

CHALLENGES TO ELECTRONIC CONVEYANCING IN KENYA

CASE STUDY MINISTRY OF LANDS

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**A THESIS SUBMITTED IN FULFILLMENT FOR THE AWARD OF A
DOCTOR OF PHILOSOPHY IN LAW OF THE OPEN UNIVERSITY OF
TANZANIA**

2017

CERTIFICATION

The undersigned certifies that, they have read and hereby recommends for acceptance thesis entitled “*Challenges to e-conveyancing in Kenya: Case Study of the Ministry of Lands*” in fulfillment of the requirements for the award of the degree of Doctor of Philosophy (Law) of the Open University of Tanzania.

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DEDICATION

I dedicate this work to my late father Alhaj Yusuf Musa Mucheke, who instilled in me the discipline to pursue my dreams and a desire to serve humanity.

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ABSTRACT

This is a Research on the Challenges to Electronic Conveyancing in Kenya with a case study of the Ministry of Lands in Kenya. The objective of the study was to find out why despite several attempts e-conveyancing has not been successfully implemented in Kenya, and whether the prevailing Legal Framework enables e-conveyancing in Kenya. The study adopted case study and descriptive methods, employing qualitative data collection from library and field research. Data was collected from employees of the Ministry of Lands and Physical Planning in Kenya and the National Land Commission through self-administered questionnaires developed for different typology of respondents who also included customers and members of the public. In the Literature review various theories of adoption of ICT and e-government were investigated, such as the Unified Theory of Acceptance and Use of Technology, to investigate factors that promote the use and acceptance of new technology. The main results from the research are that there was lack of stakeholder involvement, lack of training for users, insufficient legal provisions for adoption of electronic conveyancing, conflict of interest and poor security for the systems. Accordingly the study concludes that the main challenges of e-conveyancing are inadequate legal framework and conflict of interest leading to poor project management as well as user resistance. I recommend that The Law Reform Commission and the Legislature undertake to amend Land Laws and the Law of Contract in Kenya to enable digital signatures and electronic contracts on immovable property.

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Distress for Rent Act, Cap 293

Environmental Management and Coordination Act (EMCA) of 1991

Equitable Mortgages Act, Cap 291

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Government Land Act, Cap 280

Group Representatives Act, Cap 287

Indian Transfer of Property Act 1882

Kenya Communication (Electronic Transactions) Regulations passed in 2010

Kenya Information and Communication Act, Chapter 411A passed in 2009.

Land Acquisition Act, Cap 295

Land Act No. 6 of 2012

Land Adjudication Act, Cap 284

Land and Environment Court Act No. 11 of 201

Land Consolidation Act, Cap 283,

Land Control Act, Cap 302

Land Planning Act, Cap 303 (repealed)

Land Registration Act No. 3 of 2012

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Landlord and Tenant (Hotels, Shops and Catering Establishments) Act, Cap 301,

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LIST OF INTERNATIONAL INSTRUMENTS

Data Protection Act 200/58 EC

Discrimination Act 1992 (Commonwealth Australia)

Electronic Communications Act 2000 (U.K)

Electronic Communications and Transactions Act (ECT Act)

Electronic Conveyancing National Law (New South Wales)

Electronic Signature in Global and National Commerce (E-SIGN) Act 2000

Electronic Transaction Act (ETA)

EU Convention on Cybercrime

EU Data Protection Directive (1995) European Union

Financial Intelligence Centre Act (FICA) South Africa.

Land Titled Act 1994 (Queensland)

Land Transfer (Computer Registers and Electronic Lodgement) Amendment Act
2002. (New Zealand)

Land Transfer Act 1952 (New Zealand amended in 2002)

Promotion of Access to Information Act (PAIA)

SADC Model Law on Electronic Transactions and Data Protection

The Regulation of Investigatory Powers Act 2000 (RIPA 2000)

Uniform Electronic Transaction Act (UETA) 1999

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LIST OF ABBREVIATIONS AND ACRONYMS

AAESign	Accredited Advanced Electronic Signatures
AinA	Appropriation in Aid
AKR	Automated Cadastral Registers
A-LADM	Africanized Land Administration Domain Model
ARNECC	Australian Registrars Electronic Conveyancing Council
ATS	Automated Titles System
BRCWG	Business Regulation and Competition Working Group
CAK	Communications Authority of Kenya
COAG	Council of Australian Governments
COMESA	Common Market for Eastern and Southern Africa
CRM	Citizen Relationship Management
CSD	Central Securities Depository
DBMS	Database Management System
DOI	Diffusion of Innovation
DPA	Data Protection Act
DPGL	Development Partners Group on Land
EAC	East African Community
ECNL	Electronic Conveyancing National Law
ECV	Electronic Conveyancing Victoria
eDMS	Electronic Document Management Systems
EFT	Electronic Funds Transfer
ELN	Electronic Lodgment Networks
ELNO	Electronic Lodgment Networks Officer

EMIS	Education Management Information System
ERP	Enterprise Resource Planning
ERSWEC	Economic Recovery Strategy for Wealth and Employment Creation
E-SIGN	Electronic Signature in Global and National Commerce
ETA	Electronic Transactions Act
EU	European Union
FICA	Financial Intelligence Centre Act
FRDs	Functional Requirement Documents
GHRIS	Government Human Resource Information System
GIS	Geographical Information System
GLA	Government Land Act
GPS	Global Positioning Systems
I.S.K	Institution of Surveyors of Kenya
ICT	Information Communication Technology
IFMIS	Integrated Financial Management Information System
IGA	Intergovernmental Agreement
IGGReS	Institute of Geomatics, GIS and Remote Sensing
IMF	International Monetary Fund
IP	Intellectual Property
IPPD	Integrated Personnel and Pensions Database
IPRS	Intellectual Property Rights
IS	Information Systems
ISP	Internet Service Provider
IT	Information Technology
ITMS	Integrated Taxation Management Systems

ITPA	Indian Transfer of Property Act of 1882
JICA	Japan International Cooperation Agency
KENSUP	Kenya Slum Upgrading Programme
KICA	Kenya Information and Communication Act
KISM	Kenya Institute of Surveying and Mapping
KNSDI	Kenya National Spatial Data Infrastructure
KSHS	Kenya Shillings
LADM	Land Administration Domain Model
LAIFOMS	Local Authorities Integrated Financial Operations Management Systems
LAPCAS	Land Administration Processes and Capacity
LIIS	Land Information for informal Settlement
LIMS	Land Information Management System
LIMS-TWG	Land Information Management Technical Working Group
LRTU	Land Reform Transformation Unit
LTAF	Land Titles Assurance Fund
LV	Land Victoria
MDGs	Millennium Development Goals
NECDL	National E-Conveyancing Development Limited
NLC	National Land Commission
NLIMS	National Land Information Management System
NLIS	National Land Information System
OCR	Optical Character Recognition
OECD	Organization for Economic Cooperation and Development
PBC	Perceived Behavioral Control
PEOU	Perceived Ease of Use

PEXA	Property Exchange in Australia
PKI	Public Key Infrastructure
PSR & DS	Public Service Reform and Development Secretariat
PU	Perceived Usefulness
R&D	Research and Development
RBM	Result Based Management
RDA	Registration of Documents Act
RDBMS	Relational Database Management System
RIPA	Regulation of Investigatory Powers Act
RLA	Registered Land Act
RRI	Rapid Result Initiative
RTA	Registration of Titles Act
SAP	Structural Adjustment Programmes
STDM	Social Tenure Domain Model
TAM	Technology Acceptance Model
TOE	Technology Organization and Environment
TOLD	Tasmanian Online Land Dealings
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
TWG	Technical Working Group
UETA	Uniform Electronic Transaction Act
UNECA	United Nations Economic Commission for Africa
UNICTRAL	United Nations Centre for International Trade Law

URPERA	Uniform Real Property Electronic Recording Act
UTAUT	Unified Theory of Acceptance and Use of Technology
UTM	Universal Transverse Mercator
WBS	Work Breakdown Structure
WTO	World Trade Organization
WWW	World Wide Web
XML	Extensible Markup Language

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Introduction

The overarching argument is that the Ministry of Lands in Kenya has made several attempts to computerize the operations of issuance of title deeds and other conveyancing services. Despite the government and Donors' financial and technical support, the projects have not been fully implemented. Currently services at the Ministry continue to be rendered manually.

Conveyancing is generally understood as the transfer of estates and interests in land by legal process. Abbey Robert and Richards Mark rightly consider conveyancing as “the process by which legal title to property is transferred.”¹ According to the Black's Law Dictionary conveyancing is the act of or business of drafting and preparing legal instruments, especially those that transfer an interest in real property such as deeds or lease.²

Since the 1980's the passing of title to land by way of sale and purchase or gift, commonly known as conveyancing, has been undergoing transformation on an international and unprecedented scale. This transformation is due to the application of technological advances to what was previously a paper based process.

¹Clarke, A., and Kohler, P., *Property law: commentary and materials*. Cambridge University Press, 2005.

²Black's Law Dictionary, 9th Edition. Westlaw, Eagen, MN, 2009.

The application of technology to this process, known as electronic conveyancing, e-conveyancing or herein referred to as e-Conveyancing, has thrown up many important issues for land owners and others who have an interest in the conveyancing process such as consumers, professionals, academics and policy makers.³

Over the years, the Ministry of Lands has relied on paper-based system to discharge its mandate to citizens. A scenario that has generated millions of paper records both at the headquarters and the field offices distributed country-wide. In the midst of ever increasing population, economic development, sky-rocketing needs; has had direct impact on land use. Consequently, service delivery to citizens has gradually deteriorated, accumulating large volumes of paper records to unmanageable levels. A situation that is not tenable in this era of reforms and constant demands for efficiency in service delivery to citizens.

E-conveyancing moves the conveyancing process from being a paper based system of effecting and recording transactions to a modern electronic system via the creation and empowerment of electronic communication networks. The government has reiterated its intention to overhaul these manual and disparate sources of information on real estate and land in Kenya. This intent has been stated in at least two of the past National Development Plans and the current National Land Policy document of 2007.⁴

³Brenan, G., An exploration of the impact of electronic conveyancing (econveyancing) upon management of risk in conveyancing transactions, PhD Thesis, Nottingham Trent University, 2012; pp.1.

⁴Government of Kenya, Sessional Paper No. 3 of 2009 on National Land Policy, August 2009.. Government Printer, Nairobi.

The manual system that is in current use faces a number of problems thus undermining efficiency and effectiveness in service delivery; data in manual form is kept in many different offices in different institutions and at different locations in the country. Access to that data takes a long time and data is not often available in a timely fashion, it is difficult to manipulate data from various sources to facilitate analysis and deriving of new relationships between data sets.

Whereas the legal framework is in place for provision of e-government services and admissibility of electronic evidence, e-conveyancing has not been undertaken successfully. Therefore, there is need to find out why this is the case. This research intends to analyze the challenges facing the implementation of electronic conveyancing (e-conveyancing) in Kenya. The case study of Ministry of Lands specifically, the National Land Information Management System (NLIMS) project. The review of legal aspects and implications of electronic conveyancing in Kenya and enabling statutes will also be undertaken with a view to recommend reforms in the Sector.

1.2 Background to the Problem

Land forms a major factor of production in the economic development of the country.⁵ As such ease of transactions in land that is conveyancing, would drive the economic growth of the country, because investors are able to acquire land and lease property in which to establish their industries, farms and other forms of trade resulting in greater per capita income. These would be enhanced by the envisaged

⁵ Mason, G., "Land as a distinctive factor of production." *Land and taxation*, 1994: pp. 39-102.

NLIMS project of electronic conveyancing. Thus the lack of NLIMS negates these economic stimuli.

In Kenya conveyancing and property registration is undertaken by use of manual systems to date. This existing system of manual conveyancing causes anxiety and tension to all the users who are involved because of its inherent shortcomings.⁶ Conveyancing is defined as the legal process of creating, transferring and dealing with an interest in land.⁷ That is a right of ownership in or over land, such as a freehold or leasehold. On the other hand, electronic Conveyancing (e-conveyancing), can be described as a secure, paperless, electronic, end to end, pre-sale to post completion, conveyancing process.⁸ A view is taken that the introduction of e-Conveyancing provides an ideal opportunity for a root and branch review of the entire conveyancing process.⁹

The Ministry of Lands is mandated to manage land on behalf of the government and the public in Kenya.¹⁰ The Government Strategic plan and Vision 2030¹¹ identified the need for electronic conveyancing to avail data in electronic registers as well as provide efficient services to the public through e-government. The Ministry of Lands

⁶Agutu, O.J., "Linking Title Registration in Kenya to Vision 2030: The Need for Review of Land Law." Available at SSRN 1627291, 2009.

⁷Tiffany, H.T., *The Law of real property and other interests in land* (Vol. 3). Callaghan. 1920.

⁸Doversberger, M. E., "Conveyancing at a Crossroads: The Transition to e-Conveyancing Applications in the US and Abroad." *Ind. Int'l & Comp. L. Rev.* 20, 2010:p. 281.

⁹*Ibid.*

¹⁰Kramon, E, and Posner. D.N., "Kenya's new constitution." *Journal of Democracy* 22.2, 2011:pp. 89-103.

¹¹See generally Government of the Republic of Kenya *et.al*, *Kenya Vision 2030*, 2007. This is a comprehensive action plan to steer multi-sectoral development in Kenya. It is the product of extensive research by the National Economic and Social Council adopted as a long term vision to guide development in Kenya up to the year 2030 and is to be implemented on a five year term basis beginning in 2008.

developed and adopted the National Land Information Management System (NLIMS) implementation framework for the period 2009/2012. This was in line with the mandate of the Land Reform Transformation Unit (LRTU) in the Ministry.¹²

The Framework outlined critical milestones that ought to have been delivered within this time frame. The first activity involved digitization of paper records in the four technical departments.¹³ The sub activities entailed, appraisal of paper records, conservation and restoration of deteriorated paper, putting documents in new boxes and indexing them for ease of retrieval and capturing data into an electronic storage system.¹⁴

Whereas there are Forty Seven Land Registries in Kenya, the Central and Nairobi Registry at the headquarters¹⁵ have been scanned and archived, while Mombasa, Nakuru and Thika District Registries have made progress in initiating the digitization process. It was important for the processes to be reviewed with the aim of incorporating Business Process Reengineering in order for automation of land records to be achieved.¹⁶

Thus it was imperative to find out the major causes of failure in the roll-out of NLIMS in the Ministry of Lands in Kenya that would enable e-conveyancing. This Thesis analyzed the challenges to Electronic Conveyancing and the NLIMS implementation in the Ministry of Lands in Kenya. As well as the legal aspects of e-

¹² Nyongesa, L. N., GIS-based National Land Information Management System (NLIMS), Kenya. FIG Working Week, Rome, 2012.

¹³ See chapter 4 on the organization of Ministry of Lands Technical Departments.

¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ Nyongesa, *ibid.*

conveyancing and possible legal reforms required for the success of the project in Kenya.

Land registration in Kenya has been slow occasioned by manual registration and record keeping systems of land administration across the country.¹⁷ This has been the situation despite the heavy investment in projects for Automation of Land Records at the Ministry's headquarters in Nairobi and other Registries in the pilot project for NLIMS. Like in most developing countries, especially in Africa, land registration systems are based on "paper and pencil" and are yet to be computerized,¹⁸ and may not guarantee land tenure security for all as was envisioned in "Cadastre 2014."¹⁹ The essence of this study was to address the challenges to e-conveyancing in Kenya.

The Constitution of Kenya being the supreme law and other statutes that guide the implementation of Electronic Commerce and e-Government including Land Laws were discussed in detail. For instance the Land Act²⁰ Section 8 on Management of Public Land provides that:

"the Commission on behalf of National and County Governments shall identify public land, prepare and keep a Data Base, geo-referenced and authenticated by Survey Department, share data with the public and relevant institutions."

¹⁷Mulaku G.C. and Galcano C., "Land Information Management in Kenya an Integrated Approach," *ITC Journal* 1997-3/4, CD, annexe (ISSN0303/2434) Vol.1 Number 1pp7588 Survey review. 1997.

¹⁸Makanga. P. and Julian S., "A review of the status of Spatial Data Infrastructure Implementation in Africa." *South African Computer Journal* 45, 2010.

¹⁹Draft NLIMS version 1.0 August 2008.

²⁰Land Act No. 6 of 2012, Laws of Kenya. Section 6.

Section 6 of the Land Act deals with management and administration institutions wherein it provides that;

“The Cabinet Secretary shall develop policies on land upon recommendations by the Commission, facilitate the implementation of land policy and reforms and coordinate the management of National Spatial Data Infrastructure, coordinate the formulation of standards of service in the land sector, regulate service providers and professionals to ensure quality control.”²¹

The Constitution of Kenya²² promulgated in August 2010 resulted in the subsequent overhaul of Land Law statutes to conform to the provisions of the Constitution. These included the repeal of The Government Land Act,²³ The Registration of Titles Act,²⁴ The Registered Lands Act²⁵ and the Land Titles Act²⁶ among others.

The Land Registration Act²⁷ stipulates in Section 9(1):

“the Registrar shall maintain the register and any document required to be kept under the Act in a secure, accessible and reliable format including (a) publications, or any matter written, expressed, or inscribed on any substance by means of letters, figures or marks, or by more than one of those means, that may be used for the purpose of recording that matter, (b) electronic files, and (c) an integrated land resource register.”

The Chief Land Registrar has not yet made available data in electronic format as envisaged by the statute, although the NLIMS projects of scanning and data capture of most Titles at the Central Registry based at the Headquarters in Nairobi and the Nairobi District Registry were piloted.

²¹Land Act No. 6 of 2012, Laws of Kenya.

²²Constitution of Kenya, August 2010.

²³Cap 280 of the Laws of Kenya.(repealed and replaced by Land Registration Act No. 3 of 2012).

²⁴Cap 281 of the Laws of Kenya. (repealed and replaced by Land Registration Act No. 3 of 2012).

²⁵Cap 300 of the Laws of Kenya.(repealed and replaced by Land Registration Act No. 3 of 2012).

²⁶Cap 282 of the Laws of Kenya. (repealed and replaced by Land Registration Act No. 3 of 2012).

²⁷Land Registration Act No. 3 of 2012, Laws of Kenya.

The Database Management System (DBMS) at the Central Registry has not been updated in the sense that land records and information generated after the pilot project ended in 2009 have not been captured into the system and the Registry business continue to operate on a manual paper based system.

The LRA²⁸ further provides that:

“subject to the Constitution and any other law regarding freedom of and access to information, The Registrar shall make information in the register accessible to the public by electronic means or any other means as the Chief Land Registrar may reasonably prescribe.”²⁹

The statute, mandates the Cabinet Secretary, to make regulations as to particulars and format to be contained in a register or other documents to be kept under the Act to operationalize the provisions of this Act.³⁰ The Cabinet Secretary appointed a Taskforce on Regularization of Land Laws to conform with the decision of the court and statutory provision.³¹ The Taskforce embarked on Stakeholder consultations and intend to gazette their findings upon Parliamentary approval.³²

While the Land Act³³ is the substantive Land Law guiding the Administration and Management of Land in Kenya. The Act came into effect in May 2012 in response to demands for the repeal and review of the Government Land Act³⁴ to mitigate the

²⁸Land Registration Act, *Ibid*.

²⁹The Land Registration Act No.3 of 2012, Laws of Kenya, Section10.

³⁰*Ibid*.

³¹In a decision of the High Court Petition No. 54 of 2015 Anthony Otiende – vs – Sarah Njuhi Mwenda, Ministry of Lands.

³²Stakeholder consultations are underway resting with NHIF meeting of 20.4.2017.

³³Land Act No. 6 of 2012. Laws of Kenya.

³⁴Government Land Act Cap 280(now repealed and replaced with Land Act No.6 of 2012).

challenges experienced during the period preceding the Constitutional Review, as well as to adapt to the developments of the Twenty first century.

Further to these legal developments and in view of the enabling provisions for electronic conveyancing it was necessary to study the Legal Framework in Kenya and in relation to whether it has been a hindrance to implementation of e-conveyancing in Kenya. A comprehensive e-conveyancing system capable of facilitating electronic conveyancing of documents, online investigation of title, networked communication between the parties to a transaction on land, simultaneous completion and registration, etc.,³⁵ would address these limitations by reducing delays, saving time and money and bringing greater transparency.³⁶

The implementation of e-conveyancing in Kenya has not been realized and it was anticipated that National Land Information Management System (NLIMS) would incorporate the data on title that is land ownership with geo-referenced plans to show the exact location of the property.³⁷ The proposed system was also provide conveyancers with online services to check the Register and monitor or track a process of documents lodged for registration thus making visits to the Lands Offices unnecessary.

³⁵Doversberger, M. E., "Conveyancing at a Crossroads: The Transition to e-Conveyancing Applications in the US and Abroad." *Ind. Int'l & Comp. L. Rev.* 20 2010: p. 281.

³⁶Brennan, G., *The Impact of e-Conveyancing on Title Registration*. Springer International Publishing, 2015.

³⁷Agutu, O. J., "Linking Title Registration in Kenya to Vision 2030: The Need for Review of Land Law." *Available at SSRN 1627291*, 2009.

The Conveyancers in Kenya include Lawyers acting on instructions from the Purchasers or Vendors of property. The stakeholder consultation with the Lawyers on user needs assessment, design and implementation of NLIMS had not been undertaken.³⁸ Neither had the Law Society of Kenya (LSK) Committee on Conveyancing given its proposals to the NLIMS Project Team Managers for e-conveyancing legal framework and user needs.³⁹ In view of the fact that the LSK is the greatest customer facing amongst all the other stakeholders in the Conveyancing field in Kenya, the failure to seek their views poses a challenge to user requirements.

The study interrogated the NLIMS implementation strategy to find out what led to its failure and what remedies could be proposed to enable its future success. The enabling statutory provisions and regulations together with a review of the policy on information communication technology in the Kenya has been studied and recommendations made.

1.3 Statement of the Problem

In Kenya digitization and automation of land records and processes which were to culminate in electronic conveyancing has not been realized although several projects have been undertaken at the Ministry of Lands. The use of existing manual processes has resulted in delay and inefficient service delivery.

The main weaknesses in the existing manual land conveyancing system are the long timescale between the agreement for sale by the parties and completion of the transfer and possession of property, lack of transparency resulting in rampant corruption,

³⁸Ojienda, Tom O., *Conveyancing: principles & practice*. 2013.

³⁹*Ibid.*

double allocations, fraud, increase in Court Cases on land matters, inefficient service delivery and poor image of the Ministry of Lands in Kenya, decreasing employees morale due to manual tedious paper based systems and cumbersome repetitive tasks as a result of large numbers of applications lodged with Land Registry.⁴⁰ The existing system of manual conveyancing has caused a lot of anxiety and tension to all those who are involved in conveyancing, due to the involvement of and interdependence between the large numbers of players such as home owners, financial institutions such as banks and building societies and conveyancers. Conveyancers include estate agents, surveyors, suppliers to the conveyancing industry, government departments and agencies, Land Registry and county governments in the whole process of conveyancing.⁴¹

The Ministry of Lands in line with the strategic plan 2010-2012 was able to put in place a Framework for National Land Information Management System (NLIMS) with a budget sponsored by the Government and supported by donor agencies.⁴² Despite the efforts made in the capture and organization of the land records, design of Databases, scanning of records, file tracking systems and other sub-systems comprising NLIMS, the customers and the general public have not been able to obtain services faster and in real time as was envisaged. This was due to the fact that the NLIMS project had not been fully achieved and rolled over to other District land offices across the country. There has been a failure at the implementation stage of the

⁴⁰*Ibid.*

⁴¹Meadows, J., and J. Formby. "The Experience for HM Land Registry England and Wales—IT Renewal during a period of unprecedented change." *IT Renewal Strategy for Land Registry and Cadastre* (2003).

⁴²Development Partners Group on Land (DPGL) members included the SIDA, JICA, USAID, UNHABITAT and the WorldBank.

NLIMS project and therefore need arose to investigate and analyze the challenges and constraints faced.

The failure to implement National Land Information Management System (NLIMS) in Kenya was compounded by the continued legal battles between the National Land Commission and the Ministry of Lands in regard to interpretation of the mandates on land administration and management.⁴³ The Supreme Court Opinion No. 2 of 2014 sought to define the mandates of the two institutions, however during the period the matter was pending in court, service delivery was put in abeyance which greatly affected the progress of activities at the Ministry and thus development of the NLIMS.⁴⁴

These projects of computerization have not succeeded in eventual migration to digital platforms and work at the Ministry of Lands, which include the processing of Leases, land titles and certificates, valuation, land adjudication and surveys are undertaken using manual paper based systems. This Thesis enumerated each and every project undertaken and reasons that hampered its Roll-out while interrogating the legal framework in Kenya on e-conveyancing with other computer systems linked to the processes of title production.

The Land Laws in Kenya as amended provide for the provisions of digital records of land by the Chief Land Registrar however the law of contract and other land statutes do not support electronic contracts on land that is e-conveyancing in Kenya. The spread of ICT into homes and offices affect the way all stakeholders in the business process communicate with each other and the ways in which they process and store

⁴³The Supreme Court Decision in Advisory Opinion No. 2 of 2014, In the matter of National Land Commission, E.K.L.R. 2015.

