findings in order to improve the current state of digital land records management at MLHHSD and effectively reduce land conflicts.

5.3.1 Investment in ICT Infrastructure

The current lack of reliable internet connectivity (97.2%) necessitates that the management of MLHHSD invest in robust ICT infrastructure. It is recommended that MLHHSD consider upgrading internet connectivity, installing backup systems, and ensuring redundant internet connections to minimize system downtime. Additionally, the government should allocate adequate budget for the maintenance and upgrading of ICT infrastructure to ensure the sustainability of digital land records management.

5.3.2 Strengthening Staff Capacity and Technical Skills

The findings revealed that 77.8% of respondents agreed that lack of technical skills among staff hinders system operation. Consequently, it is recommended that MLHHSD implement comprehensive training and capacity building programs for staff on digital records management. This includes training on system operation, data entry, system maintenance, and troubleshooting. The training should be tailored to different skill levels, with basic training for staff with limited ICT skills and advanced training for staff who need to manage complex system functions. If executed properly, this approach will facilitate the effective management of digital land records and enhance service delivery.

5.3.3 Developing Change Management Strategies

The study revealed significant resistance to transitioning from paper to digital records (77.8%). Therefore, it is recommended that MLHHSD develop and implement

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comprehensive change management strategies to address resistance and facilitate a smoother transition to digital systems. This includes involving staff in the change process, communicating the benefits of digital systems, addressing concerns about job security, and providing incentives for staff to embrace digital systems. Strategies need to be developed to facilitate a smoother transition to digital systems and address the fears and concerns of staff.

5.3.4 Allocating Adequate Budget for System Upgrades and Maintenance

The findings revealed that 72.2% of respondents agreed that budget constraints limit system upgrades and maintenance. It is recommended that the government allocate adequate budget for the maintenance, upgrading, and expansion of digital land records management systems. This includes funding for hardware, software, training, and technical support. According to Mkude and Mrema (2019), inadequate funding is a significant barrier to effective digital records management, and without sufficient resources, systems cannot be sustained.

5.4 Areas for Further Studies

This research primarily aimed to assess the use of digital records management systems in reducing land conflicts at the Ministry of Lands, Housing and Human Settlements Development (MLHHSD). However, the scope of the study did not encompass all aspects related to digital records management at MLHHSD, thereby highlighting the need for further investigations into areas that were not addressed. Potential areas for future research may include, but are not limited to:

i. Evaluating the effectiveness of digital records management systems in the administration of land records at MLHHSD.

ii. Investigating the factors that hinder the effective utilization of electronic records management systems in the management of land records at MLHHSD.

iii. Assessing the implications of integrating multiple digital records management systems at MLHHSD.

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APPENDIX I: RESEARCH BUDGET:

	ACTIVITY	COST ANALYSIS	TOTAL COST
1	Transport	From home to Bagamoyo District Council	40,000/=
2	Stationary	Ruled paper 1 ream= Pen, Pencils, Ruler, Rubber, Stapler & Note book=	25,000/=
3	Secretarial service	Typing, photocopy and printing	90,000/=
4	Binding	Hard cover 2x2@ 2000 Soft caver 2x2@500 and CD	100,000/=
	TOTAL		**= 255,000/=**

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APPENDIX II

RESEARCH WORK PLAN SCHEDULE AND TIME FRAME:

ACTIVITIES PROGRAM	1ST MONTH	2ND MONTH	3RD MONTH	4TH MONTH	5TH MONTH	6TH MONTH
Reporting to the Centre and observing the situation						
Distribution of questionnaire, interview and observation						
Collecting questionnaire and data analysis						
Data interpretation and report writing						
Preparation of first draft report						
Final report writing and submission to SLADS						

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APPENDIX III: INTERVIEW GUIDE

TITLE OF THE STUDY: ASSESMENT ON THE USE OF DIGITAL RECORDS MANAGEMENT SYSTEMS IN REDUCING LAND CONFLICTS

Target Respondents: Land Officers, ICT Officers, Administrators

1.What is your position in this organization?

……
……

2.How long have you been working in land records management?

……
……

3.What type of digital records management system is used in your office?

……
……

4.How are land records created and stored using this system?

……
……

5. In your opinion, how does the digital system help reduce land conflicts?

……
……

6. Has the system improved accuracy of land records? Explain.

……
……

7. How does the system enhance accessibility of land information?

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……
……

8.What challenges do you face when using the digital system?

……
……

9. Do these challenges contribute to land disputes? How?

……
……

10.What improvements would you recommend to enhance the system in reducing land conflicts?