⁴⁴ *Ibid.*

data.⁴⁵ Internet is now commonplace and often the norm for business to business and customer to business.⁴⁶ As the Law Commission and Land Registry of England put it in their joint report on Land Registration⁴⁷

“Dealings with land cannot remain unaffected by the general development of electronic commerce... The public rightly seeks a more expeditious and much less stressful system of dealing with land.”

The challenges facing implementation of the NLIMS in the Ministry of Lands in Kenya have not been identified, documented nor communicated to the users or the general public. As such there arose the need to study what hampered the anticipated e-conveyancing with a view to recommend solutions.

1.4 Objectives of the Study

The objectives of the study were divided into two groups, i.e. general objectives and specific objectives as seen below:-

1.4.1 General Objective of the study

The overall objective of the study was to analyze the challenges to electronic conveyancing in Kenya.

1.4.2 Specific Objectives

The study was guided by the following three specific objectives

- (i) To review the legal aspects and implications of electronic conveyancing in Kenya and enabling statutes for its implementation.

⁴⁵Ojienda, T. O., and A. D. O. Rachier., "Conveyancing Theory and Practice." *Faculty of Law, Moi University, Eldoret, Kenya*, 2001.

⁴⁶Nyongesa, *ibid.*

⁴⁷HM Land Registry and Law Commission 1998.

- (ii) To examine the National Land Information Management Systems implementation strategy and highlight factors affecting its success.
- (iii) To critically analyze project management and organization structure of NLIMS capacity to implement a complex project of electronic conveyancing in Kenya.

1.5 Research Questions on Challenges to Electronic Conveyancing in Kenya

This research was guided by the following three questions;

- (i) Whether there are any legal aspects and safeguards necessary to facilitate implementation of electronic conveyancing in Kenya?
- (ii) What are the major challenges facing implementation of electronic conveyancing in Kenya?
- (iii) Does the project management and organization structure of NLIMS have the requisite skills and capacity to implement electronic conveyancing in Kenya?

1.6 Research Methodology

The research mainly involved case study methodology with library and field research. The data collected from interviews and questionnaires administered in the field research have been used as a guide to critically analyze the major impediments of e-conveyancing project implementation in Kenya.

1.6.1 Research Design

This study adopted a Case study, exploratory, analytical and descriptive approach.⁴⁸ According to William,⁴⁹ descriptive studies are more formalized and typically structured with clearly stated investigative questions. Descriptive research determines and reports the way things are.

1.6.2 Target Population

The target population of the study was the Ministry of Lands in Kenya where consideration was on the staff directly charged with the management of title deeds and those in line of managing (NLIMS) project development. The study also sought information from relevant Departmental heads and project managers within the ICT Department in the Ministry of Lands in Kenya. The population in figures according to the Director of Human Resource, Ministry of Lands stood at 2000 staff however about 300 staff are in line to management of title deeds and other related departments.⁵⁰

1.6.3 Sample and Sampling Procedure

According to Mugenda and Mugenda on Research Methods, sampling is the process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group.⁵¹

⁴⁸Gimbi A., *Research Methodology, Research Design*, Open University of Tanzania, 2012: p. 73.

⁴⁹Creswell, J. W., et al. "Qualitative research designs selection and implementation." *The counseling psychologist* 35.2 (2007): pp. 236-264.

⁵⁰Draft NLIMS version 1.0 August 2008.

⁵¹Mugenda, O. M. & Mugenda, A. G., *Research methods: Quantitative and qualitative Approaches*. Nairobi: African Centre for Technology Studies 2003.

Purposive sampling was used to capture only respondents who are most knowledgeable in the area of study. A sample of the population was selected from administrators and officers in the Ministry of Lands and Commissioners of the National Land Commission. Deliberate sampling was used for selecting Heads of Departments and other management staff for follow up interviews to clarify emerging issues that were not captured in the questionnaire. End users such as customers at the Banking Hall and Conveyancing Lawyers and clerks were randomly picked to fill in the questionnaires and collect data primarily from them.

Stratified sampling technique was used to select the sample. Kothari states that the method allows the researcher to divide the sample into appropriate strata that is mutually exclusive.⁵² The study strata was on the staff directly charged with the management of title deeds and those in line of managing the implementation of National Land Information Management System (NLIMS), the departmental heads and project manager within the ICT Department.

Stratified sampling helps in giving statistical efficiency increase on a sample, provides adequate data for analyzing the various sub-populations and enables different research methods and procedures to be used in different strata. A representative sample of at least 10% of the target population was considered for the

⁵² Kothari, C. R., *Research Methodology, Methods and Techniques* (2nd ed.,). New Delhi: New Age International (P) Limited, 2008. pp. 109 – 110.

study. Sekaran contend that a sample size should be at least 10% of the target population.⁵³

1.6.4 Instrumentation

The questionnaire was the key research instrument for the study. Primary data was obtained by use of questionnaire.⁵⁴ Structured questionnaires were developed focusing on the variables. The questionnaire had both open ended questions and closed questions. Open ended questions were used to seek in-depth information while closed questions could be easily analyzed and understood.

A questionnaire was generally preferred for the study because they ensure that a wider range of respondents' perception is captured.⁵⁵ The questionnaire adopted structured format for the different typologies of respondents to provide the diverse opinions. Some questions were also in a likert scale form. Likert scales are preferred because they minimize subjectivity and make it possible to carry out quantitative analysis.⁵⁶ Secondary data was based on variety of information drawn from published materials, Government reports, office registers and journal reports.

1.6.5 Data Collection

The administration of the questionnaires was done by email and paper based questionnaires depending on the location of the respondent as this allowed

⁵³Sekaran, U, and Roger B., *Research methodology for business: A skill building approach*. 7th ed. ISBN: 978-1-119-16555-2. 2016.

⁵⁴Blumberg, B. F., et al., *Business research methods*. McGraw-hill education, 2014.

⁵⁵Trochim, W. M., *The Research Methods Knowledge Base*, 2nd Edition. Internet WWW page, at URL: <<http://www.socialresearchmethods.net/kb/>> (version current as of October 20, 2006).

⁵⁶Oppenheim, A.N., *Questionnaire design, interviewing and attitude measurement*. Bloomsbury Publishing, 2000.

respondents ample time to complete the questionnaires.⁵⁷ Observation of staff on the job was used as a means of collecting status report and data. The study involved visiting different land offices and observing the processes of preparation of titles and transactions at the land registry. An Interview guide was developed focused on the issues to get oral responses from various respondents.

The respondent's approval to participate in the case study was sought before administering the questionnaires. A letter of identification introducing the researcher was obtained from the institution of learning and the Principal Secretary in the Ministry of Lands.

1.6.6 Data Analysis Technique

The data collected from questionnaires was carefully organized according to the research questions.⁵⁸ For the closed ended questions, a code was assigned to each category whereas for the open ended, the responses were listed and tally marks used to note the identical ones. A qualitative data analysis was undertaken using carefully constructed data categories. Data collected through library research was used in the Literature Review to amplify on concepts and legal theories.

1.7 Significance of the Study

The research provides an insight on the challenges of implementation of complex electronic Government projects and recommends solutions to mitigate the challenges.

⁵⁷Marshall, G., "The purpose, design and administration of a questionnaire for data collection." *Radiography* 11.2 2005: pp. 131-136.

⁵⁸ See Chapter Five on responses reported.

The results will be of use to the policy makers in the Government of Kenya, and add to the body of knowledge on electronic conveyancing, as well as to future researchers in the field of information communication and technology law and conveyancing, and also system developers and designers.

1.8 Scope of the Study

The focus of this study was on the Ministry of Lands and Physical Planning in Kenya. Whereby, consideration was based on staff directly charged with the management of title deeds, and those in line of managing the implementation of NLIMS which is the foundation for electronic conveyancing in Kenya. As well as the end users, the external customers who included proprietors of land, conveyancers, bankers, valuers, estate agents, other stakeholders and members of the public.

The study also sought information from relevant departmental heads and project managers within the ICT department and the e-Government Secretariat of Kenya. The ICT Board in regard to ICT policy and regulations and the Ministry in charge of Information Communication and Telecommunication in Kenya to shed light on the infrastructure set in place and the challenges they face in enabling electronic government in Kenya.

Countries such as Australia, New Zealand, United Kingdom, United States of America, South Africa, Botswana and Canada that have attempted to implement electronic conveyancing were examined to give an insight on the possibility, challenges and legal considerations taken into account to enable electronic conveyancing. This was with the view of benchmarking with these jurisdictions that have initiated projects of e-conveyancing to learn from their experiences.

1.9 Literature Review

Land is an asset and still remains a valuable factor of economic, social and political environment spheres and production even in the modern era of knowledge economy.⁵⁹ In many parts of the world, land is a limited resource, hence, in most countries, custodianship and ownership of land and landed properties tend to be generally guarded through meticulous capturing, recording and storage of appropriate data and information.⁶⁰

A legislative provision for the transfer of custodianship and/or ownership requires the involvement of different role players in the conveyancing processes that culminate in the registration of land and associated immovable property. In Kenya, the conveyancing processes tend to be complex and cumbersome due to the existence of different regimes of registration and bureaucratic processes of land administration, surveying and registration.

Eugene discussed electronic conveyancing in Australia and the legal implications as well as challenges faced in the implementation which included the withdrawal of support from the financial institutions as well as the success attained with the National Electronic Conveyancing System (NECS).⁶¹ He stated that documentation,⁶² development of the legal infrastructure, operating rules, management of legal and operational risks, regular consultation with key stakeholders are essential to the

⁵⁹Amadi-Echendu, et al., "A conceptual framework for conveyancing processes." *Southern African Institute of Industrial Engineering* 2013.

⁶⁰ *Ibid.*

⁶¹Clark, E., "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.* 21 2011:p. 62.

⁶²The Sneddon/Clayton Utz NECS Report and related NECS documentation go a long way to advancing the development of a national electronic conveyancing system. Eugene *ibid.*

success of (NECS). The challenges of final sign-off from all the stakeholders involved, budget estimates of the actual cost of implementation, IT and other infrastructure resourcing according to Eugene, hinder implementation of projects.⁶³

While piloting the system, consumer confidence building in the new system in relation to fraud and privacy laws,⁶⁴ Debugging out the bugs that are always part of a new system though are among the complexities of developing e-government system.⁶⁵ This research takes a comparative approach in relating the Case of Ministry of Lands in Kenya, challenges of implementing NLIMS with those of the NECS to see whether there is a similarity and learn from the Australian NECS system.

Sneddon states that, the legal framework supporting the NECS provides an example of the creative and practical role of law in providing the infrastructure upon which the promise of a more efficient, transparent and effective system of electronic conveyancing becomes a reality.⁶⁶ This requires a convergence of legal, political, economic, strategy and information needs. Sneddon also states that designing and implementing such a system requires input and buy-in from many stakeholders, in every jurisdiction, across different registry systems and across many subsystems of law, risk management, project management, politics, technology, and involving partnerships among diverse groups including private and public sectors.⁶⁷

⁶³Clark, *ibid.*

⁶⁴*Ibid.*

⁶⁵*Ibid.*

⁶⁶Sneddon. M, '*NECS Legal Framework Development*' Final Report: Vols 1 and 2, [Part IV](#), Clayton Utz Lawyers, National Electronic Conveyancing Office, amended 15 February 2010.

⁶⁷*Ibid.*

The focus of this study is on the factors that have contributed to the failure of implementation of electronic conveyancing in Kenya. The legal framework as well as stakeholder involvement and project management are critically analyzed to find out in which aspects they may have impeded the implementation of e-conveyancing in Kenya.

Doversberger, in his study discussed the international support for e-conveyancing in various developed countries and a detailed analysis of the comprehensive English e-conveyance system.⁶⁸ He highlighted the problems and legal implications of implementing e-conveyance applications as well as the barriers to e-conveyance applications in the United States of America.⁶⁹ He noted need for the enactment of enabling laws and opined that Professional reluctance to change was another significant impediment to implementation of e-conveyancing and made a comparison of the failed implementation of the English Chain Matrix with e-conveyancing in the United States.⁷⁰

Similarly this study interrogate the hindrances to implementation of NLIMS at the Ministry of Lands in Kenya and other factors that hamper e-conveyancing while making comparative analysis of other jurisdictions that have implemented e-conveyancing systems. Brennan examined the move towards e-conveyancing in

⁶⁸Doversberger, M.E, *Conveyancing at a Crossroads: The Transition to E-Conveyancing Applications in the U.S and Abroad* . J.D. candidate, Indiana Univ. School of Law at Indianapolis; May 2010. B.B.A. University of Notre Dame. 2007.

⁶⁹*Ibid.*

⁷⁰*Ibid.*

Ontario and Ireland and identified the risks borne by participants.⁷¹ He examined the risk categories and determined the impact of Electronic Conveyancing and potential mechanisms for mitigating the risks to inform the reform process in Ireland.⁷²

Accordingly it is worth noting that Risk Analysis and mitigation of risks to participants of electronic conveyancing in Kenya are areas that this Research examined as being factors that influence implementation of NLIMS in the Ministry of Lands in Kenya.

Whitman opined, it was only the last decade that brought to reality the idea of real estate e-conveyancing according to which a land transaction should be automatically processed and registered from the stage of the application to the stage of final registration.⁷³ He dealt with the concept of electronic conveyancing and the efforts made by other countries to develop such e-conveyancing systems.⁷⁴

This Thesis concerns itself with the challenges and reasons for failure in implementation of electronic conveyancing in Kenya. The Researcher unlike Whitman, endeavored to make a comparative analysis of different factors that have impeded the implementation of electronic conveyancing in Kenya as compared to other developed countries that have made efforts in concluding e-conveyancing projects and those that have experienced similar challenges.

⁷¹Brennan. G., "The Impact of eConveyancing on Title Registration": Springer International Publishing Switzerland 2015.

⁷²*Ibid.*

⁷³Whitman, Dale A., "Digital Recording of Real Estate Conveyances" *The John Marshall Law Review* 32.2, 1999.

⁷⁴*Ibid.*

Kelway, outlined the processes undertaken in the electronic conveyancing process in the United Kingdom and the challenges that were encountered in adoption of the Chain Matrix system.⁷⁵ Besides those of innovation and creation of the electronic conveyancing system, included legal issues requiring Law Reform.⁷⁶ This thesis considerably compares the electronic conveyancing system in Kenya with that of the U.K as well as legal issues with a view to analyzing the challenges facing its implementation and possible solutions suggested.

Okot-Uma, laid down the Roadmap to e-Governance Implementation in Africa.⁷⁷ He dealt with Strategy of implementation but did not address challenges facing implementation of electronic Government projects. Therefore the focus for this study was to analyze the challenges facing implementation of these e-Government projects in Kenya specifically the electronic conveyancing.

E-Government Strategies (or digital Government) is defined as ‘the employment of the Internet and the world-wide-web for delivering government information and services to the citizens.’⁷⁸ Electronic Government (e-government) essentially refers to the utilization of Information Technology (IT), Information and Communication Technologies (ICTs), and other web-based telecommunication technologies to improve and/or enhance on the efficiency and effectiveness of service delivery in the

⁷⁵ Steve Kelway., “Electronic Conveyancing – Dreams and Realities,”2009.

⁷⁶ *Ibid.*

⁷⁷ Rogers W’O and Okot-Uma., *The Roadmap to eGovernance Implementation: Selected Perspectives*. Commonwealth Centre for Electronic Governance, 2005.

⁷⁸ Fang, Zhiyuan. "E-government in digital era: concept, practice, and development." *International journal of the Computer, the Internet and management* 10.2 ,2002: pp.1-22.

public sector.⁷⁹ E-government includes the use of electronics in government as large-scale as the use of telephones and fax machines, as well as surveillance systems, tracking systems and even the use of television and radios to provide government-related information and services to the citizens.⁸⁰

According to Kaul and Odedra, governments around the world have been engaged in the process of implementing a wide range of (ICT) applications.⁸¹ The United Nations classified countries according to their Computer Industry Development Potential (CIPD) as advanced or less developed.⁸²

Mgaya, reviewed ICTs adoption by countries and did not consider the success factors in implementation of ICT projects.⁸³ The researcher in this thesis considered theories of adoption of ICT for e-government and critical success factors for e-government projects implementation.

According to Heeks and Davies, all the ICT/IS models used to explain the implementation of ICT in government especially in developing countries, are useful guides in highlighting some of the key variables that affect success of ICT.⁸⁴ Western

⁷⁹Jeong, ChunHai. "Fundamental of development administration." 2007

⁸⁰ *Ibid.*, para.1.p. 44.

⁸¹Kaul, M., and M. Odedra. "Government initiatives in information technology application: A Commonwealth perspective." *Report on the Information Technology Policy Workshop 12-16 November 1990*. 1991.

⁸² Mgaya, R, Sishe.J., *Adoption and diffusion of group support systems in Tanzania*. TU Delft, Delft University of Technology, 1999.

⁸³ *Ibid.*

⁸⁴Heeks, Richard, and Anne Davies. "Different approaches to information age reform." *Reinventing government in the information age. International practice in IT-enabled public sector reform*, 1999: pp. 22-48.

⁸⁴Gichoya, David. "Factors affecting the successful implementation of ICT projects in government." *the Electronic Journal of e-government* 3.4,(2005: pp. 175-184.

countries are convinced that the information society will result in economic and social benefits.⁸⁵ The Organization for Economic Cooperation and Development (OECD), notes that information infrastructures are expected to stimulate economic growth, increase productivity, create jobs, and improve on the quality of life. Heeks, further observed that there was a big difference between ICT implementation and use between developed and developing countries.⁸⁶

However, Westrup, observed that similarities can also be expected.⁸⁷ These similarities include funds which are never sufficient, bureaucracy and user needs noting that the difference is how problems are addressed in different countries. Westrup argued that, with their adequate resources and advanced technology, the Western countries have an easier way of implementing ICT projects than Developing Countries.⁸⁸ Most developing countries are characterized by limited computer applications in the public sector, inadequate infrastructure and shortage of skilled human resource.⁸⁹

Odera, noted that “this situation exists not merely due to lack of financial resources, but largely due to lack of coordination at different levels in making effective use of the technology”.⁹⁰ This uncoordinated efforts can only result in duplication if each department implements its own ICT projects without due regard to compatibility

⁸⁵ Audenhove L.V., *Information and communication technology policy in Africa – A critical analysis of rhetoric and practice*. 2001.

⁸⁶ *Ibid.*

⁸⁷ Gichoya, *ibid.*

⁸⁸ *Ibid.*

⁸⁹ Brown, D. H., and Thompson. S., "Priorities, policies and practice of e-government in a developing country context: ICT infrastructure and diffusion in Jamaica." *European Journal of Information Systems* 20.3 ,2011:pp. 329-342.

⁹⁰ *Ibid.*

within the government. As seen in the projects undertaken in the Ministry of Lands over the years, disjointed efforts and lack of a coordinated approach resulted in failure to launch.

This thesis is based on similar premises as these challenges cut across board in the developing countries. However, the concentration on the Kenyan jurisdiction is emphasized in this study and an enquiry on the coordination and project management and implementation strategy is made.

Limo, stated that over the last five years, the Kenyan government had initiated some capital investment towards set up and installation of ICT infrastructure.⁹¹ Funding for these investments was achieved through partnerships between the government and development partners. The foreign funding component constituted the largest percentage of this investment in terms of technology.

According to Limo, the government contribution is usually in the form of technical and support staff and facilities including buildings.⁹² So far, the Government Information Technology Investment and Management Framework is connecting all ministries to the Internet under the Executive Network. The Government is also connecting the ministries to run Integrated Information Systems for example the

⁹¹Limo, A. "last update, Computer use bound to transform Kenya [Homepage of Nation Media Group]." 2003. Available: www.nationaudio.com/News/DailyNation/24122003/Comment/Comment241220031.html (Retrieved 27.08.2013).

⁹²*Ibid.*

Integrated Financial Management Information System (IFMIS) and the Integrated Personnel and Pensions Database (IPPD).⁹³

While developing countries may have similar characteristics, the Kenyan context presents various challenges that affect the successful implementation of ICT projects.⁹⁴ This thesis therefore analyzes the government and donor funding support as well as the various challenges that impede implementation of electronic conveyancing in Kenya more particularly the NLIMS project.

O’Sullivan, found that in Ireland, reform in the land law and conveyancing is essential as well as extensive stakeholder involvement in the implementation of electronic conveyancing.⁹⁵ This is vital right from the study of user needs and requirements to design of the user interface for such a complex system.⁹⁶ He opined that lack of change management during the rollout of an e-conveyancing system may pose challenges to its implementation.⁹⁷

This thesis seeks to find out how much involvement and consultation was made to the various stakeholders in the design, development and actual roll-out of the NLIMS Projects of the Ministry of Lands in Kenya. As well as whether change management and business processes reengineering contributed to the unsuccessful attempts of implementation of electronic conveyancing in Kenya.

⁹³See also IFMIS in chapter 4.

⁹⁴*Ibid.*

⁹⁵John O’Sullivan, The Property Registration Authority, Ireland e-Registration and e-Conveyancing in Ireland. The Law Reform Commission 35-39 Dublin, First Published April 2006 ISSN 1393 – 3132. 2006.

⁹⁶Brennan, G., *The Impact of e-Conveyancing on Title Registration*. Springer International Publishing, 2015.

⁹⁷*Ibid.*

Mambi, found that on e-commerce and property law, the requirements for all contracts relating to land are to be made in writing and all dispositions, charges and dealings with land registration are by law required to be in writing based on the provisions of the Law in Tanzania.⁹⁸ Mambi, undertook a holistic discussion on electronic commerce, the ICT Law and legal reform requirements in Tanzania specifically.⁹⁹ Even though common law is applied in East Africa, the implementation of electronic conveyancing in Kenya and its challenges have not been studied by the author and therefore this study intends to fill in the gap.

Kwaya, stated that land records in Kenya have over the years been managed through paper based systems which are vulnerable to loss, wear and tear, compromise and poor usability. Consequently, land administration processes became inefficient, time consuming, unreliable, costly and ineffective.¹⁰⁰ Thus the government in 2007 resolved to automate all land records and transactions by developing and deploying a land information management system. The NLIMS was conceived to address the challenges by establishing a land administration system which enables the creation of accurate, accessible, interoperable, timely, secure and complete information about land in an affordable and efficient way.¹⁰¹

In his exploratory study, Kwaya's findings revealed that inspite of the high fit and viability, the viability of the system for its performance was hampered by inadequate

⁹⁸Mambi J. A, *ICT Law Book- A source book for Information & Communication Technologies and Cyber Law in Tanzania & East African Community*. 2010: p. 81.

⁹⁹*Ibid.*

¹⁰⁰Kwaya T., "Big Data in Land Records Management in Kenya: A fit and Viability Analysis." University of KwaZulu-Natal, South Africa. 2014.

¹⁰¹ Kwaya, *ibid.*

infrastructure, skills, organizational culture and organizational structure.¹⁰² This thesis has attempted to interrogate the factors that hamper the NLIMS system implementation and its organizational structure and culture to inquire whether it has attained the requisite capacity. This thesis focused on a case study in the Kenyan jurisdiction in view of the fact that the law on information communication and telecommunications,¹⁰³ has been amended to pave way for e-commerce and e-government as well as the repeal of the old land law statutes and enactment of ICT and e-commerce compliant laws presents a new interest for research.

1.10 Justification

Despite the express legislation on the requirement to provide electronic land records and data in Kenya, there is minimal organizational change and no positive impact felt by the users of land administration and management services. This is basically because conveyancing practice in Kenya, has continued to be manual and paper based, with the attendant challenges of delay in registration, inefficient processes, loss of records and missing files resulting in poor service delivery.

This study is necessary to examine the factors that have hindered implementation of e-conveyancing projects of the National Land Information Management System in Kenya. There exists an information gap as to why land registration and administration services in Kenya are rendered manually even in this era of digital economy.

¹⁰² Kwaya, *ibid*.

¹⁰³Wanjiku, Rebecca. "Kenya Communications Amendment Act (2009) Progressive or retrogressive." *Association for Progressive Communications (APC). Nairobi*,(2009).

The comparative analysis with Australia and other countries that have implemented e-conveyancing is necessary for benchmarking. The Researcher has a wealth of experience from the initial stages of computerization of land records in the Ministry of Lands in Kenya, where she was the Team Leader of Safeguarding Land Paper Records and a member of the Land Information Management Systems Technical Working Group (LIMS-TWG). Therefore the Researcher was able to conduct a thorough investigation and obtain information more easily being an employee of the Ministry of Lands in Kenya. The study will be useful to future developers of land information management system who will gain from lessons learnt from the experience of past projects attempted and details on the challenges of implementation.

1.11 Limitations of the Study

During the initial period of the study the researcher faced challenges of time and distance from the country of residence to visit the Open University of Tanzania, Campus in Dar es Salaam. There was lack of focus on the research subject, when the roles and mandate of the government agencies dealing with lands were unclarified, as the advisory opinion was being sought from the Supreme Court.

The subject of electronic conveyancing is relatively new in the country thus there was sparse information on e-conveyancing, fewer people could be sought for interview as the majority had neither heard of e-conveyancing nor the National Land Information Management System. The complexity of the operations of the Ministry of Lands and financial difficulties surmount the study, therefore the Researcher did not have time which cannot be limitless to conduct research, resources online and writers on the

subject were few and wide apart, therefore the study could be enlightened in due time when more Researchers have entered the field.

1.12 Conclusion

In Kenya electronic conveyancing has not been effectively achieved as anticipated through the digitization projects under the National Land Information Management System (NLIMS). The legal aspects of e-conveyancing have not been elaborated even though some statutory provisions envisaged the dissemination of land information on digital format by the Chief Land Registrar.¹⁰⁴

The literature reviewed indicated that e-conveyancing remains a new phenomenon even in the developed countries like the U.K and Australia, with attendant challenges that impede its implementation. In Kenya similar challenges face the implementation of e-conveyancing. The overhaul of land laws in Kenya and reforms in the land sector following the Constitution of Kenya 2010 have given rise to the need to investigate the legal framework of e-conveyancing.

¹⁰⁴ Land Registration Act No. 3 of 2012.

CHAPTER TWO

THEORETICAL FRAMEWORK OF E-CONVEYANCING

2.1 Introduction

The e-government and theories on adoption of ICT as well as electronic conveyancing are discussed in this Chapter. Conveyancing and electronic contracts have also been studied to give an insight on the applicability of e-conveyancing in Kenya. Critical success factors of e-government projects have been dealt with and examples of e-government projects in Kenya given together with a conclusion of the Chapter.

2.2 E-Government

Governments have been viewed as complex, mammoth bureaucratic establishments with a set of information silos that erect barriers to access information and make the provision of services cumbersome and frustrating.¹⁰⁵ Traditionally, many offices use the paper-and-file approaches in managing their businesses and pose disadvantages of lack of accountability.¹⁰⁶ ICT's rapid growth has the potential to transform the generation and delivery of public services by public institutions.¹⁰⁷

Muir and Oppenheim, defined e-government as the delivery of government information and services online through the internet or other digital means, thus

¹⁰⁵Coleman, S., "African e-governance-opportunities and challenges." *Oxford University Press, University of Oxford*, 2006.

¹⁰⁶Mehrtens, J., et al., "A model of Internet adoption by SMEs." *Information & management* 39.3 2001:pp. 165-176.

¹⁰⁷Stiftung, B., "Balanced E-Government: E-Government-Connecting efficient administration and responsive democracy." *A study by the Bertelsmann Foundation* 2002: p.24.

bridging the interaction gap through e-government.¹⁰⁸ An e-government indicates a system of effective provision of public services via information and communication technologies.¹⁰⁹ It also implies electronic transactions between the government and other actors such as citizens or businesses in society through new technologies including the internet.¹¹⁰ It includes all applications of information and communication technologies that improve efficiency, effectiveness, transparency and accountability of daily administration of government services.¹¹¹

The conception of electronic conveyancing in Kenya is an e-government transaction through the e-citizen portal, which links all electronic government services online. E-government aims at accomplishing a government's daily administration activities and providing an easier way of the government to communicate with citizens and businesses with the use of Information and Communication Technologies (ICT).¹¹² E-government results in making the services friendly, convenient, transparent and inexpensive interactions.

E-government provides a wide variety of benefits including more efficiency and savings for governments and businesses, increased transparency and greater participation of citizens in political life. It involves much more than tools, rethinking

¹⁰⁸Muir, A, and Oppenheim, C., "National information policy developments worldwide I: electronic government." *Journal of information science* 28.3,2002:pp.173-186.

¹⁰⁹Evans, D., and Yen.D.C., "E-government: An analysis for implementation: Framework for understanding cultural and social impact." *Government Information Quarterly* 22.3,2005:pp. 354-373.

¹¹⁰Evans, *Ibid* .

¹¹¹Ifinedo, P., "Factors influencing e-government maturity in transition economies and developing countries: a longitudinal perspective." *ACM SigMIS Database* 42.4,2012: pp. 98-116.

¹¹²Hussein, Ramlah, et al. "E-government application: an integrated model on G2C adoption of online tax." *Transforming Government: People, Process and Policy* 5.3,2011: pp. 225-248.

organizations and processes, changing behavior so that public services are delivered more efficiently to the people.¹¹³

Implemented well e-government enables citizens, enterprises and organizations to carry out their business with government more easily, more quickly and at a lower cost.¹¹⁴ E-government has been identified and adopted as one of the most efficient vehicles for appropriate transparent and inclusive/participatory decision making.¹¹⁵ The e-citizen portal in Kenya enables citizens to make application for passports and official land searches, application of renewal of driving licenses and other government services and make payments online.

There are several other benefits of using e-government services for example it is easy to use navigation between documents, it provides a graphical environment, supporting multimedia, the standardization of tools and growth in demand means information can be exchanged with many businesses and customers. In Kenya e-government has been adopted through use of ICT's in provision of government services for instance the filing of tax returns to the Kenya Revenue Authority is now fully automated through i-tax system for all taxation services. Procurement processes of government supplies and services are done online through adoption of e-procurement. The entire Public Service Payroll system operates under the Government Human Resource Information System (GHRIS). The Integrated

¹¹³Riege, A, and Lindsay, N., "Knowledge management in the public sector: stakeholder partnerships in the public policy development." *Journal of knowledge management* 10.3,2006:pp. 24-39.

¹¹⁴Basu, Subhajit. "E-government and developing countries: an overview." *International Review of Law, Computers & Technology* 18.1 ,2004: pp.109-132.

¹¹⁵Bwalya. K. J., "Factors affecting adoption of e-government in Zambia." *The electronic Journal on Information Systems in Developing countries* 38, 4., 2009: pp.1-13

Financial Management Information System (IFMIS) is the platform which the national treasury of Kenya utilizes to manage financial disbursements to the various suppliers of goods and services, and accounting.

E-Government services to the public such as registration of persons where issuance of identity cards and passports to citizens are on an electronic platform known as e-citizen. The e-citizen vision is to bring all public services in Kenya on board. Currently a search of land title record from the Nairobi District Registry is possible through e-citizen for those parcels of land that have been captured and uploaded to the system. Therefore we can conclude that e-conveyancing is practiced in Kenya partly through the use of e-citizen to conduct an official search of a parcel of land.

E-Government if implemented fully will bring a lot of gain for the citizens who are located in rural areas seeing that Government offices are located in urban centers. This requires the citizen to spend money and time to travel from their rural set up to the urban center to obtain the needed public services. E-government when fully functional will enhance the participation of citizens in government as information will flow freely on the websites accessed on gadgets and computers from wherever they may be.

2.3 Theoretical Framework on e-government Adoption

The understanding of Information Technology (IT) adoption ought to be done to understand the uptake and adoption of e-government systems.¹¹⁶ There are many

¹¹⁶Kumar, V., et al., "Factors for successful e-government adoption: a conceptual framework." *The electronic journal of e-Government*, 5(1). 2007. pp.63-76.

theories used in Information System research according to Wade,¹¹⁷ these are technology acceptance model (TAM), theory of planned behavior (TPB), Unified theory of acceptance and use of technology (UTAUT) Diffusion of Innovation (DOI), Technology Organization and Environment (TOE) framework and Theory of Reasoned Action (TRA).

2.3.1 Theory of Reasoned Action

Ajzen and Fishbein in 1967 developed the Theory of Reasoned Action (TRA) which aims to explain the relationship between an individual's attitude and behavior.¹¹⁸ They suggested that an individual's decision to engage in a particular behavior is based on the outcomes he/she expects to result from performing the behavior. Behavior intention is in turn determined by individual's attitude toward this behavior and subjective norms with regard to the performance of this behavior.¹¹⁹ Accordingly if people evaluate the suggested behavior as positive attitude and if they think their peers want them to perform the behavior (subjective norm), this results in a higher intention or motivation and they are more likely to do the actual behavior.

2.3.2 Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT)) helps assess the likelihood (probability) of success for new technologies as well as understand the

¹¹⁷Wade, M., Resource-based view of the firm online 2009-

[www.fsc.yorku.ca/IStheory/wiki/index.php/Resource-based view of the firm](http://www.fsc.yorku.ca/IStheory/wiki/index.php/Resource-based_view_of_the_firm)(accessed 10/03/2010)

¹¹⁸Fishbein, M., Ajzen, I., *Predicting and changing behavior. The reasoned action approach*. Taylor & Francis, 2011.

¹¹⁹Sheppard, B. H., et al., "The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research." *Journal of consumer research* 15.3, 1988; pp.325-343.

drivers of technology acceptance.¹²⁰ This theory was developed to confront some of the limitations and uncertainties that previous models such as TAM model posed. The UTAUT aims to explain the user intentions to use an information system and subsequent usage behavior.

The theory holds that there are four key constructs; performance expectancy, effort expectancy, social influence being direct determinants of usage intentions and behavior. These were utilized for measuring the experiences of the e-government services by the current users. The fourth are facilitating conditions as a direct determinant of use behavior, which is used to explore both service user and non-users perceptions of challenges in conditions affecting the usage and adoption of the e-government services.¹²¹

Performance expectancy is the degree to which an individual believes that using the system will help him or her to attain gains in job performance. UTAUT suggests that this construct is the strongest predictor of individual behavior. In the context of e-government performance expectancy enables citizens to access information quickly, at a time and place of their convenience.¹²²

Effort expectancy is the degree of ease associated with the use of the system. It captures the concepts from existing models, perceived ease of use and complexity. It

¹²⁰ Tan, Chee-Wee, et. al., "Understanding the Antecedents and Consequences of E-Government Service Quality: Transactional Frequency as a Moderator of Citizens' Quality Perceptions." ECIS. 2010.

¹²¹ Venkatesh. V. et al., "User acceptance of information technology: Towards a unified view." *MIS Quarterly* 27(3), 2003. pp.425-478.

¹²² *Ibid.*

explains whether e-government services are easy to use or not, how the user interacts with the interface and if it is cost effective or not. UTAUT shows that effort expectancy affects user attitude towards usage.¹²³

Social influence is the degree to which an individual perceives that others believe he or she should use the new system. This construct is derived from existing models to capture the concept of social influence; subjective norm, social factors and image for example peer influence.¹²⁴ Facilitating conditions is the degree to which an individual believes that an organization and technical infrastructure exists to support the use of the system. It has a direct predictor of the actual usage of technology.

In this research the Unified Theory of Acceptance and Use of Technology is relevant in consideration of the adoption of e-conveyancing in Kenya. This is because individuals believe that using the system will help them achieve higher performance.

2.3.3 Technology Acceptance Model

The technology acceptance model (TAM) is based on the theory of reasoned action attributed to Davis, as one of the models that information technology and information systems IT/IS researchers have used to predict and explain the underlying factors that motivate users to accept and adopt new information technology systems.¹²⁵ The model suggests that a number of factors influence the decision about how and when users will adopt a new technology.

¹²³Venkatesh, V. et al., "Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology." *MIS quarterly* 36.1, 2012. pp. 157-178.

¹²⁴Venkatesh, *ibid*.

¹²⁵Legris, P. et al., "Why do people use information technology? A critical review of the technology acceptance model." *Information & Management* 40.3, 2003. pp.191-204.

For instance, perceived usefulness (PU) being the degree to which a person believes that using a particular system would enhance their job performance and Perceived ease of use (PEOU) as the degree to which a person believes that using a particular system would be free from effort according to Davis.¹²⁶ TAM has been found to exclude some important sources of variance and does not consider challenges such as time or money constraints as factors that would prevent an individual from using an information system. In addition TAM has failed to provide meaningful information about the user acceptance of a particular technology due to its generality.¹²⁷

2.3.4 Theory of Planned Behavior

Ajzen developed the theory of planned behavior (TPB) from Theory of Reasoned Action, to consider the mandatory situation and adds a new construct of perceived behavior control. The Perceived Behavioral Control (PBC) is defined as the perceived ease or difficulty of performing the behavior. The theory states that attitude toward behavior, subjective norms and perceived behavior control together shape an individual's behavioral intentions and behaviors.¹²⁸

The theory of planned behavior holds that only specific attitudes towards the behavior in question can be expected to predict that behavior. In addition to measuring attitudes toward the behavior, one needs also to measure the subjective norms, for

¹²⁶Davis, F.D. "Perceived usefulness, perceived ease of use, and user acceptance of information technology" *MIS Quarterly* 13(3);1989: pp.319-340.

¹²⁷Venkatesh, V., "Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model." *Information systems research* 11.4, 2000: pp.342-365.

¹²⁸Ajzen, I., "From intentions to actions: A theory of Planned behavior." *Action control*. Springer Berlin Heidelberg, 1985. pp. 11-39

example their belief about how people they care about will view the behavior in question.¹²⁹

2.3.5 Theory of Diffusion of Innovation

Theory of Diffusion of Innovation (DOI) by Everett Rogers aims to analyze the characteristics of technology adopters.¹³⁰ It relates to the image, relative advantage, compatibility, complexity, visibility, results demonstrability, and voluntariness of use of the innovation. Other aspects that significantly influence the adoption of e-government include information and system quality, accuracy, relevancy, completeness, timeliness and precision and efficiency being the most significant factors.¹³¹

The DOI is a theory of how, why and at what rate new ideas and technology spread through cultures, operating at the individual and firm level. DOI theory sees innovations as being communicated through certain channels over time and within a particular social system.¹³² Individuals are seen as possessing different degrees of willingness to adopt innovations, and thus it is generally observed that the portion of the population adopting an innovation is approximately normally distributed over time.¹³³ These are segregated into innovators, early adopters, early majority, late majority and laggards.¹³⁴

¹²⁹ Ajzen, I., "The theory of planned behavior." *Organizational behavior and human decision processes* 50.2. 1991, pp.179-211.

¹³⁰ Napoli, *ibid.*

¹³¹ Bélanger, F. and Lemuria C., "Trust and risk in e-government adoption." *The Journal of Strategic Information Systems* 17.2,2008: pp.165-176

¹³² Rogers, E. M., "Diffusion of Innovations: modifications of a model for telecommunications." *Die Diffusion von Innovationen in der Telekommunikation*. Springer Berlin Heidelberg, 1995.pp. 25-38.

¹³³ *Ibid.*

¹³⁴ *Ibid.*

Demographic characteristics of citizens for example their age, sex, gender, education, social class have an imperative role in explaining awareness and adoption of e-government services.¹³⁵ Trust, usability are barriers to wide-adoption as well as website navigability and aesthetics.¹³⁶ Personalization and customization,¹³⁷ loyalty programs,¹³⁸ are key strategies to attracting individuals to visit a website and e-government portals.¹³⁹ Underlying catalysts include trust of citizens, attitude-based and service quality-based approaches, which were tested by Gilbert and Balestrini.¹⁴⁰

It is evident from the Theory of Reasoned Action and TAM on consumer adoption of the internet that perceived risk, perceived behavioral control, usefulness, and perceived ease of use, fear of losing personal information, as well as fear of being monitored on the internet impact the adoption of ICT.¹⁴¹ Combined factors on capacity to adopt e-government are the country's political will, the availability and strengths of their human capital, the ICT (Telecommunications) infrastructure, and the presence of administrative priorities.¹⁴² In their study on e-government adoption and diffusion, Nripendra et al.,¹⁴³ noted that Technology Adoption Model (TAM) was

¹³⁵ Al-Adawi, Z., et al., "Conceptual model of citizen adoption of e-government." In *The Second International Conference on Innovations in Information Technology (IIT'05)* September 2005, pp. 1-10.

¹³⁶ Bwalya, *ibid.*

¹³⁷ Varadarajan, R. and Yadav, M.S., "Marketing strategy in an internet-enabled environment: a retrospective on the first ten years of JIM and a prospective on the next ten years." *Journal of Interactive Marketing* 23.1, 2009: pp.11-22.

¹³⁸ Kumar, *ibid.*

¹³⁹ *Ibid.*

¹⁴⁰ Gilbert, D. et al., "Barriers and benefits in the adoption of e-government." *International Journal of Public Sector Management* 17.4, 2004: pp.286-301.

¹⁴¹ Basu, S., E-government and developing countries: an overview. *International Review of Law, Computers & Technology*, 18(1), 2004.: pp.109-132.

¹⁴² Kumar, V. et al., Factors for successful e-Government Adoption: A Conceptual Framework, *The Electronic Journal of e-Government*, 5,1, 2007: pp. 63-77.

¹⁴³ Nripendra P. et. al., *Diversity and Diffusion of Theories, Models, and Theoretical Constructs in eGovernment Research*. United Kingdom. M. Janssen et al (Eds): EGOV 2011, LNCS 6846, 1-12, ©IFIP International Federation for Information Processing, 2011.

the highly utilized model for examining the issues related with e-government adoption followed by Diffusion on Innovation (DOI), Unified theory of acceptance and use of Technology (UTAUT), theory of planned behavior (TPB), extended theory of acceptance model (TAM2), theory of reasoned action (TRA), Structuration theory and the trust model.

Kwaya, in his study on the National Land Information Management System (NLIMS) used the fit-viability theory to assess the suitability of NLIMS as a big data system to manage land records in Kenya.¹⁴⁴ Originally the theory was proposed by Tjan, as a model for evaluating the adoption of the internet by organizations.¹⁴⁵ Liang and Wei, explain that viability measures the extent to which an organization's environment is ready for new technology tools and applications. The environmental factors include economic costs and benefits, users' readiness to apply the technology and the maturity of the organizational structure to support the technology.¹⁴⁶

In his research, Kwaya argued viability measured the factors which influenced the success with which big data systems such as NLIMS are implemented. He found that the performance of NLIMS is facilitated by a high technological fit and organizational viability leading to a high performance exemplified by the usability of

¹⁴⁴Kwaya T., "Big Data in Land Records Management in Kenya: A fit and Viability Analysis." University of KwaZulu-Natal, South Africa 2014. Uden L. et al., (Eds) KMO 2014, LNBIP 185, pp15-24, ©Springer International Publishing Switzerland 2014.

¹⁴⁵Tjan, A.K., "Finally a way to put your internet portfolio in order." *Harvard Bus. Rev.* 79(2) 76-86, 2001.

¹⁴⁶Liang T, P. and Wei, C. P., "Introduction to the Special issue, a framework for mobile commerce applications." *Int. J. Electron.Commer.* 8(3), 7-17, 2004.

the system and user information satisfaction. He noted that other factors included economic, social, technical, infrastructural, quality and human factors.¹⁴⁷

The various theories on adoption of ICT and e-government all relate to individuals behavior and actions. The theories serve to explain that new technology adoption is not automatically embraced by all persons at the same time or speed and therefore different people embrace the use of information technology and new innovations based on their understanding and ease of use. For instance, it may be possible that an e-government project designed could encounter uptake challenges of adoption if the people it is supposed to serve do not view it as user friendly.

2.4 Assessment of e-government Performance

E-government performance has been defined and measured in various ways, such that successful e-governments are those that achieve multiple values like efficiency in administration, innovation in organization, effectiveness of public services, and transparency and participation.¹⁴⁸ Similarly, Moon and Norris, consider administrative change, efficiency and revenue generation as critical e-government outcomes.¹⁴⁹

Nour et al., proposed efficiency, effectiveness, access, accountability, equity, empowerment and participation, transparency, availability of services, responsiveness

¹⁴⁷Kwaya, *ibid.*

¹⁴⁸Norris, D.F. and Moon. J. M., "Advancing e-government at the grassroots: tortoise or hare?" *Public administration review* 65.1,2005:pp. 64-75.

¹⁴⁹Moon, J.M. and Norris.D. F., "Does managerial orientation matter? The adoption of reinventing government and e-government at the municipal level." *Information Systems Journal* 15.1,2005:pp. 43-60.

and integrity as critical goals of an e-government.¹⁵⁰ Series of researches conducted on factors that lead to a successful e-government in developed countries drew the following results: changes in structure,¹⁵¹ changes in work/business process,¹⁵² technologies,¹⁵³ human resources,¹⁵⁴ organizational culture/values,¹⁵⁵ vision/strategies/internal leadership,¹⁵⁶ laws/regulations/policies,¹⁵⁷ financial resources¹⁵⁸ and external pressure.¹⁵⁹

Sukyoung et al., divided these factors into four groups: organizational changes, resource allocation, values and cultural changes, and legal and regulatory changes.¹⁶⁰ Organizational changes imply transforming the organization to a more flexible and efficient network structure.¹⁶¹ Organizations with a vertical power relationship are not compatible with e-governments, which require coordination of complex and interrelated activities among numerous agencies and individuals.¹⁶²

¹⁵⁰ *Ibid.*

¹⁵¹ Lam, W., "Barriers to e-government integration." *Journal of Enterprise Information Management*, 18(5), 2005:pp.511-530.

¹⁵² Sharon, D.S., and Pardo, T.A., "Building collaborative digital government systems." *Advances in digital government*. Springer US, 2002.pp. 259-273.;Sharifi, H, and Zarei, B., "An adaptive approach for implementing e-government in Iran." *Journal of Government Information* 30.5,2004: pp.600-619.

¹⁵³ OECD International Futures Programme. *Space 2030: exploring the future of space applications*. OECD Publishing, 2004.

¹⁵⁴ Evans, D. and Yen, D.C., "E-government: An analysis for implementation: Framework for understanding cultural and social impact." *Government Information Quarterly* 22.3,2005:pp. 354-373.

¹⁵⁵ Ho, A.T, and Ni, A.Y., "Explaining the adoption of e-government features a case study of Iowa county treasurers' offices." *The American Review of Public Administration* 34.2,2004:pp.164-180.

¹⁵⁶ Van Dijk, J., AGM. "Digital divide research, achievements and shortcomings." *Poetics* 34.4,2006:pp. 221-235., Ke, W., and Wei, K. K., "Successful e-government in Singapore." *Communications of the ACM* 47.6,2004: pp.95-99.

¹⁵⁷ OECD International Futures Programme. *Space 2030: exploring the future of space applications*. OECD Publishing, 2004.

¹⁵⁸ Norris, D. F. and Moon, J.M., "Advancing e-government at the grassroots: tortoise or hare?" *Public administration review* 65.1, 2005: pp. 64-75.

¹⁵⁹ Ho, *ibid.*

¹⁶⁰ Sukyoung, S., "Implementing e-government in developing countries: its unique and common success factors." *American Political Science Association*, 2008.

¹⁶¹ *Ibid.*

¹⁶² West, D.M., "E-government and the transformation of service delivery and citizen attitudes." *Public administration review*, 64(1), 2004. pp.15-27.

E-governments enable organizations to overcome various limits of rigid bureaucracy by allowing information and resource exchange through the network.¹⁶³ Changing the work process is also important as it indicates renovating the existing work/process to be adequate to the online environment.¹⁶⁴ Transforming the work flow, previously decided by the bureaucratic hierarchy or the document flow, to the one that reflects interdependency and swift information exchange among departments or agencies.¹⁶⁵

Resource allocation is an important dimension for successful e-government. Studies show that e-government is likely to be successful in countries that secure technological capacity, stability and confidence.¹⁶⁶ It seems that technologies related to network security and stability, information privacy, legacy systems, and interoperability issues are required to gain customers' confidence on online services.¹⁶⁷ A secure e-government also requires well-balanced human resources in public sector comprised of professional engineers in charge of system development, management, and maintenance and users equipped with basic IT knowledge and interests.¹⁶⁸

The feasibility of financial resources is also critical for a successful e-government.¹⁶⁹ Establishing an e-government system is a long-term, resource-intensive initiative, and

¹⁶³ *Ibid.*

¹⁶⁴ OECD, *ibid.*

¹⁶⁵ *Ibid.*

¹⁶⁶ Baker, D.L. "Advancing E-Government performance in the United States through enhanced usability benchmarks." *Government Information Quarterly*, 26(1), 2009, pp.82-88.

¹⁶⁷ *Ibid.*

¹⁶⁸ Boyne, G.A., *Public service performance: Perspectives on measurement and management*. Cambridge University Press. 2006.

¹⁶⁹ Aldrich, D. et al., "E-government: Initiatives, developments, and issues." *Government information quarterly*, 19(4), 2002, pp.349-355.

requires huge investment.¹⁷⁰ Moon and Norris, indicates that a financially resourceful organization can afford to take more risks and bear high implementation costs.¹⁷¹ Ho and Ni, also state that economic resource availability assists a government in saving time and effort by avoiding harsh budget competition as well as securing necessary technical and human capacity.¹⁷²

Values and cultural changes are factors that affect the successful e-government, because organizations with a strongly innovative culture accept new managerial and technical changes more actively.¹⁷³ E-governments are adopted with more ease and less resistance if the stakeholders are receptive to the innovation.¹⁷⁴ On the contrary if stakeholders consider new technological and managerial approaches as a threat to their power or position, adoption becomes more difficult.¹⁷⁵

Strong leadership with a vision and strategies is another success factor that enables values and ideas to be shared by all stakeholders involved, goals and objectives to be achieved through, and strategies to be implemented with the e-government initiative.¹⁷⁶ A strong political leadership in an organization facilitates the e-government adoption by reducing resistance toward innovative solutions and by supporting technical, financial, and human resource allocation.¹⁷⁷ Setting up a clear and realistic e-government vision, coordinating its goals, involving stakeholders in its

¹⁷⁰ Field, T., ed. *OECD E-Government Studies the E-Government Imperative*. OECD Publishing, 2003.