……
……

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APPENDIX IV: OBSERVATION CHECKLIST

OBSERVER INFORMATION

Observer name…….Date……

Location……Time……

Instructions

i. Tick YES if performed and NO if they do not

ii. Use the comments notes column to record observation

S/N	ITEM TO BE OBSERVED	YES	NO	COMMENTS/NOTES
1.	Use of computers/digital systems in record management			
2.	Proper data entry procedures followed			
3.	Ease of retrieving land records			
4.	Presence of data security measures (passwords, access control)			
5.	Accuracy and completeness of digital records			
6.	System speed and efficiency			
7.	Staff competence in using the system			
8.	Cases of missing or duplicated records			
9.	Use of system in resolving land disputes			
10.	.Any visible challenges in system usage			

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APPENDIX V: QUESTIONNAIRE FOR THE STUDY

Dear Respondent,

I am **IBRAHIM ISMAIL MGANA**, a student pursuing an Ordinary Diploma in Records and Archives Management at School of Library, Archives and Documentation Studies(SLADS). I am conducting research on:

"**ASSESMENT ON THE USE OF DIGITAL RECORDS MANAGEMENT SYSTEM IN REDUCING LAND CONFLICTS: A CASE STUDY AT THE MINISTRY OF LAND, HOUSING AND HUMAN SETTLEMENT (MLHHSD)."**

I kindly invite you to participate in this study by completing this questionnaire. Your responses will remain confidential and will be used solely for academic purposes.

OPEN ENDED:

1. What is your role in managing or using land records?
   …….
2. Ho long have you been working with land records systems?
   …….
3. In your experience, how do digital records management?
   …….
4. What challenges affect the accuracy of digital land records?
   …….
5. How does data entry or metadata influence the correctness of land information?
   …….
6. How has the introduction of digital systems changed access to land records?
   …….
7. What challenges do user face when trying to retrieve digital land records?
   ……
8. In what ways can accessibility to land records be improved?
   …….

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9. How do digital systems ensures the security of land records?

   …….

10. What risks or threats affects the security of digital land records?

    …….

Overall contribution:

11.How do digital systems helps in reducing land disputes or conflicts?

   …….

12.What challenges are associated with the use of digital land record systems?

…….

13.What improvements would you recommend to enhance digital land records management?

……
…….

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CLOSED ENDED:

SECTION A: Demographic profile of respondent

1.Gender

Male ( ) female ( )

2.Age

21-30 ( ) 31-40 ( ) 41-50 ( ) 51-60 ( )

3.Work experience:

0-5 years ( ) 6-10 years ( ) 11-20 years ( ) 21+ years ( )

4. Department…….
Section…….

SECTION B: Use of Digital Records Systems

Does your organization use digital records management systems?

( ) Yes ( )No

How often do you use the system?

( ) Daily ( ) Occasionally ( ) Rarely

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SECTION C: EFFECTIVENESS IN REDUCING LAND CONFLICT

S/N	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Effectiveness in reducing land conflict						
1	Digital land records provide clear and accessible ownership information					
2	The current digital system reduces disputes over land ownership					
3	Citizens can easily verify land ownership through digital platforms					
4	Digital records have minimized cases of fraudulent land claims					
5	The system provides real-time updates on land ownership status					

Challenges facing Digital Land Record Management systems						
	Lack of technical skills among staff hinders system operation					
	Inconsistent internet connectivity affects system performance					
	The digital system is vulnerable to hacking or data manipulation					

THANK YOU FOR YOUR COOPERATION

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APPENDIX VI

APPROVAL LETTER

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF LANDS, HOUSING AND HUMAN SETTLEMENTS DEVELOPMENT

Phone: +255 26 2963309/13/14
Fax +255 26 296 3316
Email address: ps@lands.go.tz
Website: www.ardhi.go.tz



1 ARDHI STREET,
P.O.BOX 9132,
11477 DAR ES SALAAM.

In reply please quote:
Ref.No. EA.176/546/02. A.

17.04.2026

Rector,
School of Library Archives and Documentation Studies,
P.O Box 227,
BAGAMOYO - PWANI.

RE: PERMISSION TO DATA COLLECTION

Please refer your letter with reference No. DA.201/457/VOL/1/20 dated on 17 April 2026 in respect of the above subject.

I would like to inform you that, your students below were permitted to collect data at Ministry of Lands, Housing and human settlements development on her research for academic pursuit on Diploma in Records and Archives Management.

1. Muhamad Rashid Mwamzia
2. Ibrahim Ismail Ngana
3. Ibrahim Mdachi Jaribu

Thank you for your cooperation.

Rebeca B. Kamihanda
For: Permanent Secretary

For: Permanent Secretary
Ministry of Land, Housing and Human
Settlements Developments
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