¹⁷¹ Moon and Norris, *ibid*.

¹⁷² Ho and Ni, *ibid*.

¹⁷³ Gupta, M.P. and Jana, D., "E-government evaluation: A framework and case study." *Government information quarterly*, 20(4), 2003, pp.365-387.

¹⁷⁴ Moon and Norris, *ibid*.

¹⁷⁵ Heeks, R., *Most e-government-for-development projects fail: how can risks be reduced?* Vol. 14. Manchester: Institute for Development Policy and Management, University of Manchester, 2003.

¹⁷⁶ OECD, *ibid*.

¹⁷⁷ Moon and Norris, *ibid*.

development process, and obtaining a decision maker's support are major constituents of this factor.

The external pressure from citizens, investors, non-governmental organizations (NGOs), and international organizations may also facilitate a government to undertake innovative changes, especially in technological areas.¹⁷⁸ In developing countries the e-government initiative tends to be strongly influenced by donors who push the government to accept conditions like freedom of information, or govern its implementation and operation in return for financial and technical resources.¹⁷⁹

Heeks, partitions e-government success in three different categories,¹⁸⁰ Total failure where the initiative was never implemented, partial failure when some major goals are attained and Success wherein the project did not experience undesirable outcomes and attained their major goals. However he contends that at times it is too early to evaluate some projects, too soon after implementation or little evidence yet to evaluate.¹⁸¹

2.5 Challenges to Establishing an Enabling Environment for e-government

In the developing countries some citizens do not have access to the systems where most population is in remote areas without adequate infrastructure such as electricity supply. Human resource does not have the necessary skills to operate the systems.¹⁸²

¹⁷⁸ Ho and Ni, *ibid*.

¹⁷⁹ Heeks, *ibid*. For example, the World Bank and International Monetary Fund (IMF) exerted pressure on the Kenyan government to adopt Structural Adjustment Programmes (SAPs) in the late 1990s.

¹⁸⁰ Heeks, R., "Achieving Success/Avoiding Failure in e-government projects," IDPM, University of Manchester, <http://www.egov4dev.org/success/sfdefinitions.shtml>, 2003.

¹⁸¹ *Ibid*.

¹⁸² Reffat, R., "Developing a successful e-government." *Proc. Sympos. e-Government: Opportunities and Challenge, Muscat Municipality, Oman, IV1-IV13*, 2003.

Inadequate physical ICT infrastructure to facilitate speedy processing of applications, lack of trust in the new system, unreliable, confidence levels of the staff.¹⁸³

In Zambia it has been found that lack of adequate ICT infrastructure, political will, language barriers, lack of proper change management procedures and non-contextualization of e-government practices, contribute to the delay in e-government adoption.¹⁸⁴ Over reliance on donor support in the management and implementation aspect of e-government presents a serious challenge to its sustainability. Donor funded projects where the transfer of knowledge and skills to local staff is not effected and therefore the projects fail after the Donors leave.

Computer illiteracy of staff, at times it is hard to bring all staff on board as a result of resistance to change. Mind set or attitude problems towards computers where the staff may think that computers will displace them and thus fear of the unknown. The frequent transfers of staff members from the ICT department, bringing in new inexperienced staff members, who require training and familiarization with the system cause delay or failure of implementation of e-government projects.

2.6 Conveyancing in Kenya

Conveyancing transaction means a transaction that involves one or more parties and the purpose of which is to create, transfer, dispose of, mortgage, charge, lease or deal

¹⁸³Chen, R. et al., "Contracting of E-business Services in a Constraint-Based Process Modeling Framework." *Semantics Knowledge and Grid (SKG)*, 2011 *Seventh International Conference on*. IEEE, 2011.

¹⁸⁴Layne, K. and Lee, J., "Developing fully functional E-government: A four stage model." *Government information quarterly*, 18(2), 2001, pp.122-136.

with in any other way an estate or interests in land.¹⁸⁵ Conveyancing relates to cross cutting issues concerning land law, contract law, equity and trusts.¹⁸⁶ Conveyancing transactions involve various parties to the transaction such as proprietors, vendors and purchasers and their agents or lawyers, valuers, surveyors, estate agents as well as multi agencies like the government, municipalities and Banking Institutions.¹⁸⁷

Conveyancing covers various procedures for certain land transactions, it deals with practical issues such as how one negotiates and concludes a lease, mortgage, charge, transfer or other transaction and how the relationship between the parties to the transaction is determined.¹⁸⁸ Conveyancing processes broadly include; valuation of the property, financing activities, contracts, clearance by the county government, consents from the land control boards, Revenue Authority, and custodians and owners (sellers and buyers).¹⁸⁹

Various stages of conveyancing transaction include; preliminaries, investigation of titles for example searches where due diligence is conducted to verify the certainty of the title. Legal framing of documents that is drafting of the agreements and transfer, contractual stage that is the registration of terms, completion where documentation is ready for registration and the purchase price and documents pass. Execution, attestation, stamping and registration of documents are undertaken by the parties' lawyers.¹⁹⁰

¹⁸⁵ According to Electronic Conveyancing National Law Queensland reprinted in force on 17th May 2013.

¹⁸⁶ Ojienda T.O., *Conveyancing Principles and Practice*. Law Africa Publishing (K) Ltd. Nairobi. Kenya, 2008, pg.2

¹⁸⁷ Onalo, P. L., *Land law and conveyancing in Kenya*. Heinemann Kenya, 1986.

¹⁸⁸ Oburu, A.P., *Conveyancing Law and Practice in Kenya*, 2010.

¹⁸⁹ Gaddy, Wade E., and Robert E. Hart. *Real estate fundamentals*. Dearborn Real Estate, 2003.

¹⁹⁰ blogspot.com Kenya law resource centre.

2.7 Electronic Contracts and Conveyancing

A Contract is a legally binding agreement between two or more people or organizations. The terms of a contract may be expressed in writing or orally, implied by conduct, industry custom, and law or by a combination of these things.¹⁹¹

Electronic contracting refers to the ability to form contracts via electronic means, free of legal restrictions that would require paper records or hand-written signatures.¹⁹²

Contracts made electronically,¹⁹³ where commercial contracts are made electronically stored information can in law constitute a document, the requirement of a signature can likewise be satisfied in the case of electronic document either by a digital signature, typing a name into an electronic document or by clicking an electronic website button.¹⁹⁴ The legal requirements applicable to the contractual processes neither create obstacles for the use of electronic contracts nor result in such contracts being deprived of their legal effectiveness, on account of their having been made by electronic means.¹⁹⁵

Any agreement to make an online purchase or use an electronic commerce service requires the formation of a contract.¹⁹⁶ Traditionally contracts law is developed around requirements for hard copy documents, writing and in some cases witnessing.

Electronic communication between two parties who may never share the same

¹⁹¹ Xu, L. and Jeusfeld, M.A, June. "Pro-active monitoring of electronic contracts." In *Advanced Information Systems Engineering*. Springer Berlin Heidelberg, 2003, pp. 584-600.

¹⁹² Karlapalem, K. et al., "A frame work for modeling electronic contracts." In *Conceptual Modeling—ER 2001* (pp. 193-207). Springer Berlin Heidelberg, 2001.

¹⁹³ Edwin Peel, *The Law of Contract*, 12th Edition, Sweet & Maxwell, 2007; pp 202.

¹⁹⁴ *Ibid.*

¹⁹⁵ *Ibid.*

¹⁹⁶ Milosevic, Z. et al., "Discretionary enforcement of electronic contracts." In *Enterprise Distributed Object Computing Conference, 2002. EDOC'02. Proceedings. Sixth International IEEE*, 2002. pp. 39-50.

physical location concepts of hardcopy writing may not take place, thus electronic contract formation must be possible by use of the speed and convenience delivered by new communication technology.¹⁹⁷

Globally electronic automation has made possible new ways of contracting, registering and settling transactions.¹⁹⁸ In essence, technology has enabled the automation of many tasks performed by conveyancers when preparing and authenticating contracts and communicating with each other and with the registries. Many registries' tasks have also been automated, including not only communication and archiving but also some routine compliance checks.¹⁹⁹ This is evident in countries like Australia, New Zealand, England, Wales, Canada and Singapore.²⁰⁰ In Kenya, Contracts for the sale of land must strictly be in writing, such as a sale agreement, contracts and a deed of conveyance, to protect the original parties and third parties.²⁰¹

Section 3(3) of the Law of Contract Act,²⁰² provides that;

“no suit shall be brought upon a contract for the disposition of an interest in land unless the agreement upon which the suit is founded, or some memorandum or note thereof, is in writing and signed by the party to be charged or some person authorized by him to sign it, and the signature of each party signing has been attested by a witness who is present when the contract was signed by such party.”²⁰³

¹⁹⁷ *Ibid.*

¹⁹⁸ Gisler, M., et al., “Legal Aspects of Electronic Contracts.” In *ISDO*, June 2000.

¹⁹⁹ Molina-Jimenez, C., et al., “Run-time monitoring and enforcement of electronic contracts.” *Electronic Commerce Research and Applications*, 3(2), 2004, pp.108-125.

²⁰⁰ HM Land Registry and Law Commission: 1998.

²⁰¹ Ojienda, *ibid.*

²⁰² Law of Contract Act, Cap 23 of the Laws of Kenya, Section 3(3).

²⁰³ Ojienda, *ibid.* p. 35.

The requirement for writing under this provision is absolute and the courts will not entertain a land dispute where there is no evidence of written contracts or agreements signed by the parties and duly witnessed as stipulated by law. Other statutes on land law in Kenya have emphasized this point for instance the provisions of the Land Act,²⁰⁴ that contracts for the disposition of an interest in land have to be made in writing and signed by the parties. These contracts should also be attested by a witness present at the signing of the contract.

These aspects of the law of contract in Kenya may require to be amended to accommodate electronic conveyancing. The law of evidence Act was amended through the Kenya Information Communications Amendment Act of 2009 on the admissibility of electronic evidence.

2.7.1 Electronic Contracts International Trade Law

The United Nations Commission on International Trade Law (UNCITRAL) developed the UN convention on the use of Electronic Communications in International Contracts.²⁰⁵ It sought to enhance the legal certainty and commercial predictability of international electronic transactions by setting out a number of interpretive rules for electronic communications in negotiating and forming contracts, and establish a default standard for electronic transactions.²⁰⁶ Several countries are signatories to the Convention.

²⁰⁴Land Act No. 6 of 2012, Laws of Kenya. Section 38(1).

²⁰⁵United Nations convention on the use of Electronic Communications in International Contracts, 2005.

²⁰⁶*Ibid.*

The core principles of the UNCITRAL include functional equivalence of paper documents and electronic transactions are treated equally by the law. Technology neutrality, the law does not discriminate between different forms of technology which may be used in the formation of the contract. This allows the legal requirements of paper-based documents such as writing and signature to be readily translated into electronic equivalents.

Article 8 of the UN convention provides that communication shall not be denied validity or enforceability on the sole ground that it is in the form of an electronic communication. There is inferred agreements to use or accept electronic communications by parties conduct. A contract formed where one or both parties are an automated information system shall not be denied validity on the sole ground that there was no intervention by a natural person.²⁰⁷

Article 9 of the UN Convention contains a number of default minimum standards for enabling electronic equivalents to traditional paper-based form requirements.²⁰⁸

Where the law requires that a communication or contract be in writing, that requirement is met if an electronic communication is used that is accessible and usable for subsequent reference.²⁰⁹

Where there is a legal requirement for a communication or contract to be signed, that requirement is met if, a method is used to identify the party and to indicate that party's intention in respect of the information in the communication and the method

²⁰⁷United Nations Commission on International Trade Law (UNCITRAL) Article 8.

²⁰⁸Article 9, of the United Nations convention on the use of Electronic Communications in International Contracts, 2005.

²⁰⁹Gisler, M. et al., "Legal Aspects of Electronic Contracts." In *ISDO*. June 2000.

used is reliable as appropriate for the purpose which the electronic communication was generated.²¹⁰ This requirement is also met if it is proven to identify the party and indicate their intention in respect of the information within the communication.

Where the law requires that a contract or communication should be retained in their original form, that requirement is met if there is a reliable assurance as to the integrity of the communication and the information is capable of being displayed to the person to whom it is to be made available.²¹¹ Location of the parties at the time of formation of a Contract plays an important role in determining disputes concerning electronic contracts. The location of the parties at the time of dispatch of an electronic communication helps to determine the applicable law and which country has jurisdiction to hear disputes. Place of business is presumed to be the location indicated by the party, if it has not been indicated and if there is more than one, then the place of business is the location which has the closest relationship to the contract.²¹²

The UN Convention Article 6, sets out a number of presumptions that are used to determine the location or place of business of the parties to an electronic contract.²¹³

Where a person does not have a place of business their habitual residence is to be used. A location is not a place of business simply because it is the location of the technology used in connection with the formation of a contract. The use of a domain

²¹⁰Treitel, G.H., *The law of contract*. Sweet & Maxwell. 2003.

²¹¹Samuelson, P., "Intellectual property and the digital economy: Why the anti-circumvention regulations need to be revised." *Berkeley Technology Law Journal*, 1999, pp.519-566.

²¹²Hillman, R.A. and Rachlinski, J.J., "Standard-form contracting in the electronic age." *NYUL Rev.*, 77, 2002. p. 429.

²¹³Article 6, United Nations convention on the use of Electronic Communications in International Contracts, 2005.

name or email address connected to a specific country does not create a presumption that a party's place of business is located in that country.²¹⁴ The rules set out above can all be rebutted with evidence to the contrary. They simply provide a convenient and practical starting point to determine a party's place of business, time of dispatch and receipt of electronic communications.²¹⁵

According to Article 10 (1) of the UN Convention, time of dispatch is when it leaves an information system under the control of the originator. Subsection (2) provides that the time of receipt of an electronic communication is when it becomes capable of being retrieved at an electronic address designated by the addressee.²¹⁶ If an electronic address has not been designated the time of receipt is when the addressee becomes aware of the electronic communication being sent to that address and it is capable of being retrieved.²¹⁷

2.7.2 Error in Electronic Communication

There is likelihood of a mistake being made where transactions are completed instantaneously, rather than through more traditional means such as person-to person dealings or in written contracts.²¹⁸ Mistakes may also occur when there has been an error made by a natural person in communicating with an automated system.

²¹⁴ *Ibid.*

²¹⁵ Schmid, B.F. and Lindemann, M.A., "Elements of a reference model for electronic markets." In *System Sciences, 1998., Proceedings of the Thirty-First Hawaii International Conference on* (Vol. 4, pp. 193-201) IEEE. January 1998.

²¹⁶ *Ibid.*

²¹⁷ Kidd Jr, et al., "Adapting contract law to accommodate electronic contracts: Overview and suggestions." *Rutgers Computer & Tech. LJ* 26,1999: p. 215.

²¹⁸ Flynn, F.H. and Foran, J. *Electronic communication delivery confirmation and verification system*. U.S. Patent 6, 2003.pp. 618,747.

Article 14 of the UN convention stipulates that where an in-put error in e-transactions occurs,²¹⁹ one may withdraw that communication, if the consumer notifies the shop of the error as soon as possible after having discovered the error, and the consumer has not used or received any material benefit from the goods and services.²²⁰

2.8 Legal and Regulatory Changes for Electronic Transactions

Government agencies are established and operated by laws and regulations. The e-government initiative, involving a variety of agencies, requires legislative reform to redefine data sharing and ownership and responsibility among agencies. The laws and regulations governing privacy and security issues are also essential to promote electronic transactions.²²¹ These include changes in the law, regulations and policies as constituent factors that form an environment benefiting the e-government.

The Ministry of Lands and Physical Planning operates under a myriad of statutes some of which require harmonization and amendments. The Law of contract Act stated hereinabove will also require review and amendment to accommodate the provisions of electronic transactions on land in Kenya. The Cabinet Secretary, Ministry of Lands and Physical Planning appointed a Taskforce including Technical Officers and Stakeholders to regularize the forms and provisions of the Land laws.

²¹⁹Article 14, of the United Nations convention on the use of Electronic Communications in International Contracts, 2005.

²²⁰Balas, E.A., et al., "Electronic communication with patients: evaluation of distance medicine technology." *JAMA*, 278(2), 1997: pp.152-159.

²²¹*Ibid.*

2.9 Critical Success Factors in E-government implementation

One mode of approach to e-Governance implementation is its treatment as a combined Project Management process and a Change Management Process for e-Governance.²²² There are several factors that are required to be in place to enable the successful implementation of an e-commerce or e-government project. These have been identified by various researchers, for instance well communicated top management commitment, Management buy in and ownership, clear goals and objectives, effective project management, user training and education, change management, action to attract and keep the right staff to achieve change, Employee ownership of change, among others.²²³

The success of e-government projects also requires adequate ICT Infrastructure which includes a framework consisting the hardware, software databases and telecommunications.²²⁴ Security of the systems and services for example the web sites and search engines as well is essential.²²⁵ Kampas, described a five level model of what he refers as the information system function chain. These are the physical storage, memory and disk hardware,²²⁶ Processing, computation and logic provided by the processor, infrastructure that is human and external interfaces and the network. Application or content-data processed by the app and intelligence the additional computer based logic that transfers information to knowledge.²²⁷

²²²Okot-Uma, and Rogers W'O., *The Roadmap to e-Governance Implementation: Selected Perspectives*. Commonwealth Centre for Electronic Governance, 2005.

²²³Doversberger, M.E., "Conveyancing at a Crossroads: The Transition to e-Conveyancing Applications in the US and Abroad." *Ind. Int'l & Comp. L. Rev.*, 20, 2010, p.281.

²²⁴*Ibid.*

²²⁵Greenstein, S., "E-business infrastructure." *Micro, IEEE*, 21(6), 2001, pp.70-71.

²²⁶Kampas *ibid.*

²²⁷Kalakota, R. and Robinson, M., *E-Business. Roadmap for Success*: Addison Wesley, 1999.

Implementation of system is more integrated where technology architecture, applications, data architecture and process architecture are uniform and integrated across the organization.²²⁸ To achieve this organizations opt for enterprise resource planning (ERP) vendors, e.g. Oracle. The difficulty for managing e-business infrastructure is that there is not a single solution of components from a single supplier innovations/innovators.²²⁹

In managing hardware and systems software infrastructure, standardization throughout the organization to reduce numbers of contracts for support and maintenance is recommended.²³⁰ Whether outsourced or performed by the organization there is need to obtain multi-user licences to cater for a number of users. Applying best practices and adopting risk management it is possible to be proactive and manage change successfully.²³¹ The introduction of e-government requires its users to learn how to use new internal information systems, and adopt new methods of working.

The changes experienced by staff tend to be greatest for large-scale projects which are intended to achieve business transformation that is significant changes to organizational processes implemented to improve organizational performance.²³² These represent a potential threat to existing staff who may have been working face-

²²⁸Vathanophas, V., "Business process approach towards an inter-organizational enterprise system." *Business Process Management Journal* 13.3,2007: pp. 433-450.

²²⁹Schafer, J.B., et al., "E-commerce recommendation applications." In *Applications of Data Mining to Electronic Commerce*. Springer US, 2001. pp. 115-153

²³⁰Cassidy, A. and Cassidy, D., *A Practical Guide to Reducing IT Costs*. J. Ross Publishing, 2009.

²³¹Clark, E., "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.*, 21, 2011, p.62.

²³²McLaren, Robin. et al. "Guiding Principles for Building Fit-For-Purpose Land Administration Systems in Developing Countries: Capacity Development, Change Management and Project Delivery." *World Bank Conference on Land and Poverty, The World Bank-Washington DC*. 2016.

to-face with customers or suppliers for many years and they are now asked to use technology which decreases the human element of interaction. The staff may consider, this reduces the efficiency of the work and feel that their jobs are less interesting or under threat.²³³

The success of e-government projects require organizations to make adjustments and thus change becomes inevitable. It is encouraged to adopt incremental and transformational change and avoid discontinuous change.²³⁴ Change to improve the efficiency of the processes,²³⁵ turning doing things better and adopting new procedures or policies to improve process efficiency, reduce time, costs of doing business and applying internet technologies to improve efficiency.²³⁶ Change management would involve adaptation, Re-orientation that is doing things differently and Re-creation a fundamental change to operations.²³⁷

Setting the goals of the e-government at a practical and implementable level is another factor of success. Too grand objectives are highly unlikely to satisfy stakeholders' expectation for positive outcomes of e-government initiatives.²³⁸ A conducive environment for e-government implementation is critical for its success. Environment includes the market, political infrastructural, level of political leadership, enabling nature of legal and regulatory environment, citizen readiness,

²³³Chaffey, D., *E-Business and E-Commerce Management Success Factors*. 3rd Edition 2001, p.458

²³⁴Titah, R. and Barki, H., "E-government adoption and acceptance: A literature review." *International Journal of Electronic Government Research (IJEGR)* 2.3, 2006:pp. 23-57.

²³⁵Nadler et al, *ibid*.

²³⁶Nadler et al, *ibid*.

²³⁷Jeston, J. and Nelis, J., *Business process management*. Routledge. 2014

²³⁸Sukyoung, S., "Implementing e-government in developing countries: its unique and common success factors." *American Political Science Association*, 2008.

trust, awareness, measures and barriers to uptake awareness, cost, penetration of access devices, uptake and use by citizens.²³⁹

The presence of factors such as government readiness, awareness, leadership, published strategies, level of coordination, systems readiness, back office integration, standardization, impact on spending, work practices, cost efficiency, also play an important role in the success of e-government projects.²⁴⁰ The success of e-government projects in Kenya are visible because the Executive has taken great interest in digital economy and spearheaded all e-government projects. The head of state has personally addressed the e-procurement implementation as a key priority area in the development of the country.

Other factors to be taken into consideration for e-government implementation include the cost of access, value proposition, ease of use, security, fear of the unknown, fraud and privacy infringements, lack of trust, lack of skills and connection speed.²⁴¹ The project managers ought to have experience and the requisite competencies in technical and information technology, a mix that ensures they understand the operations and organization culture.²⁴²

²³⁹Idikat, T., "Evaluation of readiness of Turkey for e-government". Doctoral dissertation, Middle East Technical University.2004.

²⁴⁰Bhatnagar, S.C., " E-government: lessons from implementation in developing countries." *Regional Development Dialogue*, 23(2; SEAS AUT), 2002. pp.164-175.

²⁴¹Chaffey, D., *E-business and E-commerce Management: Strategy, Implementation and Practice*. Pearson Education, 2007.

²⁴²Burkell, J. A., et al. "Enhancing key digital literacy skills: Information privacy, information security, and copyright/intellectual property."2015.

In project governance and planning change, work breakdown structure (WBS),²⁴³ milestones monitoring and control, design analysis and workflow management, data modeling, user centered user requirements, security design, digital signatures, implementation and maintenance are all factors that ought to be taken into account.²⁴⁴ It is necessary to consider whether in the system development cycle user needs and analysis was undertaken as well as maintenance of the system.²⁴⁵

2.9.1 Challenges and Issues to Consider Implementation of E-government Applications

Managing e-government application infrastructure is delivering the right applications to all users of e-government services. In organizations there are different application silos or islands of information as there may be different functional areas, processes and activities followed in the different functional areas.²⁴⁶

These application silos are often as a result of decentralization or poorly controlled investment in information systems, with different departmental managers selecting different systems from different vendors. This is inefficient and costly to purchase and more costly to support and upgrade. This fragmented approach stifles decision making and leads to isolation between functional units.

²⁴³Ren, N. et al., "Research on Performance Evaluation of Complex Product Project Work Breakdown." *Science and Technology Management Research* 16,2015:p.013.

²⁴⁴Rao, V. R., "Understanding common and specific applications of e-government: A case from India." *About the Editors*, 2012: p. 96.

²⁴⁵Kennedy, A. et al., "Business process change in e-government projects: The case of the Irish land registry." *Technology Enabled Transformation of the Public Sector: Advances in E-Government*. IGI Global, 2012. pp. 9-22.

²⁴⁶O'dell, C. and Grayson, C.J., "If only we knew what we know: Identification and transfer of internal best practices." *California management review* 40.3, 1998: pp.154-174.

Network availability, the amount of time a web site is available to customers is also critical in considering the success of e-government projects. Revenue is lost during down time, when customers cannot access the public service for instance payment of income tax, land rent or other services. Electricity supply and network maintenance ought to be sufficient to ensure availability of systems to users as required. A back-up system is necessary to ensure data is not completely lost in case of disasters such as fires, hacking, or sabotage to an e-government computer system.

In many countries the laws governing e-commerce are in their infancy and lag behind the applications of technology.²⁴⁷ They are unclear since they may not have been tested in a court of law. So managers have to take decisions not based solely on the law but on whether they think a practice is acceptable business practice or whether it could be damaging to the brand if problems arise and consumers complain.

The organization's sense of purpose, plans and actions provide a long term plan for the development of the organization.²⁴⁸ There is limited research on how businesses have integrated e-business strategy into existing strategy although Doherty and McAulay, have suggested that it is important that e-commerce investments be driven by corporate strategies.²⁴⁹ Similarly e-government projects apply the same factors and in addition the bureaucratic nature of government operations hinder organizational decision making where changes to processes are not effectively made.

²⁴⁷Liang, T.P. and Chih-Ping W., "Introduction to the special issue: mobile commerce applications." *International Journal of Electronic Commerce* 8.3, 2004: pp.7-17.

²⁴⁸Johnson, O. and Owusu, R.N., "An Assessment of Government's Ministries, Departments and Agencies (MDA) Readiness Towards E-governance and Government Programme in Ghana." 2013.

²⁴⁹ Doherty, N. and McAulay, L., "The Relationship Between the ex-ante and ex post information systems evaluation: reflections from the literature and the practice of evaluating e-commerce investments." *Proceedings of the Ninth European Conference on Information Technology Evaluation (ECITE 2002)*, Université Paris-Dauphine. Vol. 15, 2002.

Failed e-business strategies result due to various factors such as insufficient vigor in research, unrealistic objective setting, objectives not clear, strategy definition where poor decisions about models are made. The projects fail at the implementation stage due to problems with customer service, poor quality, inadequate infrastructure and lack of effective change management. Timing errors, lack of creativity, offering free services and over ambition as well result to failure in implementation of e-government projects.²⁵⁰

In most e-government portals majority of content is out of date, incomplete or inaccurate. The intranet is very inconsistent in appearance, particularly across sections managed by different groups. Almost all information on the intranet is reference material, not news or recent updates, most sections of the intranet are used solely to publicize the existence of business groups within the organization.²⁵¹ Therefore staff usage of the intranet is low, and not growing.

Environmental factors such as political stability,²⁵² population size and economy²⁵³ and lack of coordination among stakeholders,²⁵⁴ insufficient technical, financial and human resources hamper successful e-government implementation. Structural and process issues indicated by challenges of gaining resource and buy-in from staff and or management. Modification of organizational structure to support e-

²⁵⁰Chaffey, D., *E-business and E-commerce Management: Strategy, Implementation and Practice*. Pearson Education, 2007.

²⁵¹Bingi, P, et al., "The Challenges Facing Global E-Commerce." *IS Management* 17.4.2000: pp. 1-9.

²⁵² Backus, M., "E-governance in Developing Countries." *IICD Research Brief* 1.3,2001.

²⁵³ *Ibid.*

²⁵⁴ Gichoya, *ibid.*

government and the use of cross functional teams and steering groups, opting for Outsourcing vs in sourcing are decisions that should affect the project success.²⁵⁵

E-government projects face difficulties in finding specialist staff or agencies. Specific skill sets of teams for example, project management and content management are essential but not readily available. Human resource deployment and development is inadequate in most government organizations.²⁵⁶ Therefore the projects lack the requisite technical and specific skills to manage and implement e-government projects successfully.

Privacy legislation, guarantees a moral right of individuals to avoid intrusion into their personal affairs by third parties. Privacy of personal data (identity theft) may be compromised,²⁵⁷ when availing information on electronic format. Protecting the information systems that support critical information infrastructure assets from potential cybercrimes is a serious challenge facing the government. There is need for development of defence mechanisms and a legal system that is capable of addressing these issues. Therefore the legislature ought to provide laws for the protection of personal data and other cyberlaws to enable freedom and access to data on e-government platforms.

²⁵⁵Enemark, S. et al.,” Building modern land administration systems in developed economies.” *Journal of Spatial Science*, 50(2), 2005, pp.51-68.

²⁵⁶ *Ibid.*

²⁵⁷Varshney, U. and Vetter, R., “Mobile commerce: framework, applications and networking support.” *Mobile networks and Applications*, 7(3), 2002. pp.185-198.

2.10 Project Governance for E-government

The importance of project management for e-business and IT projects, and its challenges were discussed by KPMG.²⁵⁸ They found that projects failed in terms of delivering a return on investments or completion on time and within budget.²⁵⁹

Implementing complex e-government projects is complicated and requires sequencing and synchronizing involving carrying out a large number of components, which have to be executed properly.²⁶⁰ Where comprehensive planning for execution of e-governance projects is not done, this leads to delays and wastage of efforts and resources. Often the procurement of hardware is fast but other components lag behind.

In the System development lifecycle,²⁶¹ the implementation project manager has to schedule software and database configuration, data migration, testing and training even how to tailor user interface, database structure and security of the off the shelf package to the needs of the e-business solution.²⁶² It has to be User centered, where users are involved at all stages of development, in describing existing system, reviewing the prototypes and testing the system.²⁶³

²⁵⁸ *Ibid.*

²⁵⁹ Hardy, G., "Make Sure Management and IT Are on the Same Page." *Information Systems Control Journal* 3, 2002.

²⁶⁰ Inaugural address at IIT Delhi during International conference on e-Governance, 18th December, 2003, reproduced in Compendium of e-Governance initiatives in India; ed. Piyush G. & Bagga, R.K.; <https://www.csi-sigegov.org/publications.htm>).

²⁶¹ Turner, J.R., *The handbook of project-based management* (Vol. 92). McGraw-hill, 2014.

²⁶² Pettigrew, A. and Whipp, R., *Managing change for competitive success*. Wiley-Blackwell., 1993.

²⁶³ Müller, R., *Project governance*. Gower Publishing, Ltd, 2012.

²⁶³ Turner, J.R., "Towards a theory of project management: The nature of the project governance and project management." *International Journal of project management*, 24(2), 2006. pp.93-95.

Further technological solution providers do not fully grasp the functioning of the government organization while government functionaries have a poor grasp of technology. The ideal situation would be to find a government functionary who is equally conversant with technology and place him/her to manage implementation. However, domain specialists need to work in close coordination with the technology specialists.²⁶⁴ Project Management should consist of breaking up the entire e-governance projects into components and activities. Then identification and segregation of activities into those which are sequential in nature from which could be taken up in parallel. Preparing an implementation plan should include detailed plan and schedule for each activity, standard project management tools should be used. Allocating adequate resources both human and financial resources would be required. Commencement of the project activities identified and continuous tracking. Mid-course correction if need be and as determined through continuous monitoring of activities during implementation, midcourse correction may be resorted to in order to achieve the outcomes of the project.²⁶⁵

Change Management where individuals and organizations would have to change their way of working to be able to adapt to and accommodate these changes. This would require conducting a change management exercise within organizations in order to adapt to perception of loss of power, authority and discretion. It is also essential to inculcate faith in digital documents and develop a sense of ownership in the projects amongst the staff of the organization.

²⁶⁴ *Ibid.*

²⁶⁵ Piyush G., *ibid.*

According to a World Bank Report²⁶⁶ while bringing about change, personnel challenges that need to be addressed include the threat of job losses, which increase resistance. A real perceived threat of job loss should be addressed adequately to mitigate the damage to employee morale through inaccurate information. Employees need support and retraining for a new set of skills. Government staff may resent external staff where there is intrusion by external consultants on what is considered privileged domain and this creates stiff resistance. Therefore external staff should have time to talk to employees to reduce this resistance and fears.²⁶⁷

Essential elements for successful e-governance implementation are the will to change, following a particular mode of governance procedures tends to develop inertia and resistance to change. Old skills and habits will require to be replaced with new skills and new processes if e-governance is to sustain. Overcoming resistance to change by those who perceive it as a challenge to certain entrenched interests, such resistance would need to be overcome by demonstrating the potential benefits of e-government, how it strengthens the organization internally, creates goodwill externally and above all, enhances citizens' satisfaction. Training and capacity building need to be done for all officers to remove apprehensions of intrusive technology and e-governance is accepted as an achievable and desirable target.²⁶⁸

High level support does not ensure staff buy-in, senior officials and their staff may remain uncommitted if they do not see benefits from moving to a new system even

²⁶⁶ World Bank, Staff incentives and Project implementation: Lessons from e-government; October 2005.

²⁶⁷ *Ibid.*

²⁶⁸ Inaugural address at IIT Delhi during International conference on e-Governance, 18th December, 2003, reproduced in Compendium of e-Governance initiatives in India; ed. Piyush Gupta & R.K. Bagga; <https://www.csi-sigegov.org/publications.htm>).

when top political leaders support an e-government project. Staff become unenthusiastic when credit is not shared. Non-cooperation due to turf wars between departments undermines project success. Exaggerated risk aversion harms project credibility, fearing that new systems may not deliver, managers tend to continue manual systems in parallel. Thus, there is no incentive for staff to switch over to the new system. It also sends the signal that the new system is unreliable. Prolonging the trial period also discourages users from changing old habits thus making the final switch over all the more difficult.²⁶⁹

It is important for the Project Management to create a repository of best practices and innovation for sharing information. These could greatly encourage easy replication of such best practices and save valuable time and effort in avoiding those projects, which have inherent defects and have failed. The huge size of e-governance effort and the speed of implementation require large investments over a continuous period.

Tapping the financial, managerial and manpower resources of the private sector is a viable alternative. At times there is lack of congruence in the objectives of the two parties that is government and the private sector. Clarity of objectives has to be achieved at the outset, agreements defining the mutual role and responsibilities should be precisely drafted, following a transparent process of selection of the private partner.

²⁶⁹ *ibid*

Political support at the highest level is required. A bottom up approach will not suffice. Incentives, weaning government agencies from the mechanical application of technology to adoption of e-governance tools will require incentivizing e-governance among different entities and individuals. These incentives need to be reflected in the budgetary allocations. There is need for generating widespread awareness among the public at large, thus increasing the number of electronic interactions between citizens and the government.

2.11 E-government in Kenya

The Ministry of Lands was through a Presidential Directive in the year 2010 issued with an ultimatum to avail data on electronic medium, by Computerization and Automation of All Land Records.²⁷⁰ The president outlined plans by his administration to use Information Communication Technology to improve efficiency and cut wastage in public services. While uplifting the country's rating as an investment hub.²⁷¹

“These include the digitization of payments, the full automation of the procurement system of government, and the provision of a national master database known as the single source of truth.”²⁷²

Some of the e-government projects implemented in Kenya include the Integrated Financial Management Information System (IFMIS) and Integrated Personnel and Payroll Database (IPPD) and the Government Human Resource Information System (GHRIS), the Local Authorities Integrated Financial Operations Management Systems (LAIFOMS), Education Management Information System (EMIS),

²⁷⁰ Nyongesa, *ibid.*

²⁷¹ President Uhuru Kenyatta, Daily Nation 28 March 2014 pg. 34.

²⁷² *Ibid.*

Integrated Taxation Management Systems (ITMS) currently known as ITAX, online Recruitment and Selection System in the public service commission and the Border control System in the Ministry of state for Immigration and Registration of persons.

The government has set up a portal known as e-citizen from where e-government services already automated can be accessed including the search of land registry titles for Nairobi District Registry uploaded to the system. Thus electronic conveyancing to the extent that an official search of title to land can be accessed by citizens across the country without necessarily visiting the Nairobi District Registry.

The proposed electronic conveyancing system once implemented was to provide Conveyancers with an opportunity to improve their services by reducing time taken to complete a Conveyancing transaction.²⁷³ The surveyors would have an opportunity to view georeferenced cadastral information on land. Therefore a Research into the NLIMS implementation strategy and its impediments was vital to enable solutions invented to circumvent the challenges and eventual rollout plan.

The proposed NLIMS was expected to provide the property owners with better services. Transaction intermediaries, such as notaries, conveyancers, estate agents and surveyors with new tools to improve the services they offer and to modernize their own internal office procedures.²⁷⁴ The NLIMS would also provide financial institutions with a more structured system of payments, office ICT system suppliers with more business in the form of demand for more software to interface with

²⁷³ *Ibid.*

²⁷⁴ Draft NLIMS version 1.0 August 2008.

existing case and office management systems, the government agencies with greater efficiency in service delivery, payment receipt and information collection.²⁷⁵

It could be concluded that introduction of e-conveyancing could radically reshape the process of land conveyancing, not only to work better but to work in a way which could be handled completely electronically giving the customers a more efficient and effective service.²⁷⁶

2.12 Conclusion

This chapter discussed e-government as defined and theories of ICT adoption by various authors such as the Theory of Reasoned Action, Technology adoption model, the Unified Theory of Acceptance and Use of Technology guides the study. The general subject of conveyancing and electronic contracts, e-commerce applications and e-business infrastructure have been explained in detail and reasons why they fail in developing countries. In Kenya it is clear that e-conveyancing is an e-government projects which is hampered by the law of contracts require handwritten signatures for land transactions despite the Evidence Act providing for admissibility of electronic evidence.

²⁷⁵ *Ibid.*

²⁷⁶ Onalo, P. L., *Land law and conveyancing in Kenya*. Heinemann Kenya, 1986.

CHAPTER THREE

INTERNATIONAL FRAMEWORK ON E-CONVEYANCING

3.1 Introduction

In this Chapter a comparative analysis on e-conveyancing projects is undertaken of successfully implemented systems around the world especially the Australian systems because they share the common law and the Torrens principles on land with Kenya. Other countries where e-conveyancing systems or land information management systems have been implemented have been discussed such as the United Kingdom, Netherlands, South Africa and the New Zealand online system. This chapter aimed to review the legal aspects and implications of electronic conveyancing in Kenya compared to other best practices internationally and the challenges of implementation.

3.2 Electronic Conveyancing in Australia

The Torrens system introduced in Victoria, South Australia in 1862 is a method of recording and registering land ownership and interests on a single title document.²⁷⁷ Torrens system is used in Australia, New Zealand, Ireland, Malaysia, Singapore, Canada, England and Wales, and also in Kenya.²⁷⁸ The Torrens title system works on the principles of the maintenance of a public register of titles and interests on land, the assurance that, once registered, a title or interest cannot be defeated and the guarantee of a compensation fund in the event of a fraudulent or erroneous registration.²⁷⁹ Although

²⁷⁷Garoupa, N. M., and Gomez L. C., "The Evolution of the Common Law and Efficiency." *Journal of International and Comparative Law*, 2012; Illinois program in Law, Behavior and Social Science Paper No. LBSS11-16. <http://ssrn.com/abstract=1805141>.

²⁷⁸ See chapter 1.1 on electronic conveyancing in Kenya.

²⁷⁹Low, Kelvin F.K. "The nature of Torrens indefeasibility: Understanding the limits of personal equities." *Melb. UL Rev.* 33. 2009: p. 205.; Assoc Prof Cameron Stewart. *Introduction to Torrens System: Indefeasibility*, 2009.

each state in Australia has its own land registration practices and procedures, however, all States adopted the Torrens system for land title registration.²⁸⁰

Electronic Conveyancing (EC)²⁸¹ is a world first online settlement and lodgment system developed by the Victorian Government in collaboration with the conveyancing industry.²⁸² EC eliminates the need for paper-based settlements drawing cheques and meeting to exchange documents on settlement day and manually lodging instruments into Land Victoria. In the EC system clients engage registered subscribers to act on their behalf. The subscriber uses the online EC system on behalf of their clients to settle land transactions, including the payment of duty to the relevant state tax or revenue office and lodge documents electronically from their personal computers.²⁸³ The benefits of using EC are reduced costs for the parties and lower charges on statutory fees than for paper systems.²⁸⁴

In other jurisdictions in Australia the exchange of paper documents at settlement was done to complete the transfer of property and so was the physical lodgment of signed and witnessed paper documents to effect changes in the titles register.²⁸⁵ As Eugene, observed, a common regulatory framework was required to enable documents in an

²⁸⁰Eugene C. "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.* 21, 2011: p. 62.

²⁸¹The full EC system EC Release 2.0 was launched on 16th November 2007 and enhanced functionality has been provided in subsequent releases. The current EC Release 6.2 was launched on 29th August 2012.

²⁸²<http://www.ec.land.vic.gov.au/a-about.html> accessed on 12/1/2017.

²⁸³Rouhahl Low, "The use of technology to automate the registration process within the Torrens system and its impacts on fraud: An analysis." 2008.

²⁸⁴https://www.google.com/http://ec.europa.eu/justice/newsroom/files/programme_management_guide_en.pdf accessed 16/1/2017

²⁸⁵Griggs, Lynden., "The doctrinal coherence of the Torrens system of land registration in Australia: evolution or revolution?." 2016.

electronic form to be lodged under the Torrens land title legislation in each State and Territory.²⁸⁶

In Australia, while regulatory and administrative responsibilities are state-based, many key industry participants for example major banks and independent mortgage processors are increasingly national in their operations. However, each jurisdiction has its own land registry in accordance with jurisdiction specific legislation and practices managed by a Registrar who is responsible for the administration of the titles register.²⁸⁷

Historically the process of updating the titles register has been paper based. Although in the last two decades financial institutions and industry practitioners have embraced electronic systems in communication and administration dealing with real property transactions. It was recognized that the development and implementation of National Electronic Conveyancing within Australia was required to improve the efficiency of real property conveyancing.²⁸⁸

The roles and responsibilities of key participants and technology required to be changed to enable the move to an electronic business environment for conveyancing.²⁸⁹ There was need to bridge the gap between Land Registries systems and conveyancing industry systems so as to give way to full utilization of electronic systems. Conveyancing documents generated electronically are printed and signed by the parties, physically

²⁸⁶Eugene, C., "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.* 21,2011: p. 62.

²⁸⁷Marwick, Brian. *A Collaborative Framework to Support a National Land Information Infrastructure in Australia*. University of Melbourne, Department of Infrastructure Engineering, 2013..

²⁸⁸Janssen, V., et al., "CORSnet-NSW: Towards state-wide CORS infrastructure for New South Wales, Australia." 2010.

²⁸⁹Beynon-Davies, P. and Williams. M. D., "Evaluating electronic local government in the UK." *Journal of Information Technology* 18.2 2003: pp. 137-149..

exchanged and lodged with the Land Registry for updating of the titles register. Some States in Australia have made progress in bridging that gap, there has not been any nationally consistent approach to providing a facility for conveyancing transactions to be managed electronically from the conveyancing process itself right through to registration of the transaction.²⁹⁰

Recognizing the opportunity for efficiencies from a national approach to electronic conveyancing, the eight States and Territories in Australia joined with key industry and professional stakeholders in 2005 to co-operatively develop National Electronic Conveyancing (NEC). The implementation of NEC was then formalized by inclusion by Council of Australian Governments (COAG) as one of a group of reforms to be delivered pursuant to the COAG Agreement,²⁹¹ to which all States and Territories of Australia are parties.

COAG charged its Business Regulation and Competition Working Group (BRCWG) with responsibility for implementing the COAG Agreement, including National Electronic Conveyancing. As conveyancing is subject to State, rather than Federal laws, the Commonwealth is not otherwise directly involved in the project.²⁹² The COAG Agreement includes an implementation plan with agreed milestones, deregulation

²⁹⁰Low, R., "Maintaining the integrity of the Torrens system in a Digital environment: A comparative overview of the Safeguards used Within the Electronic Land Systems in Canada, New Zealand, United Kingdom and Singapore.," *Australian Property Law Journal* 155,2005: P. 176.

²⁹¹Marwick, Brian. *A Collaborative Framework to Support a National Land Information Infrastructure in Australia*. University of Melbourne, Department of Infrastructure Engineering, 2013.

²⁹²Low, R., "From Paper to Electronic: Exploring the Fraud Risks Stemming From the Use of Technology to Automate the Australian Torrens System," *Bond Law Review*: Vol. 21: Is. 2, Article 7, 2009.

priorities, including NEC.²⁹³ All jurisdictions except for the Australian Capital Territory have signed an Intergovernmental Agreement for an Electronic Conveyancing National Law (IGA).²⁹⁴ The Australian Registrars Electronic Conveyancing Council (ARNECC) was established. ARNECC is comprised of the Registrar from each jurisdiction or his or her nominee.²⁹⁵

The Registrar of each jurisdiction becomes a member of ARNECC, or may appoint a nominee in his or her stead, upon the Registrar's jurisdiction signing the IGA. ARNECC is the body established to facilitate the implementation and ongoing management of the regulatory framework for NEC to the extent that it facilitates or relates to the lodgment of documents with the Registrar and an Electronic Lodgment Network Operator's (ELNO) relationship with the Registrar.²⁹⁶ The (ECNL) facilitated the implementation of NEC,²⁹⁷ by providing legislative authority for the creation and lodgment of electronic instruments and provides that electronic instruments are to be treated in the same manner as paper instruments.²⁹⁸

National Electronic Conveyancing in Australia is delivered through an online business platform called an Electronic Lodgment Network (ELN).²⁹⁹ An ELN is a web-based "hub" for parties to a conveyancing transaction to electronically prepare and settle the

²⁹³National Partnership Agreement to Deliver a Seamless National Economy (SNE NP); Report card prepared by the COAG Business Advisory Forum Taskforce April 2013.

²⁹⁴The IGA came into effect on 21 November 2011.

²⁹⁵Electronic Conveyancing Bill 2013.

²⁹⁶National Law Regulation Impact Statement for Decision February 2013. ris.pmc.gov.au/sites/default/files/posts/2013/02/03-Electronic-conveyancing-RIS.pdf.

²⁹⁷National Electronic Conveyancing is a legislative and business environment for the preparation and lodgment of registry instruments with Land Registries electronically and settlement of real property transactions electronically.

²⁹⁸South Australia operating requirements Electronic conveyancing Published; Determined by the Registrar-General with regard to Australian Registrars National Electronic Conveyancing Council's (ARNECC) Model Operating Requirements 21 January 2016.

²⁹⁹<https://www0.landgate.wa.gov.au/for-individuals/legislation-and-reform/electronic-conveyancing> Accessed on 16/1/2017.

transaction and to electronically lodge the documents for registration at the land registry.³⁰⁰ In addition to providing a gateway for lodgment of documents with the land registries, the ELN is expected to provide a mechanism for the settlement of the financial aspects of a conveyancing transaction. Subscribers are registered with the ELN for security reasons and are entitled to use the system on behalf of their clients or on their own behalf. They include lawyers, bankers and other conveyancing experts.³⁰¹

A subscriber representing a client enters into a Client Authorization agreement authorizing the subscriber to act for the client in an electronic transaction. Before entering into the client authorization agreement, the subscriber must verify the identity of the client in accordance with verification of identity rules.³⁰² A subscriber creates electronic documents for example registry instruments and instructions, settlement schedule, in an electronic workspace shared with other subscribers acting in relation to, or involved in, a conveyancing transaction.³⁰³ Various data and lodgment verification checks occur before settlement.

The electronic documents are signed by the subscriber affixing a digital signature to the documents. If the conveyancing transaction is complete and ready to settle on the nominated settlement date, financial settlement occur automatically by electronic funds

³⁰⁰ ARNECC Discussion Paper Proposed Electronic Conveyancing National Law.

³⁰¹ Kate Doust MLC Hon., Report 85 Standing Committee On Uniform Legislation And Statutes Review Electronic Conveyancing Bill 2013..

³⁰² Electronic Conveyancing National Law – Client Authorization Form Australian Registrars National Electronic Conveyancing Council. 14 February 2013.

³⁰³ Electronic Conveyancing National Law (NSW) Sec 23; NSW operating Requirements for e-conveyancing. Determined by Registrar General. v.3. November 2015.

transfer.³⁰⁴ Once settlement has occurred the land registry instruments are electronically lodged with the appropriate land registry.³⁰⁵

The decision to introduce a national system for electronic conveyancing was mandated by COAG when NEC was included in the National Partnership Agreement to deliver a Seamless National Economy 2008(the COAG Agreement).³⁰⁶ The ECNL provides the legislative basis to enable documents in electronic form to be lodged and dealt with under the land titles legislation of each participating jurisdiction and facilitate the introduction of National Electronic Conveyancing.

In line with COAG's Best Practice Regulation Guide, a range of feasible policy options, including non-regulatory, self-regulatory, co-regulatory and government regulatory approaches were considered, as well as the do nothing option as a baseline.³⁰⁷ Based on assessment of the options against the agreed performance objectives and on the recommendations, the conclusion was that the proposed ECNL and government regulation of electronic conveyancing is the most favorable option.³⁰⁸ The proposed ECNL and government regulation of electronic conveyancing was deemed necessary to

³⁰⁴Explanatory Memorandum Prepared for The Joint Standing Committee on Delegated legislation. WA Participation Rules Version 3. Determined by The Registrar of Titles under Section 23 of the Electronic Conveyancing Act 2014.

³⁰⁵From 2009 onwards key stakeholders were involved in the development of the legal framework for National Electronic Conveyancing, culminating in the release on 30 March 2012 of the draft Model Participation Rules, draft Model Operating Requirements and the draft ECNL for comment. In addition the Consultation Regulation Impact Statement (Consultation RIS) with the draft ECNL was released on 6 July 2012.

³⁰⁶The Consultation RIS was prepared under the oversight of the ARNECC and with the assistance of KPMG in accordance with the Council of Australian Governments (COAG's) *Best Practice Regulation Guide* and in consultation with the Office of Best Practice Regulation (OBPR).

³⁰⁷These regulatory options were reviewed against the performance objectives agreed with stakeholders during development of the NECS Legal Framework Development Report" prepared by Clayton Utz.

³⁰⁸ *Ibid.*

implement National Electronic Conveyancing and to ensure that it operates with at least the same legal efficacy as the regulated paper-based system.³⁰⁹

There was wide consultation amongst stakeholders seeking comments and information on specific areas of interest whose views were considered and incorporated in the development of the legal framework. These included key differences in regulation of practitioners and of conveyancing practice among jurisdictions, identification of current conveyancing processes in jurisdictions and future NEC processes. Statement of purpose and performance objectives for the legal framework for NEC, proposed legal framework, including the intergovernmental agreement, development of model rules, insurance and professional liability issues were proposed.³¹⁰

The move to an electronic business environment for conveyancing required both amendment of existing legislation in some jurisdictions to allow electronic conveyancing. As well as new provisions to facilitate the lodgment of electronic documents with the Land Registries for registration in the Torrens title registers. Given the number of different stakeholder groups involved in the conveyancing process and the significance of each State and Territory in the regulation of the process and operation of the Land Registries, government action was required.

There was need to implement the common regulatory framework to facilitate the delivery of National Electronic Conveyancing committed to by the COAG Agreement. In order to provide the confidence necessary for the significant investment required by all

³⁰⁹Clayton Utz undertook extensive stakeholder consultation during 2009 as part of the development of the legal framework for National Electronic Conveyancing.

³¹⁰Introduction of the Electronic Conveyancing National Law, Consultation Regulation Impact Statetement, July 2012.

stakeholders and maximize the economic benefits from the change. The prospects for enabling legislation, Operating Requirements, Participation Rules and jurisdictional practices and requirements to have uniform operation and effect across all jurisdictions. There was need for specific jurisdictional variations on certain subject matters where necessary; and to provide the required infrastructure and systems in the land registries to be able to accept, investigate and register electronic land transaction documents.³¹¹

The ECNL in conjunction with the IGA promote consistency and the minimization of jurisdictional specific requirements which lead to a reduction of jurisdictional differences and a lowering of compliance costs.³¹² The COAG Agreement was intended to contribute to creating a seamless national economy, reducing costs incurred by business in complying with unnecessary and inconsistent regulation across jurisdictions; enhancing Australia's longer-term growth, improving workforce participation and overall labor mobility and expanding Australia's productive capacity over the medium-term through competition reform, enabling stronger economic growth.³¹³

All jurisdictions in Australia have an Electronic Transaction Act (ETA) that is modelled on the Commonwealth ETA. The ETA provides that requirements under a law of the jurisdiction may generally be met in an electronic form.³¹⁴ The effect of the ETA is to ensure that mere use of electronic communications for a particular transaction does not

³¹¹Better Property Services; Assessing the Economic Value of a Better Property Services (BPS) Future. Annex C to Final Report: Case Study, Australia. Version 1.0, November 2013.

³¹²https://www.arnecc.gov.au/compliance/compliance_examinations accessed on 16/1/2016.

³¹³An agreement between the Commonwealth and the States and Territories to facilitate the implementation and reward the delivery of reforms that assist in the creation of a seamless national economy.

³¹⁴De Z. A., "Electronic transactions legislation: an Australian perspective." *The International Lawyer* 2003: 1009-1021.

render the transaction invalid. Significantly, at the time the ETA was passed it was generally accepted that it should not apply to conveyancing transactions which resulted in the exclusion of the application of the ETA to transactions with land in some jurisdictions such as New South Wales and South Australia.³¹⁵

It is considered that implementation of National Electronic Conveyancing will require a specific authorization for the Registrars to receive registry instruments by electronic lodgment and to register such instruments with the same effect as receiving and registering paper instruments under the jurisdiction's Torrens legislation. This is considered necessary as there has been some doubt expressed that the ETA in each jurisdiction provides sufficient certainty for the registration of conveyancing transaction instruments in the titles registers.³¹⁶

In Kenya stakeholder consultations were initiated through the Land Reform Transformation Unit (LRTU) on NLIMS implementation although no conclusive decisions were undertaken. The development of the NLIMS by the National Land Commission have conducted several workshops without engaging the legal framework. The National Land Information Management System (NLIMS) is expected to take the form of a hub just like the Electronic Lodgement Network (ELN) although it is not yet fully developed. Unlike in Australia, where legislation has provided for e-transactions on land, in Kenya the Land Act³¹⁷ provides that the execution of any instrument by a person

³¹⁵A Guide to Exemptions in the Electronic Transactions Act (ETA) in Australia, September 2004.

³¹⁶Christensen, Sharon A., "Electronic Land Dealings in Canada, New Zealand and the United Kingdom: Lessons for Australia." *ELaw Journal: Murdoch University Electronic Journal of Law* 11.4 2004: pp.1-29.

³¹⁷ Land Act No. 6, 2012. Section 44(2).

shall consist of appending a person's signature on it or affixing the thumbprint or other mark as evidence of personal acceptance of that instrument.³¹⁸ The Land Registration Act, require the Chief Land Registrar to avail data in electronic format, although no similar legislation exists in Kenya to enable documents in electronic format to be lodged at the land registry as seen in the ECNL.³¹⁹

3.2.2 Automated Land Title System of Queensland

In Queensland, The Land Title Act³²⁰ was enacted to enable use of information technology in maintenance of the land registry and improve the registration system, also to consolidate and reform the law in relation to the registration of interests in freehold land.³²¹ The new electronic system was introduced in several phases. In the initial phase, a preliminary analysis of the existing system was done, a comprehensive vision of how a new system would operate and the development of an implementation strategy to achieve that goal.³²² The design and implementation of an image processing system that replaced the microfilm as a means of storing documents in the Land Titles office.³²³ This software enabled whole documents of registered survey plans and titles to be scanned into the system rather than merely inputting information.³²⁴ This paved way for commencement of a paperless system.

³¹⁸ Land Act No. 6, 2012. Section 44 (4) An instrument executed out of Kenya shall not be registered unless it has endorsed on it or attached to it a certificate in the prescribed form completed.

³¹⁹ As discussed in Chapter 1.2 and Land Registration Act No.3 of 2012.

³²⁰ The Land Title Act 1994 (Qld) Queensland-Australia

³²¹ The Land Title Act 1994 (Qld) s.3.

³²² Sharon A.C., et al., "Electronic Title in the New Millenium." *The Flinders Journal of Law Reform* 4(2)2000, School of Law, Flinders University. 2000: pp. 209-234.

³²³ *Ibid.*

³²⁴ Thomas, R., et al.. "Australasian Torrens automation, its integrity, and the three proof requirements." *New Zealand Law Review* 2013, no. 2 (2013): 227-262.

In January, 1997 the Titles office commenced scanning all other registered instruments, which allowed registered instruments to be retrieved electronically via the public access system. Scanning equipment was installed at various lodgment centers throughout the State to enable documents to be imaged immediately on being lodged. These images were then transmitted electronically to the examinations and registrations staff.³²⁵ The next phase in the process offered a fully automated search and retrieval function which legal practitioners could access from their offices. The final stage yet to be implemented is to allow the lodgment of documents by authorized legal practitioners from their offices via optical character recognition.³²⁶

In respect to Kenya the process of scanning land paper documents has been undertaken by several different contractors without any tangible results to the users. These scanning attempts have failed to result in electronic conveyancing thus need for comparison with jurisdictions that have succeeded in the implementation of electronic conveyancing.

3.2.3 Electronic Title in Australia

The Land Title Act³²⁷ retained the Torrens principle of title by registration but made certain alterations to accommodate the electronic system.³²⁸ For instance upon registration of a dealing on a plot, a new title does not issue unless the registered owner makes a request for the title in writing.³²⁹ However, if the lot is subject to a registered mortgage, the Registrar may issue the Certificate of Title only if the mortgagee

³²⁵ Amanda P. *ibid.*

³²⁶ Optical Character recognition refers to a system which blends optical scanning with image processing, document information can be compared to registered title information and in some cases can be directly entered into the electronic title register.

³²⁷ The Land Title Act 1994 (Qld) Queensland-Australia.

³²⁸ The Land Title Act 1994 (Qld) Queensland-Australia.

³²⁹ Land Title Act 1994 (Qld) s42.

consents.³³⁰ In Kenya the issuance of a paper title is mandatory and conclusive evidence of registration and ownership of land. The proprietor of land is issued with a paper document of title commonly known as Title Deed as proof of ownership.

Under the Act, possession of a paper title is not evidence of ownership, but where a paper title has issued it will contain a certified copy of the indefeasible title for the lot.³³¹ An indefeasible title is defined as the “current particulars in the freehold land register about the lot,”³³² and is created upon the recording of particulars in the Freehold Land Register. Verification of title is possible by searching the Freehold Land Register within business hours on the payment of a prescribed fee or electronically through an authorized provider to obtain a copy of the indefeasible title for a lot or any registered instrument certified by the Registrar to be correct.³³³ In Kenya, an official search of the particulars of a property is conducted to ensure that the copy of original title held by the proprietor is the true reflection of the registration particulars.

A document purporting to be a certified copy of the indefeasible title is evidence of the indefeasible title.³³⁴ A person with electronic title only is not required to obtain a paper title in order to lodge instruments for registration in relation to a lot. However, where a certificate of title has issued, any dealing with the lot will only be registered if the Certificate of Title is returned for cancellation.³³⁵ Similarly in Kenya, the production of the Original Certificate of Title is required for subsequent dealings and registration of

³³⁰Land Title Act 1994 (Qld) Section 42(1) (2).

³³¹*Ibid.* section 42 and 43.

³³²*Ibid* section 37.

³³³*Ibid* section 35.

³³⁴Land Title Act 1994 (Qld) s36(1).

³³⁵Land Title Act 1994(Qld) s154(2).

either transfer or charge. In the case of a transfer a new certificate of title is issued while the old one is cancelled.

In planning the system it was intended to benefit the overburdened paper system in the creation of efficiencies and certainty in relation to the registration process, an enhanced service to clients through remote access and a security of title not available through a paper system. Processing at the time of lodgment of the instrument it is immediately scanned into the system. This automatically notes the type of instrument and the time of lodgment. Due to the document imaging process a greater number of Land title centers have opened and accept documents for registration. This has resulted in improvement of services to all areas of the state.

Once the document is scanned it can be viewed in any Titles Office within the State. Images as opposed to paper can circulate through the registration process more quickly and cannot be misplaced in the process. Branches are able to assign work to individual staff members anywhere within the state regardless of where the registration request originates. The electronic viewing system therefore increases flexibility of the Land Titling system and also increases speed of registration.³³⁶ After examination the instrument is either registered or a requisition issued requiring an alteration to the instrument. Once the requisition is attended to, the document will be re-examined and if satisfactory it is registered. The time from lodgment to registration is on average 24 hours, with details available to be viewed from the time of lodgment.³³⁷

³³⁶ Amanda P. *ibid.*

³³⁷ *Ibid.*

Clients of the Land Titles Offices are able to obtain faster results from searching and inquiries electronically as a result of the automated Title System. Retrieve electronic images via the public access system almost immediately they are lodged for registration, resulting in enhancement of the service to clients both in terms of flexibility and speed. The security of title offered by the automated title system has two aspects, Information concerning instruments lodged for registration is entered in both systems, the backup system is a closed system which cannot be accessed electronically from outside the Titles Office. The Titles office stores electronic media offsite for recovery purposes in the event of a disaster.

The Land Registration Act,³³⁸ in Kenya does not provide for electronic title but a paper based certificate of title unlike in the Freehold Land Register. A search is made electronically which gives the particulars of the registered parcel of land in the e-citizen portal, however it is not conclusive evidence unless it is signed and certified by the Registrar. The digitization process in Kenya has not been rolled out to all county registries as only the Nairobi District Registry which is operating both manual and electronic data entry platforms.

3.2.4 Electronic Conveyancing National Law (ECNL)

To promote efficiency in real property conveyancing a common legal framework that enable lodgment of documents in electronic form under the land titles legislation of each jurisdiction in Australia was proposed.³³⁹ The ECNL provide authority to the Registrar in respect of electronic transactions to supplement the existing powers in each jurisdiction's

³³⁸Land Registration Act No.3 of 2012.

³³⁹Stanfield, A. R., "The authentication of electronic evidence." 2016.

land titles legislation. In doing so the ECNL has application beyond National Electronic Conveyancing and enable all forms of electronic lodgment with a Land Registry.³⁴⁰

While real property transactions become indefeasible once registered in the titles register of the respective jurisdiction. The validity of electronically conducted land transactions must be put beyond doubt in view of the significance of a stable and secure land titling system to land owners.³⁴¹ Accordingly, in order to authorize the lodgment and registration of electronic instruments, it is considered necessary that the ECNL include provisions to supplement the ETA.

The ECNL provides that documents may be lodged electronically in a form and by a means approved by the Registrar. The Registrar must receive and deal with documents lodged electronically, electronic documents have the same status as the equivalent paper documents and documents signed digitally by a subscriber, have the same effect as if they had been executed by the relevant party.³⁴²

The subscriber will digitally sign registry instruments on behalf of their client. Where a subscriber is engaged to represent a client, an unequivocal form of client authorization is necessary. The client authorization provide clear authority for a subscriber to digitally

³⁴⁰ ARNECC Discussion Paper; Proposed Electronic Conveyancing National Law.

³⁴¹ Griggs, Lynden. "The doctrinal coherence of the Torrens system of land registration in Australia: evolution or revolution?." 2016.

³⁴² Lisa Carter., A National Law for Electronic Conveyancing-New Rules and Practices for Queensland. May 24, 2013. <http://blog.thomsonreuters.com.au/2013/05/a-national-law-for-electronic-conveyancing-new-rules-and-practices-for-queensland/> accessed on 16/1/2017.

sign registry instruments on their client's behalf. The client authorization have some similarities to a power of attorney, though for specific purposes.³⁴³

The ECNL provide that by entering into an approved form of client authorization, a transacting party may authorize a subscriber to firstly, digitally sign electronic registry instruments, secondly, sign other electronic documents on that transacting party's behalf. Thirdly, lodge electronic registry instruments and other electronic documents with the relevant Land Registry, and finally, authorize any financial settlement involved in the transaction and do anything necessary to complete the transaction electronically.³⁴⁴

Digital signatures are an important part of National Electronic Conveyancing's inbuilt technical and legal measures to provide confidence in electronic conveyancing. In particular the integrity of digitally signed electronic documents. A strong, reliable and trusted structure for digital signatures mitigates the risk of a subscriber.³⁴⁵ Subscriber accountability in digital signatures is vital for the success of National Electronic Conveyancing.³⁴⁶ A subscriber cannot repudiate a digital signature created with his authority.³⁴⁷

³⁴³Low, R., "From Paper to Electronic: Exploring the Fraud Risks Stemming From the Use of Technology to Automate the Australian Torrens System." *Bond Law Review* 21, no. 2, 2010:p. 7.

³⁴⁴Thomas, R, et al., "Land fraud and inappropriate dealings in an electronic environment: An Australian and New Zealand perspective." 2012.

³⁴⁵Bohn, B., "Electronic Signature Legislation." 2005.

³⁴⁶Land and Property Management. NECS in NSW Consultation Papers. A Consultation Process Addressing Transaction Specification, Business Practice And Implementation Arrangements for the National Electronic Conveyancing System (NECS) and relevant requirements of industry and community members in NSW., November 2009.

³⁴⁷Electronic Conveyancing National Law, Model Operating Requirements and Model Participation Rules Australian Registrars National Electronic Conveyancing Council, May 2012.

3.2.5 Electronic Lodgment Networks and Electronic Lodgment Network

Operators

In each jurisdiction it is the Registrar who has responsibility for the administration of the titles register and the registration of registry instruments. The Registrars (ARNECC) collectively set conditions for authorization of an Electronic Lodgment Network Officer (ELNO) and conditions for access and use of an Electronic Lodgment Network (ELN).³⁴⁸

An ELN is an electronic system or platform that enables the preparation and lodging of registry instruments in electronic form. The Electronic Conveyancing National Law (ECNL) empowers the Registrar to operate or to authorize one or more persons to operate an ELN in respect of land in the jurisdiction.³⁴⁹

National E-Conveyancing Development Limited (NECDL), a company established by the New South Wales, Victoria, Queensland and Western Australian governments, was expected to be the first ELNO once the ECNL was in place.³⁵⁰ However, the legal framework did not preclude other organizations from applying to become an ELNO.³⁵¹ In case other ELNOs are approved in future, interoperability may need to be provided for in the operating requirements. However, interoperability will be facilitated by the fact that all ELNOs will be required by the operating requirements to use a data standard set by ARNECC for data communications between themselves and the land registries.³⁵²

³⁴⁸ Electronic Conveyancing (National Uniform Legislation) Act 2013 (No 13 Of 2013) - Sect 16.

³⁴⁹ Introduction of the Electronic Conveyancing National Law; Regulation Impact Statement for Decision, February 2013.

³⁵⁰ Clark, E., "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.* 21, 2011: p.62.

³⁵¹ National electronic conveyancing: Western Australian developments
https://www.lavan.com.au/advice/banking_finance/national_electronic_conveyancing_western_australian_developments

³⁵² Clark, E., "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.* 21 2011: 62.

In managing electronic conveyancing the Registrar renew the approval of an ELNO if the ELNO continues to comply with the operating requirements, or revoke or suspend the approval of an ELNO in certain circumstances to be set out in the operating requirements. The Registrar monitors activities in an ELN for any purpose, including ensuring that the integrity of the titles register is maintained.³⁵³

3.2.6 Operating Requirements and Participation Rules

The ECNL empowers the Registrar to determine requirements relating to the operation of an ELN, known as operating requirements and requires that an ELNO must comply with the operating requirements.³⁵⁴ These may cover topics such as the financial standing of an ELNO, operational and technical standards, insurance cover to be held by an ELNO, the suspension or revocation of an ELNO's approval and directions to an ELNO to restrict, suspend or terminate a subscriber's use of an ELN.³⁵⁵

The Registrar may determine rules relating to access to and use of an ELN, participation rules. The ECNL requires that subscribers comply with the participation rules which may cover topics such as eligibility criteria for subscribers, representation or warranties to be given by subscribers, suspension or termination of a subscriber's access, obligations of subscribers to verify the identity of their client, or certification of registry instruments, digital signatures and the retention of documents by subscribers.³⁵⁶

³⁵³Electronic Conveyancing (National Uniform Legislation) Bill 2013; Legislative Assembly of the Northern Territory; Attorney-general and minister for justice, Electronic conveyancing (National uniform legislation) Bill 2013.

³⁵⁴Electronic Conveyancing National Law, Model Operating Requirements and Model Participation Rules Australian Registrars National Electronic Conveyancing Council May 2012.

³⁵⁵Duncan, W. D., et al. "Property Law Review-Issues Paper 6: Property Law Act 1974 PLA Part 1-4, Part 6 (Deeds) and Part 20 (Notices)." 2016.

³⁵⁶Lim, Yee Fen. "Digital signature, certification authorities and the law." *Murdoch University Electronic Journal of Law* 9.3 2002.

If a subscriber fails to comply with the participation rules relating to the subscriber's use of an ELN, the Registrar may restrict, suspend or terminate the subscriber's use of an ELN provided by the Registrar or, in respect of an ELN operated by an ELNO, direct the ELNO to restrict, suspend or terminate the subscriber's use of the ELN. ARNECC will determine model operating requirements and model participation rules that are intended to be adopted by each Registrar so that they are nationally uniform.³⁵⁷ The Registrar must ensure the current and superseded versions of the operating requirements and participation rules are publicly available and any changes to the operating requirements or participation rules usually must be published at least 20 business days before the changes take effect.

The ECNL provides a right of appeal to a responsible court to be nominated in each jurisdiction's application law, against the decision of a Registrar to refuse to approve the person as an ELNO. The right of appeal can only be exercised once a person has received written grounds for the decision. Consequently, it will be necessary for the Registrar to have the ability to check compliance with the operating requirements and participation rules, either on a random compliance assurance basis or as part of an investigation into alleged or suspected misconduct.³⁵⁸

Compliance examinations may be made by attendance at the party's premises, after reasonable notice, to inspect the required documents or by requiring documents to be produced to the Registrar within a specified period.³⁵⁹ These may be conducted in

³⁵⁷Stanfield, Allison R. *The authentication of electronic evidence*. Dissertation. Queensland University of Technology, 2016.

³⁵⁸Electronic Conveyancing National Law, Model Operating Requirements and Model Participation Rules. Australian Registrars National Electronic Conveyancing Council May 2012.

³⁵⁹NECS in NSW Consultation Papers. A Consultation Process Addressing Transaction Specification, Business Practice And Implementation Arrangements for the National Electronic Conveyancing

tandem with other professional compliance inspections by or on behalf of regulatory bodies such as conveyancing or legal practice regulators or revenue officers.³⁶⁰ As indicated in the rules and regulations for ELNO,³⁶¹ in Kenya there is need to regulate the operations of conveyancing practitioners through the enactment of enabling legislation. This should empower the Registrar and government to combat fraud and other unauthorized practices in electronic conveyancing. The Registrar should be given authority to terminate access and control the use of the NLIMS.

The ECNL does not affect or change any existing compensation rights under the States and Territories Torrens title legislation. It does, however, provide that where the Registrar has acted in good faith no person is entitled to receive compensation for any loss or damage arising out of anything done or omitted, or in connection with the monitoring of activities in an ELN. This includes any decision made as to how activities in an ELN are to be monitored or how a compliance examination is to be conducted.³⁶²

To ensure consistency in interpretation nationally, the ECNL excludes the operation of each jurisdiction's usual interpretation laws. It includes a standard schedule of interpretation provisions to ensure consistent interpretation in all jurisdictions applying the ECNL.³⁶³ Certainly, the National Electronic Conveyancing System (NECS) model has not been designed to specifically deal with the allocation of fraud risk. On the NECS

System (NECS) and relevant requirements of industry and community members in NSW., November 2009.

³⁶⁰<http://blog.thomsonreuters.com.au/2013/05/a-national-law-for-electronic-conveyancing-new-rules-and-practices-for-queensland/>

³⁶¹ ARNECC Discussion Paper; Proposed Electronic Conveyancing National Law.

³⁶² Skead, N.K., and Penny C., "Fraud Against the Registrar--An Unnecessary, Unhelpful and Perhaps, No Longer Relevant Complication in the Law on Fraud Under the Torrens System." 2014.

³⁶³ <http://www.parliament.qld.gov.au/documents/committees/AREC/2012/eConveyancingNLQB/rpt-019-12Mar2013.pdf>

website is stated that “the NECS design is based on, maintaining the existing risk allocations and management philosophies in the paper-based conveyancing and settlement processes.”³⁶⁴

Conveyancers will still be responsible for the registration of title documents as part of the conveyancing transaction and will be responsible for identifying their clients and acting in their best interests. A recent study based upon the current NECS model has concluded that the types of fraud currently occurring in the paper system, i.e., forgery of signature and identity theft, fraud by solicitors and conveyancers, can continue to occur in the proposed NECS.³⁶⁵ Therefore the NECS model is not fool proof and can not be said to reduce the risks faced by conveyancers although it will improve in efficiency and effectiveness of transactions on land.

In relation to forgery of signature it is noted that whilst NECS certifiers will digitally sign mortgage and title instruments on behalf of their clients, NECS requires a client authorization form to be completed and physically signed by the client, in which case, fraud may still be perpetrated by a fraudster who forges a signature on the authority and the witness does not follow the proper attestation or the attestation is also a forgery. In this respect the paper concluded that “the only difference between the paper system and the NECS is that in the paper system, the forgery is on the land title document, whereas in the NECS, it is on the authorization form.”³⁶⁶

³⁶⁴Watkins, P., "FRAUD IN CONVEYANCING." In *kertaskerja yang dibentangkan di Australian Institute of Conveyancer 2007 National Conference, New South Wales*, pp. 23-25.

³⁶⁵Brennan, G., *The Impact of e-Conveyancing on Title Registration*. Vol. 10. Springer International publishing. Switzerland. Accessed from doi, 2015.

³⁶⁶Yee F. L., "Digital Signature, Certification Authorities and the Law" *Singapore Journal of International & Comparative Law* Volume 9, Number 3. September 2002.

Identity fraud can also continue to occur in the NECS and the onus will continue to be placed on the conveyancer as a subscriber to the NECS to properly identify the client. In this regard, the NECS will require conveyancers to provide certifications on electronic instruments prior to signing them on behalf of their clients.³⁶⁷ The conveyancer must certify that the “prescribed procedures” in verifying the identity of the client have been followed, and the conveyancer is holding a properly completed and signed authorization form and has thoroughly and carefully examined and retained copies of all identification documentation.³⁶⁸ In Kenya the authenticity of signatures may take long to confirm in the case of fraud in the title registry. However, the use of manual registration documents includes colored photographs of the signor and attestation and therefore reduces the incidence of forgery of signatures.

The identity certification procedure is intended to give all participants in the NECS confidence that the practitioner has followed the prescribed procedures to verify the identity of the client and “may protect the practitioner from a negligence claim if the identity is subsequently proven to be false.” Conveyancers should therefore be mindful that failing to follow the prescribed procedures will almost definitely result in a finding of negligence.³⁶⁹

³⁶⁷Stanfield, A. R., "The authentication of electronic evidence." PhD dissertation., Queensland University of Technology, 2016.

³⁶⁸Watkins, P., "FRAUD IN CONVEYANCING." In kertaskerja yang dibentangkan di Australian Institute of Conveyancer 2007 National Conference, New South Wales, 2007: pp. 23-25.

³⁶⁹Thomas, R., et al., "Australasian Torrens automation, its integrity, and the three proof requirements." *New Zealand Law Review* 2013, no. 2 2013: pp. 227-262.

It is argued that the NECS may also introduce new opportunities for fraud within the conveyancing industry, namely, the unlawful use of a conveyancer's digital signature certificate (as a certifier in the NECS) to digitally sign documents.³⁷⁰ That is, a fraudulent person with access to the NECS, such as a law clerk or other employee, would be able to prepare mortgage documentation, digitally sign the document on behalf a client and lodge it for registration.³⁷¹ This indicates that the electronic system in Queensland has not had claims based on forgery of title and is therefore a sound system.³⁷²

3.2.7 Effects of an Electronic System on Conveyancing

Conveyancing relies on the titling system because the Freehold Land Register will accurately reflect the current interests to which the land is subject, and that upon registration the purchaser will be entitled to title free from all interests, except those noted on the register.³⁷³ There is a fundamental obligation on a vendor to show good title according to the contract.³⁷⁴ The right to a good title is a right given by law rather than by any agreement.³⁷⁵ In Queensland, unless there has been misrepresentation, fraud or some other inequitable conduct the purchaser will be limited to their rights in damages,³⁷⁶ or for compensation under the contract.

³⁷⁰Financial Transaction Reports Act 1988 http://ec.europa.eu/justice/data-protection/document/studies/files/new_privacy_challenges/final_report_country_report_b2_australia.pdf

³⁷¹Bohn, B., "Electronic Signature Legislation." 2005.

³⁷²Amanda, P., "Electronic Title in the New Millenium." *The Flinders Journal of Law Reform*. 4(2) School of Law. Flinders University. 2000: pp. 209-234.

³⁷³Christensen, S., and Amanda S., "Electronic title in the new millennium." *Flinders JL Reform* 4 (2000): 209.

³⁷⁴*Lysaght v Edwards* (1876) 2 ChD 499.

³⁷⁵*Want v Stallibrass* (1873) LR 8 Ex 175 at 185.

³⁷⁶Property Law Act 1974, s68.

The purchaser's right to damages,³⁷⁷ will apply notwithstanding any other right, power or remedy which may be available "in respect of the failure of a vendor to show or make good title or otherwise perform the contract for the sale of land."³⁷⁸ Prior to the Land Titles Act, a purchaser's interest was protected between settlement and registration by the fact that a new dealing could not be registered without production of the certificate of Title.³⁷⁹ The introduction of automated titling system and electronic title indicates that there is a perception that whilst greater access was provided for searching the register prior to completion, the position of the purchaser after settlement was vulnerable.³⁸⁰

An amendment to the Act,³⁸¹ was made to allow the owner of a lot subject to a mortgage to apply for a certificate of title with the consent of the mortgagee,³⁸² and to allow the lodgement of a Settlement notice by the purchaser.³⁸³ The deposit of a settlement notice halts the registration process and provides notice of the purchaser's interest in a similar way to a caveat. It alerts the parties to the fact that either a settlement or lodgement of an instrument is imminent and lasts for 60 days.

3.2.8 Property Exchange in Australia

The property exchange in Australia (PEXA) is a system introduced to eliminate manual transactions in Australia.³⁸⁴ PEXA is in the Electronic Lodgment Network (ELN).³⁸⁵

³⁷⁷ Property Law Act 1974 of Queensland, section 68.

³⁷⁸ Property Law Act 1974 (Qld) s68 (2).

³⁷⁹ Land Titles Act 1994 (Qld).

³⁸⁰ Amanda, P., *ibid.*

³⁸¹ Land Titles Act 1994(Qld).

³⁸² Land Title Amendment Act 1994(Qld) assented 30 June 1994, commenced retrospectively on 24 April 1994.

³⁸³ Under Part 7A of the Land Title Act 1994, Section 526 inserted a new part into the LTA 1994 (Qld) and commenced 6 February 1995.

³⁸⁴ White, P., "National stage set for e-conveyancing: what's in store for tomorrow.[A national system to standardize electronic conveyancing in Australia is well under way, with new laws enacted in New South Wales and proposed legislation introduced in Victoria and Queensland.]" *Proctor, The* 33.2, 2013: p.18.

Electronic Contracts Australia is covered by Electronic Transactions Act (ETA) mirrored by state and Territory Laws,³⁸⁶ providing the option of using electronic communications when dealing with government agencies.³⁸⁷

In all jurisdictions conveyancing involves an exchange of contracts, enquiries on behalf of the purchaser to confirm title, and a physical exchange followed by lodgment of documents at the relevant land registry.³⁸⁸ The underlying similarities in both the Torrens system and conveyancing practice means that the introduction of National Electronic Conveyancing will have a similar impact in each jurisdiction. In Kenya the implementation of NLIMS will result in effectiveness for all District Registries and the Central Registry which apply the Torrens system.

The principal aim of National Electronic Conveyancing is to increase consistency between jurisdictions, the legal framework and participation rules will be the same in each jurisdiction which further add to the consistent impact of National Electronic Conveyancing in all of the Australian jurisdictions.³⁸⁹ In order to allow the fullest use of electronic systems, the electronic gap between conveyancing industry systems and the Land Registries' systems needs to be bridged. As a result of that gap documents created electronically are required to be printed and signed by the parties, physically exchanged and largely physically lodged with the appropriate Land Registry for updating of the titles

³⁸⁵Channell, G, and McDowell, D., "Property: Old meets new: Paper conveyancing and electronic CT's." *LSJ: Law Society of NSW Journal* 2.6,2015: p. 84. Lancaster, M., "National: E-conveyancing removing the mystique." *Brief* 42.1, 2015: p.28.

³⁸⁶Electronic Transactions Act 1999 (cth).

³⁸⁷Cho, G., and Eugene C., "Facilitating Government Business On-line: The" Electronic Transactions Act 1999"." *Agenda: A Journal of Policy Analysis and Reform* (2000): 321-331.

³⁸⁸Electronic Conveyancing National Law Bill 2012. <http://www.nationaleconveyancing.com.au/>.

³⁸⁹Rouhshi L., The use of Technology to Automate the registration process within the Torrens System and its Impact on Fraud; An analysis, 2008. http://eprints.qut.edu.au/18301/1/Rouhshi_Low_Thesis.pdf

register.³⁹⁰ This means that “straight through” processing is not possible and further efficiency improvements cannot be made.³⁹¹

It is these aspects of the conveyancing process that will be impacted by National Electronic Conveyancing, which will facilitate the preparation of documents and eliminate the need for a physical meeting to exchange documents and settle the financial aspects of the transaction and the need to then physically take the documents to be lodged at the land registry.³⁹² National Electronic Conveyancing will also facilitate the registration processes within the land registry by eliminating the need for information from lodged documents to be transcribed into the land registry systems and by facilitating some levels of automated processing of that information.

In Victoria conveyancing involves an exchange of contracts, enquiries on behalf of the purchaser to confirm title, and for the most part, a physical exchange followed by lodgment of documents at the land registry, which is operated by Land Victoria within the Department of Sustainability and Environment. While the medium used for conveyancing has mostly remained largely manual and paper-based despite levels of automation in industry systems and within the land registry, Land Victoria has introduced an electronic conveyancing system similar to that proposed for the national system.³⁹³

³⁹⁰Watkins, P., "FRAUD IN CONVEYANCING." In *kertaskerja yang dibentangkan di Australian Institute of Conveyancer 2007 National Conference, New South Wales*, pp. 23-25.

³⁹¹Bohn, B., "Electronic Signature Legislation." 2005.

³⁹²E-Conveyancing Fact Sheet, https://www.liv.asn.au/PDF/For-Lawyers/Practice-Sections/PELS/Resources/eConveyancing_FactSheet

³⁹³Regulation Impact Statement for Decision; Introduction of the Electronic Conveyancing National Law Regulation, February 2013.

The Victorian system, Electronic Conveyancing Victoria (ECV), is the most similar to the proposed National Electronic Conveyancing System (NECS).³⁹⁴ The physical exchange of paper documents at settlement is required to complete the transfer of property, as is the physical lodgment of signed and witnessed paper documents to effect changes in the titles register.³⁹⁵ It is these aspects of the conveyancing process that will be impacted by NECS, which will facilitate the preparation of documents and eliminate the need for a physical meeting to exchange documents and settle the financial aspects of the transaction and the need to then physically take the documents to be lodged at the land registry.³⁹⁶

In Queensland conveyancing, involves an exchange of contracts, enquiries on behalf of the purchaser to confirm title, and a physical exchange followed by lodgment of documents at the land registry, which is operated by the Titles Registry within the Department of Natural Resources and Mines. While the medium used for conveyancing has mostly remained largely manual and paper-based despite levels of automation in industry systems and within the land registry. The Queensland Titles Registry has for some years operated a system of electronic lodgment of scanned images of documents and processing using OCR technology.³⁹⁷ The physical exchange of paper documents at settlement is still required to complete the transfer of property although the lodgment and

³⁹⁴Property Law Review, issues Paper Property Law Act 1974 (Queensland)- sales of Land and other related provisions, 2016.

³⁹⁵<http://www.rich-phillips.com.au/Media/Speeches/tabid/105/ID/995/ELECTRONIC-CONVEYANCING-ADOPTION-OF-NATIONAL-LAW-BILL-2012.aspx> accessed on 13/9/2016.

³⁹⁶Stanfield, A. R., "The authentication of electronic evidence." 2016.

³⁹⁷Griggs, L. and Rouhshi L., "Identity fraud and land registration systems: An Australian perspective." *The Conveyancer and Property Lawyer* 4 2011, p.p: 285-308.

processing of documents within the Titles registry is facilitated by the e-Lodgment and d-Lodgment systems.³⁹⁸

The physical preparation of paper documents for exchange and settlement, and the physical settlement itself will be impacted by National Electronic Conveyancing, which will facilitate the preparation of documents and eliminate the need for a physical meeting to exchange documents and settle the financial aspects of the transaction.³⁹⁹ There is also cost savings for industry with the removal of requirements to scan documents within set parameters for e-Lodgment. Accordingly, the Queensland land registry did not benefit from the lodgment of documents in electronic form to the same extent as New South Wales.

In Western Australia conveyancing involved an exchange of contracts, enquiries on behalf of the purchaser to confirm title, and a physical exchange followed by lodgment of documents at the land registry, which was operated by the Western Australian Land Information Authority, known as Land gate.⁴⁰⁰

The medium for conveyancing remained largely manual and paper- based despite levels of automation in industry systems and within the land registry. The physical exchange of paper documents at settlement was required to complete the transfer of property, as was the physical lodgment of signed and witnessed paper documents to effect changes in the

³⁹⁸e-Lodgment is the electronic filing facility for the Federal Court of Australia and for the general federal law jurisdiction of the Federal Circuit Court of Australia (previously the Federal Magistrates Court. <http://www.fedcourt.gov.au/online-services/elodgment> accessed on 5/8/2016

³⁹⁹<http://www.sla.gov.sg/Portals/0/Circulars/att/PRS/cpc2003/lr03.pdf>Lodgment and registration of documents.

⁴⁰⁰Brennan, G.,*The Impact of e-Conveyancing on Title Registration*. Vol. 10. Springer International publishing. Switzerland. Accessed from doi, 2015.

titles register.⁴⁰¹ It was these aspects of the conveyancing process that were impacted by National Electronic Conveyancing, which facilitated the preparation of documents and eliminated the need for a physical meeting to exchange documents and settle the financial aspects of the transaction and the need to then physically take the documents to be lodged at the land registry.⁴⁰²

National Electronic Conveyancing also facilitated the registration processes within the land registry by eliminating the need for information from lodged documents to be transcribed into the land registry systems. As well as by facilitating some levels of automated processing of that information.⁴⁰³ The physical exchange of paper documents at settlement was required to complete the transfer of property, as was the physical lodgment of signed and witnessed paper documents to effect changes in the titles register.⁴⁰⁴

In Tasmania conveyancing involved an exchange of contracts, enquiries on behalf of the purchaser to confirm title, and a physical exchange followed by lodgment of documents at the land registry, which was operated by the Land Titles Office within the Department of Primary Industries, Parks, Water and Environment.⁴⁰⁵ The medium used for conveyancing remained largely manual and paper-based despite levels of automation in industry systems and within the land registry. The Tasmanian Land Titles Office has for

⁴⁰¹Brennan, G. "An exploration of the impact of electronic conveyancing (e-Conveyancing) upon management of risk in conveyancing transactions." PhD diss., Nottingham Trent University, 2012.

⁴⁰²Cappellorowe Lawyers, E-conveyancing the way of the future. <http://cappellorowe.com.au/wp-content/uploads/CR-e-conveyancing-the-way-of-the-future.pdf>

⁴⁰³Brennan, G. "An exploration of the impact of electronic conveyancing (e-Conveyancing) upon management of risk in conveyancing transactions." PhD diss., Nottingham Trent University, 2012.

⁴⁰⁴Brennan, G., "Defining E-conveyancing." In *The Impact of e-Conveyancing on Title Registration*, pp. 51-114. Springer International Publishing, 2015.

⁴⁰⁵Watkins, P., "FRAUD IN CONVEYANCING." In *kertaskerja yang dibentangkan di Australian Institute of Conveyancer 2007 National Conference, New South Wales*, 2007, pp. 23-25.

some years operated the Tasmanian Online Land Dealings (TOLD) system that facilitates the preparation of documents for lodgment and capture of data from those documents that obviates the need for data capture within the land registry.

Although for most part the physical lodgment of signed and witnessed paper documents to effect changes in the titles register was still required. The exceptions were caveats and priority notices, which could be lodged electronically.⁴⁰⁶ The physical exchange of paper documents at settlement and lodgment of most documents was required to complete the transfer of property although the capture of data within the Titles registry is facilitated by the TOLD.⁴⁰⁷

The physical settlement and lodgment of documents will be impacted by National Electronic Conveyancing, which will eliminate the need for a physical meeting to exchange documents and settle the financial aspects of the transaction and for the signed documents to be physically lodged.⁴⁰⁸ While the Tasmanian land registry will not benefit from the lodgment of documents in electronic form to the same extent as will New South Wales, adjustments were made to the impact figures to take account of these differences.

In the Northern Territory conveyancing involves an exchange of contracts, enquiries on behalf of the purchaser to confirm title, and a physical exchange followed by lodgment of documents at the land registry, which is operated by the Land Titles Office within the

⁴⁰⁶Press, Halstead., "Courts, Lawyers and the Internet."

⁴⁰⁷Thomas R., et al. "Australasian Torrens automation, its integrity, and the three proof requirements." *New Zealand Law Review* 2013, no. 2, 2013: pp. 227-262.

⁴⁰⁸Accessed from <http://www.parliament.qld.gov.au/documents/committees/AREC/2012/eConveyancingNLQB/rpt-019-12Mar2013.pdf>

Department of Justice.⁴⁰⁹ The medium used for conveyancing remained largely manual and paper- based despite levels of automation in industry systems and within the land registry. The physical exchange of paper documents at settlement was required to complete the transfer of property, as the physical lodgment of signed and witnessed paper documents to effect changes in the titles register.⁴¹⁰

3.3 United Kingdom e-Conveyancing

The Land registry principal aims are to maintain and develop a stable and effective land registration system, as the cornerstone for the creation and free movement of interests in land, to guarantee on behalf of the crown, title to registered estates and interests in land for the whole of England and Wales. To provide ready access to up-to date and guaranteed land information enabling confident dealings in property and security to title.⁴¹¹

3.3.1 Electronic Registry in England and Wales

The electronic registry system was adopted so as to register title to land in England and Wales, and record dealings with registered land. The principal aim of forming the registry was to firstly maintain and develop a stable, effective land registration system, secondly, guarantee title to registered estates and interests in land, thirdly, enable confident dealings in property and security of title by providing ready access to up-to-date and guaranteed

⁴⁰⁹Electronic Conveyancing National Law (Queensland) Bill 2012, Report No. 19, March 2013.

⁴¹⁰O'Connor, Pamela. "Double indemnity-Title insurance and the Torrens system." *Queensland U. Tech. L. & Just. J.* 3 (2003): 141.

⁴¹¹Craig, W., et al., *Community participation and geographical information systems*. CRC Press, 2002.

land information; and fourthly, match the ever more ambitious performance targets set by the Lord Chancellor.⁴¹²

The e-Conveyancing process usually begins with the seller instructing real estate agents, probably by using the internet. The real estate agent finds out a buyer and then contacts the buyer's and seller's conveyancers by e-mail. The conveyancer takes the client's instructions. The conveyancer then use case management software to feed in the basic information needed to proceed and obtains details of the title to the property via Direct Links to the Land Registry or the National Land Information Service.⁴¹³

Next he or she begins to prepare the conveyancing documents. The seller's conveyancer uses the e-Conveyancing service to transmit the draft contract from his case management system to the buyer's conveyancer. The automatic validation checks would compare contract data with Land Registry data and electronic messages and would indicate any discrepancies.⁴¹⁴ At this time, a new notional register would be built on the system indicating, as each document is prepared, what the new register would look like. There would also be a facility for conveyancers to view Land Registry's Day List prior to exchange of contracts, in order to ascertain whether or not there is a pending application which may adversely affect the transaction for example a bankruptcy notice.⁴¹⁵

⁴¹²Gaudio, Arthur R, "Electronic Real Estate Records: A Model for Action" . *Western New England Law Review*, Vol. 24, p. 271, 2002. Available at: SSRN: <http://ssrn.com/abstract=1971905>

⁴¹³Sinclair, John H., Euan Sinclair, and Ann Stewart. *Conveyancing Practice in Scotland*. A&C Black, 2011.

⁴¹⁴Muir, R., "Electronic registration: The legislative scheme and implications for the Torrens system in New Zealand." *Torrens in the Twenty-first Century*, Wellington, NZ: LexisNexis, 2003:pp. 311-21.

⁴¹⁵*Ibid.*

At the contract stage, there would be an electronic equivalent of the contracts. Contracts would be exchanged electronically when buyer's and seller's conveyancers had signaled that agreement had been reached and contracts had been signed and released for electronic exchange. The system would provide for automatic exchange of contracts relating to all transactions in a property chain. For this and other purposes, conveyancers might need to have electronic signature and authentication from a recognized Certification Authority. Buyers and sellers might need to empower conveyancers to sign by written authority.⁴¹⁶

A substantive register entry would be made to note the contract. The Register would automatically be frozen and would provide a priority period for ensuing registration on completion. During this period the draft electronic transfer and any draft electronic charges will be agreed and finalized. These documents will then be signed electronically in anticipation of completion just as they are in the existing paper system.⁴¹⁷

Shortly before completion the parties to the transaction would signal their readiness to complete in accordance with the terms of the contract. They do so by using an extension of the chain matrix, which indicate first that all necessary documentation is signed and secondly that all the financial arrangements are in place.⁴¹⁸ Registration would take place with completion of transaction. The changes signaled in the notional register would be verified and the new edition of the register would be finalized on the system.

⁴¹⁶Murray, Peter L. "Real Estate Conveyancing in 5 European Union Member States: A Comparative Study." *August* 31, 2007: 2007.

⁴¹⁷Rajasekhar, P.V., "e-Conveyancing: Challenges and Ambitions" https://www.fig.net/resources/proceedings/2006/india_2006_comm7/papers/ts03_02_rajasekhar.pdf accessed on 8/1/2017.

⁴¹⁸e-conveyancing - the future of conveyancing <http://www.fridaysmove.com/e-conveyancing-future-conveyancing/125> accessed on 31/1/2017.

All financial obligations, including Stamp Duty, Land Tax and Land Registry fees as well as payments between buyers, sellers, lenders and conveyancers, are settled through an Electronic Funds Transfer system. With the help of the e-technologies, the amounts of Stamp Duty, Land Tax and Land Registry fees are correct in virtually all cases.⁴¹⁹ In London property land searches can already be made electronically. A high degree of cooperation has been established between all of the various players that are involved to achieve the prize of a better conveyancing system that is accurate, which can work electronically.⁴²⁰

The Land Registry is a new e-conveyancing system introduced to make the conveyancing process quicker, cheaper and more transparent throughout the Conveyancing community.⁴²¹ Stakeholders involved in the locations, to enable a smooth transformation of the conveyancing business environment, involve stakeholder groups across the property sector, government and Land Registry staff.⁴²² Advantages of electronic conveyancing were discussed in the UK back in 2000.⁴²³

A fully developed system of electronic conveyancing would have many advantages, e-conveyancing will help to make easier the four stages of the typical conveyancing transaction. Electronic databases and search facilities offer speed and accuracy for

⁴¹⁹HM Land Registry 2003; Du, Hongbo, and Corinne Mulley. "The short-term land value impacts of urban rail transit: Quantitative evidence from Sunderland, UK." *Land Use Policy* 24, no. 1 (2007): 223-233.

⁴²⁰UK Parliament. Hansard.millbanksystems.com/Westminster_hall/2000/nov/09/electronic-conveyancing (accessed 4th July 2013).

⁴²¹Christine B., Liason Manager UK Government England and Wales. THE LAND REGISTRY.

⁴²² *Ibid.*

⁴²³UK Parliament. Hansard.millbanksystems.com/Westminster_hall/2000/nov/09/electronic-conveyancing. (accessed 4th July 2016).

investigation and report. These advantages apply whether the information is available on a public register or in a private electronic data bank, as parts of the search go to public authorities and parts to private companies.⁴²⁴

Efficiency improved in exchange, making a contract need no longer depend upon the safe arrival of an exchanged document in the post. Completion will also become easier and quicker for all concerned. No bulky packets of deeds will need to be shipped around the country and stored safely forever, if the registration stage could merge with the completion stage. A simpler system would be created.⁴²⁵ Electronic conveyancing can provide intelligent quality assurance as electronic communication will prevent many errors that are corrected only after completion by land registry.

There were four main strands of electronic conveyancing activity within government. Firstly, the development of the National Land Information Service (NLIS) and the National Land and Property Gazetteer. Secondly, the introduction and continuing development of electronic services at the Land Registry, Thirdly, raft Order under Section 8 of the Electronic Communications Act,⁴²⁶ by the Law Commission and fourthly, drafting the new land registration bill by the joint working group of the land registration of the Law Commission and the Land Registry.⁴²⁷

Complementary government activities and to some extent, making them worthwhile, electronic business techniques were adopted by legal services providers and others

⁴²⁴<http://www.publications.parliament.uk/pa/cm199900/cmhansrd/vo001109/halltext/01109h01.htm> accessed on 12/10/2016.

⁴²⁵The Law Society Conveyancing Protocol, 2011.

⁴²⁶Electronic Communications Act 2000.

⁴²⁷Low, R.. "Maintaining the integrity of the Torrens system in a digital environment: A comparative overview of the safeguards used within the electronic land systems in Canada, New Zealand, United Kingdom and Singapore." *Australian Property Law Journal* 11, no. 2, 2005: 155-178.

connected with the property market. Property owners and their advisers created electronic data banks of documents for property management and disposal purposes. Firms offer secure virtual dealing rooms for transactions.⁴²⁸

3.3.2 National Land Information System of the United Kingdom

The National Land Information System (NLIS) computer system was to provide access to information from the land registry, local authorities, statutory undertakers, coal authority, the British Geological Survey, Ordnance survey and others. NLIS was to be underpinned by NLPG, which was a definitive digital index of land and property. It was to provide a unique digital identifier for each property to be searched. That would enhance the accuracy and speed of the searching process by giving the computers a geographical address and description of the property, be it a field, a factory or a flat. NLIS information would continually be updated.⁴²⁹

Lock stated that bodies that hold information that is required before a conveyancing transaction can take place were obliged to store it in a way that allowed a search.⁴³⁰ There were sound business and administrative reasons, why the existing duty to hold and make available such information should be translated into a duty to provide it in electronic form. There is a clear duty of care to be established with the data holder to provide the correct information.⁴³¹

⁴²⁸Stephen R. et al., "Innovation in Legal Services; A report for the Solicitors Regulation Authority and the legal Services Board," Enterprise Research Center and Warwick Business school, July 2015.

⁴²⁹Christensen, S., "Electronic Land Dealings in Canada, New Zealand and the United Kingdom: Lessons for Australia." *E-Law Journal: Murdoch University Electronic Journal of Law* 11, no. 4 2004:pp. 1-29.

⁴³⁰Bound Volume Hansard - Westminster Hall, November 2000.

<http://www.publications.parliament.uk/pa/cm199900/cmhansrd/vo001109/halltext/01109h01.htm>

⁴³¹http://hansard.millbanksystems.com/westminster_hall/2000/nov/09/electronic-conveyancing

Confidence would be built on good interoperable IT systems, on user-friendly systems, and on the use of electronic or more accurately digital-signatures. People need to know that the message they send is the electronic message that will arrive, the message will not be corrupted at some date in the future, and they must be confident that private information will be treated confidentially.⁴³² The conveyancing process if delayed creates a lot of dissatisfaction to the users. It is of great importance to a buyer to get all the information from one source called the hub and or the National Land Information Service.⁴³³

Electronic conveyancing involves the purchaser being able to swiftly access details of title and up-to date office copy entries from the land registry on computer. Information for a search on land, who owns it, from whom it was bought, its history held in other agencies. The study should include a careful evaluation of all possible agencies that should be encouraged to participate and feed information into the hub in a form that is easily accessible to those with a legitimate need for access e.g. oil and pipeline agencies, environment agency, health and safety executive, Global Positioning Satellite (GPS).⁴³⁴

In conveyancing the concern with the transfer not of property, but of interest in property, creates multiple layers of interest that can occur in regard to the same property. The hub proves electronic links through to the various private and public bodies that hold information to land and property.⁴³⁵

⁴³²House of Commons, Hansard Debates for 9 Nov 2000 (pt. 1).

⁴³³Lorraine I., How long does Conveyancing take, Fri 18 Nov 2016.

<https://www.homewardlegal.co.uk/blog/how-long-does-conveyancing-take>.

⁴³⁴Bostick, C. D., "Land title registration: An English solution to an American problem." *Ind. LJ* 63, 1987: p. 55.

⁴³⁵The Law Commission No.191, Transfer of Land and Risk of damage after contract for sale; Laid before Parliament by the Lord High Chancellor Pursuant to sec 3(2) of the Law commissions Act 1965.

In Kenya the land search is only accessible from e-citizen where Nairobi District Land Registry has uploaded data online. Other public and private bodies that hold spatial data information are expected to volunteer it to the Kenya National Spatial Data Infrastructure to create a hub, similar to the National Land Information System of the United Kingdom.

3.4 Electronic Conveyancing in Netherlands

The Land Registration and the cadaster in Netherlands is a system of maps and diagrams combined into one organization. The Civil Code in the Netherlands provides for a closed system of real rights. The government does not guarantee the accuracy of the title register. The Land Register was computerized in 1999 and paper documents are scanned on receipt. The electronic recording of deeds started in 2004. Electronic copies and an advanced electronic signature are delivered together.⁴³⁶

The Registrar maintains a supervisory role and the conveyancer remains responsible for drafting and submitting the deed, as well as signing of the deed on behalf of the seller, buyer and other role players. Electronic dispatches are received a day earlier than paper documents and payment can be effected a day earlier. The same legal certainty exists as with the paper documents.⁴³⁷ The Netherlands make use of Electronic Cadastral registers known as Automated Cadastral Registers (AKR). Maps are kept in a Survey and

⁴³⁶Stoter, J., et al., "3D cadaster in the Netherlands: Developments and international applicability." *Computers, Environment and Urban Systems* 40 (2013): 56-67.

⁴³⁷Louwman, W., "E-conveyancing in the Netherlands." Chief Registrar of the Land Register Cadaster and Mapping Agency. 2011. <http://www.landregistry.ie/uploadedfiles/conference2011/1/papers/s3p5.pdf>. retrieved on 26 September 2011.

Mapping Information System (LKI). These two systems are interfaced to coordinate updating of the relevant data and information.⁴³⁸

A comparative analysis of e-conveyancing around the world shows that the safe identification of parties documents and signatures is the major problem of all the newly developed e-conveyancing systems and that this problem is the main obstacle that prevents a full scale implementation of e-conveyancing.⁴³⁹

The Netherlands operates on a negative system and does not guarantee the accuracy of the title register. The Registrar maintains a supervisory role, and the conveyancer remains responsible for drafting and submitting the deed, as well as signing the deed on behalf of the parties.⁴⁴⁰ Electronic copies and an advanced electronic signature are delivered at the same time. The deeds, registered supporting documents, and contracts from 1998 onwards are accessible online within minutes.⁴⁴¹ Electronic copies and an advanced electronic signature are delivered together. Electronic dispatches are received a day earlier than paper documents and payment can be effected a day earlier. The same legal certainty exists as with the paper documents. Deeds are lodged electronically and registration notifications are sent via the internet.⁴⁴²

⁴³⁸Lemmen, C., et. al., "Land registration and cadaster in the Netherlands, and the role of cadastral boundaries;theapplicationof GPS technology in the survey of cadastral boundaries." 2003. [http://www.lsgi.polyu.edu.hk/staff/zt.\(i/Vol_5_1/02-Holland.pdf](http://www.lsgi.polyu.edu.hk/staff/zt.(i/Vol_5_1/02-Holland.pdf).

⁴³⁹Sandberg H., "Real Estate e-conveyancing: Vision and Risks" Associate Professor, Law School, College of Management, Rishon Le-Zion, Israel. FIG Working week 2009, TS 2A- Land Tenure.2009.

⁴⁴⁰Amadi-Echendu, Anthea Patricia, and R. Pellissier. "A conceptual framework for conveyancing processes." *Southern African Institute of Industrial Engineering* 2013. 2013.

⁴⁴¹Schmid, Christoph, et al. "Study COMP/2006/D3/003 Conveyancing Services Market." 2007.

⁴⁴²Louwman, W., *E-Conveyancing in the Netherlands*. Chief Registrar of the Land register Cadastre and Mapping AgencyRetrieved on September 26, 2011, from <http://www.landregistry.ie/uploadedfiles/conference20071/papers/s3p5.pdf>.

The conveyancer checks for any changes between the execution and registration of the deed after the deed has been registered with the Land Registry. An automatically generated electronic copy of the deed is forwarded to the Registrar. However, a written deed is still kept by the notary public.⁴⁴³ In Kenya the conveyancers submit hard copy documents of title and transfers or charges manually by booking them over the counter for registration. The registration is undertaken manually on paper based registers and titles after which the scanning of the titles and supporting documents are done.

3.5 New Zealand System of e-Conveyancing

In New Zealand the Land Information system since 2003 has been an online registration system for title transactions known as the e-dealing system.⁴⁴⁴ The e-dealing system allows conveyancers to submit documents of transfer, mortgage and discharges for registration in electronic form through the internet.⁴⁴⁵

The Conveyancing lawyers involved on behalf of the Vendor and the Purchaser are authorized to access the shared workspace for dealing. The law firm may nominate personnel to undertake the preparatory steps and assign them with access privileges. The transaction is required to be certified and digitally signed by an authorized conveyancer for each party to the transaction.⁴⁴⁶

⁴⁴³Park, M.M., (2009) "Removing the disharmony from Victoria's Land Title Registration system." Paper delivered at Land Surveying Commission Seminar, Bulleen, 21 May 2009. Availability: <http://ssrn.com/abstract=1537710>.

⁴⁴⁴Muir, R., "E-conveyancing in New Zealand: Progress to date and future developments." *Registering the World Conference, Dublin*. 2007.

⁴⁴⁵*Ibid*.

⁴⁴⁶Property Transactions and E-dealing Practice Guidelines updated accessed on 26/1/2017 from <https://www.lawsociety.org.nz/lawtalk/lawtalk-archives/issue-864/property-transactions-and-e-dealing-practice-guidelines-updated>

The Vendor's lawyer releases the dealing into the control of the purchaser's lawyer who then submit it online for registration after settlement. After submission, provided the documents pass the necessary process according to registry rules, the transaction is registered automatically and corresponding title issued immediately with the new ownership.⁴⁴⁷

The Land Transfer Act,⁴⁴⁸ was amended in 2002 to pave way for electronic registration. The changes included the abolition of Certificates of Title, which was a practice to issue the landowners that mirrored the ownership details recorded in the register under the paper based land registration system. The certificate of title was necessary to be produced when transacting with the land subsequently.⁴⁴⁹ In Kenya the production of paper based Certificate of Title is mandatory as all land proprietors have special attachment to the title documents.

The production of the certificate of title was required because settlement and registration could not take place as it formed an important feature of the conveyancing process. The reform process involved extensive consultation with the legal profession and the banking industry to change this mindset. They demonstrated that the electronic registration system could operate more effectively and securely without paper-based title.⁴⁵⁰

⁴⁴⁷ Muir, *ibid.*

⁴⁴⁸ Land Transfer Act 1952 (New Zealand).

⁴⁴⁹ *Ibid.*

⁴⁵⁰ Sandberg, Haim. "Real estate e-conveyancing: vision and risks." *Information & Communications Technology Law* 19, no. 2 (2010): 101-114.

The risks of fraud and security controls for the system were major concerns during the Stakeholder consultations. Benefits of eliminating the storage and retrieval costs of paper based certificates of title were also enumerated to get Stakeholder support. The law was amended and certificates of titles were abolished in 2002.⁴⁵¹ The legislation provides for instruments to be lodged in electronic form through an electronic workspace. The regulations set out the classes of permitted instruments, which presently only cater for limited routine transactions. The Registrar-General of Land may specify the form and necessary data elements for electronic instruments.⁴⁵²

The certification regime replaced the traditional paper-based execution of documents for e-dealing system. The instrument must be certified by an authorized conveyancer as to capacity of the client to enter into the transaction, reasonable steps taken to verify the client's identity and compliance with statutory requirements.⁴⁵³ The Registrar-General of Land is also required to audit conveyancers' certifications to ensure integrity of the e-dealing system. Where the conveyancer produces the supporting evidence they hold to confirm the validity of their certifications which include any client authorizations and identification material. The supporting documents are supposed to be retained for a minimum of ten years.⁴⁵⁴

⁴⁵¹ Anderson K. et al. *The first leg of e-government research: domains and application areas 1998-2003*. IGI Global, 2005.

⁴⁵² *Ibid.*

⁴⁵³ Land Transfer (Computer Registers and Electronic Lodgement) Amendment Act 2002. Section 22, 23 and 36 and Section 164A – 164E of the Land Transfer Act 1952 NZ.

⁴⁵⁴ Christensen, S. A., "Electronic Land Dealings in Canada, New Zealand and the United Kingdom: Lessons for Australia." *ELaw Journal: Murdoch University Electronic Journal of Law* 11.4, 2004: pp. 1-29.

It is mandatory for conveyancers to use the e-dealing system in New Zealand which is a provision in the legislation. Nevertheless this requirement excludes private individuals undertaking conveyancing on their own behalf. The Registrar-General may exempt transactions and processes which are impractical to register on electronic form.⁴⁵⁵

The New Zealand Law Society had been actively involved in the development of the Landonline system, which support was instrumental to the success of automation. The governance structure for the programme included representatives from the Law Society in their various advisory groups and steering committees.⁴⁵⁶ For instance in the second stage, a practicing lawyer with extensive conveyancing experience was appointed as a joint stakeholder representative. He was involved in application design and testing where he played an active role in promoting electronic registration. New rules to reinforce the obligations of lawyers when certifying transactions and practice guidelines for the e-dealing were developed.⁴⁵⁷

The Landonline database security is guaranteed by secure firewalls and intrusion detection systems in addition to digital certificates to control system access and authentication. Conveyancers acquire software licence to use the system. The process of issuing digital certificates is controlled by the Land Information New Zealand which verifies the professional credentials before allocating certify and sign rights. To access

⁴⁵⁵Gordon Williams. *Property and Trust Law in New Zealand*. Kluwer Law International, 2011.

⁴⁵⁶O'Neill, Rose Regina. "E-Government: Transformation of Public Governance in New Zealand?." 2009.

⁴⁵⁷Muir, R, "E-conveyancing in New Zealand: Progress to date and future developments." In *Registering the World Conference, Dublin*, pp. 26-28. 2007.

any level of the system a digital certificate is required. Only qualified conveyancers may certify and sign electronic transactions.⁴⁵⁸

The level of up-take for the system was lifted by the Land Information New Zealand which established a dedicated team to provide free on-site training and support to Law firms and expert call-centre support. A communications campaign was put in place to ensure law firms were made aware of mandatory deadlines for transition to the electronic platform. The full uptake was achieved prior to the mandatory dates and changeover was very smooth as land registration is now done through e-dealing system.⁴⁵⁹

Complex transactions exempted from the e-dealing system are such as caveats, easements, transmissions, land covenants and leases. The e-dealing functionality will be extended to ensure performance and stability is maintained.⁴⁶⁰ This e-dealing system and land online of New Zealand is a perfect example to adopt in implementation of NLIMS in Kenya.

3.6 Electronic Conveyancing in South Africa

Two independent and privately owned software developers in South Africa have made ground-breaking progress by providing a platform that will enable different parties in the conveyancing service chain to electronically interface their systems. This means that each entity can continue to work using its own electronic system, but share information

⁴⁵⁸*Ibid.*

⁴⁵⁹Land Information New Zealand Landonline – e-dealing User GuidePage 54 of 308 accessed from <https://forms.landonline.govt.nz/about-landonline/training-support/userguides/edealing/edealing-section5.pdf>

⁴⁶⁰Muir, *ibid.*

regarding specific parts of the transaction. It is, for example, unnecessary for conveyancers to have sight of the credit process within the bank.⁴⁶¹

The cross-sharing and availability of information without the consent of the owner, would contravene the Protection of Personal Information Act that was recently enacted in South Africa. Properly drafted confidentiality agreements with the necessary consent, could allow for certain types of information to be shared among some of the entities.⁴⁶²

The software developers have developed software that enables banks to electronically instruct their panel conveyancers and facilitate electronic communication between the two entities. The system is programmed to allow for the secure flow of information and documents between the entities by means of public and private encrypted keys.⁴⁶³

The electronic conveyancing measuring tools also helps to measure the performance of the panel conveyancers. In recent times, the platform has been extended to include the Deeds Office for copies of registered title deeds and copies of registered ante-nuptial contracts, as well as updates regarding the registration status in the Deeds Offices for current transactions. Municipalities' systems and processes to obtain rates clearance certificates necessary to complete the conveyancing process seem to be very manual.⁴⁶⁴

Various municipalities have been linked to conveyancers via an electronic switch so that electronic requests for rates and clearance certificates can be made. The municipalities do

⁴⁶¹ Amadi-Echendu, Anthea. "An analysis of conveyancing business processes in South Africa." PhD diss., 2013.

⁴⁶² Law24.com, South African Land Registration and Conveyancing 2012. Accessed 26 May 2012 from http://www.law24.com/index.php?option=com_fastcontent&view=layman&Itemid=168.

⁴⁶³ Law24.com, South African Land Registration and Conveyancing. 2012 Accessed 26 May 2016 from http://www.law24.com/index.php?option=com_fastcontent&view=layman&Itemid=168.

⁴⁶⁴ Ramwell, B., West Study Guide: *Conveyancing*. South Africa: University of South Africa 2008.

not work on a central database, as each municipality has constructed its own electronic network. As such, each municipality needs to be individually linked.⁴⁶⁵

The South African conveyancing process is currently a manual process. A potential buyer manually applies for finance, or manually completes information with an estate agent or bond originator.⁴⁶⁶ The bigger estate agents or bond originators may have access to an electronic system to electronically submit an application for finance to a bank.⁴⁶⁷ Scanned copies of supporting documents accompany this application. Although banking systems have built-in mechanisms to assist with client profiling, the bank will manually assess the application and communicate the credit decision to the estate agent or mortgage originator via email.

Some of the bigger estate agencies make use of a Comcorp system to electronically request finance from the bigger banks on behalf of the buyers.⁴⁶⁸ Banks then provide feedback to the estate agent using the same system. This has been made possible because the banks have integrated the Comcorp software into their own electronic system, behind the banks' firewalls. This integration is supported by banks that have specific resources available to maintain the connection.

The bigger banks use software supplied by the two software developers previously mentioned, to electronically instruct a conveyancer to transfer title of a specific property

⁴⁶⁵Radloff, F. G., "Land registration and land reform in South Africa." *J. Marshall L. Rev.* 29 (1995): 809.

⁴⁶⁶Cloete, J. N., *South African municipal government and administration*. Van Schaik Publishers, 1997.

⁴⁶⁷Amadi-Echendu, et al., "Supply chain integration in the South African conveyancing environment: original research." *Journal of Transport and Supply Chain Management* 10, no. 1 2016:pp. 1-13.

⁴⁶⁸delNinno, C., et al., "Improving payment mechanisms in cash-based safety net programs." *Social Protection and Labor Discussion Paper* 1305, 2013.

and register a bond in favor of the bank for the loan advanced by the bank. The smaller banks may instruct the conveyancer via email or fax. This is not a secure method.⁴⁶⁹

The conveyancer manually requests and collects the certificates necessary for the deeds to be lodged, for example, rates clearance certificates from a municipality or transfer receipt duties from SARS. The conveyancer also needs to confirm the identification of the parties involved for Financial Intelligence Centre Act (FICA) purposes manually which seeks to combat money laundering activities.⁴⁷⁰ The conveyancer will draft the relevant documentation using desktop software from either of the two software developers, but will print all the documents for the parties to the transaction to manually sign in person at the conveyancer's office, unless the parties have given power of attorney for the conveyancer to sign on their behalf. The paper documents are then handed in at the Deeds Office which has the jurisdiction for registration to take place.⁴⁷¹

Where more than one conveyancer is involved in a transaction, all the conveyancers that are linked to the same transaction must hand in their respective paper documents, in person, at the same time for lodgment to take effect. This may be the case where one conveyancer manages the cancellation of the seller's bond, another conveyancer attends to the transfer of the property from the seller to the buyer, and a different conveyancer may attend to the registration of the bond as security for a loan that was advanced by a bank. On registration, a transferring conveyancer needs to manually countersign

⁴⁶⁹Shange, M., "A system-based approach to land registration analysis and improvements." 2010.

⁴⁷⁰Pienaar, G. J. "The registration of fragmented use-rights as a development tool in rural areas." *Constitution and law IV: Developments in the contemporary constitutional state*, 2006: p. 107.

⁴⁷¹Ratiba, M. M., "Conveyancing Law for Paralegals and Law Students-eBooks and textbooks from bookboon. com." 2013.

documents at the Deeds Office. Once the Registrar has signed the deed, the transaction is deemed to have been registered.⁴⁷²

Since 2005, registered title deeds were converted to a microfiche format for better storage and retrieval in the South African Deeds Office. From 2006, the microfilm cameras were converted to digital cameras. Records are, therefore, kept in both a microfiche and digitized form at the Deeds Offices.⁴⁷³ Documents that were electronically stored after registration may be requested and received electronically from the SA Deeds Office within minutes. However, the storage of this electronic information still has been manually entered, as opposed to a direct and automatic registration of digital applications.⁴⁷⁴

The Conveyancing system in South Africa is partially manual as registrars have to effectively sign the deeds presented manually. The anticipated changes in South African system that could link all the parties involved in a single transaction, would allow for increased security and transparency.⁴⁷⁵

This process has been successfully implemented for share trading in SA. The mechanisms and electronic systems are, therefore, already in place at prominent and reputable organizations, such as the South African Bankers' Services Company Limited (Bankserv) and Strate (Ltd). Bankserv is a company that provides various services to banks in the capacity of automated clearing-house operator in the payments industry.

⁴⁷² Accessed from <https://www.justlanded.com/english/South-Africa/South-Africa-Guide/Property/Conveyance> .

⁴⁷³ Shange, M., B. "A system-based approach to land registration analysis and improvements." 2010.

⁴⁷⁴ Letsoalo, E. M., *Land Reform in South Africa: a black perspective*. Skotaville, 1987.

⁴⁷⁵ Anthea P., *International E-Conveyancing Strategies: Lessons for South Africa*, 2014.

Strate Ltd is the licensed Central Securities Depository (CSD) for the electronic settlement of financial instruments in South Africa.⁴⁷⁶ It was already envisaged that an Electronic Deeds Registry System should be put into place. Discussions are still underway for the Bill to be finalized.⁴⁷⁷

3.7 Electronic Conveyancing in Botswana

The government of Botswana has embarked on computerization of land records at the Deeds Registry.⁴⁷⁸ This is a first step towards making electronic government possible as far as Land record management is concerned. The government has committed itself through the draft national e-government strategy document to utilize Information and Communication Technologies (ICT) more in order to provide quality service to the people of Botswana.⁴⁷⁹

This intention can only be realized if the infrastructure is available at various levels of society, this is especially the case with respect to availability of Internet connectivity across the country, as well as access to mobile services.⁴⁸⁰ As Government embarks on the road to e-government there is need in the Land Sector to prepare infrastructure to make this achievable. One such exercise is the computerization of land records at the

⁴⁷⁶Press release on Strate, South Africa selects TCS BaNCS for Multi-asset class Depository operations, expands its relationship with TCS, 2014 accessed from http://www.tcs.com/news_events/press_releases/Pages/Strate-TCS-BaNCS-depository-operations.aspx on 30/1/2017.

⁴⁷⁷Parliamentary Monitoring Group, During a discussion in Parliament regarding the Deeds Registries Amendment Bill on 28 March 2003.

⁴⁷⁸Government of Botswana, *Botswana's National e-government Strategy*, Government Printer, 2011.

⁴⁷⁹*Ibid.*

⁴⁸⁰LAPCAS Project Team, Quarterly Report for the period 1st October to 31st December 2012, unpublished manuscript.

Deeds registry which will ensure that Land information is accessible and transparent to all citizens.⁴⁸¹

Deeds on State and Freehold Land are registered through the use of conveyancers according to the Deeds Registry Act.⁴⁸² The documents that are deposited at Deeds Registry must be easily retrievable and must be archived in a manner that they shall be preserved. Archiving suggests that documents must be converted from paper form to other digital forms while retrieval also requires some form of automation of indexes.⁴⁸³

This might require some form of computerization of paper records. The transaction process for land registration reveals that documents from a number of stakeholders must be deposited into the registry or accessed from the registry. The stakeholders include Government departments, private and Government surveyors, conveyancers, estate agents, valuers, attorneys and banks. The quicker the transaction turn-around the better for the economy.⁴⁸⁴

The land registration is a five (5) day process at the Deeds Registry that can be summed up into the following steps: Lodgment and first examination, second examination – general exam and compliance with law, registration numbering, entries into registers and endorsement, Execution to check if registration is done properly and sign deeds, and sealing and dispersion of deeds. This process is said to normally take a minimum five days to complete, although practitioners claim that the process is much longer than

⁴⁸¹Byamugisha, Frank F.K., *Securing Africa's land for shared prosperity: a program to scale Up reforms and investments*. World Bank Publications, 2013.

⁴⁸²Deeds Registry Act, Section 16.

⁴⁸³*Ibid.*

⁴⁸⁴Emmanuel T. et al., *Land Registration in a Digital Environment*, 2014.

claimed. As stated earlier there are a number of key players and documents required to execute a deed and sign it off.⁴⁸⁵

The Botswana government embarked on a project to improve Land Administration Processes and Capacity (LAPCAS) in 2009 with seven components. One component of the project was the computerization of the Deeds records. According to LAPCAS Project Team,⁴⁸⁶ over (180,000) one hundred eighty thousand deeds were captured in the Gaborone office. These deeds included Deeds of Transfers, Bonds and Diagrams. Considering that Botswana's system is similar to the South African system it is possible to analyze the South African registration system and note that it allows for e-registration by requiring conveyancers to be registered as E-deeds Registry users and these are issued with encrypted passwords. The law has been amended to ensure that electronic signatures are admissible for this purpose.⁴⁸⁷

The system is able to automatically receive draft e-deeds submitted by an authenticated conveyancer. Then validate them by checking whether there are encumbrances, check against the electronic database and compare property description with the Surveyor General's database.⁴⁸⁸ It then sends the validated draft deed to the examiners for examination who make notes electronically.

⁴⁸⁵Shange, M. B., "A system-based approach to land registration analysis and improvements." 2010.

⁴⁸⁶Government of Botswana, Botswana's National e-government Strategy, Government Printer, 2011.

⁴⁸⁷Bekkers V. and Homburg V., "The Myths of E-Government: Looking beyond the Assumptions of a New and Better Government." *The Information Society: An International Journal*, 23:5,2007: pp. 373-382.

⁴⁸⁸The Practitioner's Guide To Conveyancing And Notarial Practice 2015 Part 1
https://issuu.com/isikhovapublishing/docs/conveyancing_part_1

The system allows the conveyancer to make electronic corrections if any and the Registrar can then electronically sign it off after all the necessarily payments have been done by the conveyancer. When the e-deed is approved the deeds registry database is updated and information passed on to the Surveyor General's office and the local authority by the system. The deed is then microfilmed for preservation.⁴⁸⁹

Botswana's drive to computerize deeds records will be more beneficial if these records can be accessed by not only staff at the deeds registry but also by other clients who require deeds records. This means that there is need for data linkages to be created through the Government data network and the web between different spatial data providers as well as attribute data providers such as the National Registration system. It is envisaged that in the near future the national registration system will include biometric identification which could then be linked to the e-deeds registration to minimize identity theft.⁴⁹⁰

For this model to work it will require that the government develops the infrastructure that will allow the different databases to talk to each other. A system should be developed along the lines of the South African e-registration system that will allow different levels of access by users from outside government at a fee.⁴⁹¹ Technical solutions are available to ensure that security concerns are addressed and also that documents that are placed in the system are authenticated. This process will ensure that all electronic submissions are

⁴⁸⁹Bramate C.D. and Jones J.L., URPERA Enactment and E-Recording Standards Implementation Guide, on Property Records Industry Association (PRIA) 2006: Web Site: <http://www.pria.us/uniformelectronicrecording/PRIAURPERAGuideCertified2006.pdf>

⁴⁹⁰Masser, Ian. Governments and geographic information. CRC Press, 1998.

⁴⁹¹Government of Botswana, Botswana's National e-government Strategy, Government Printer, 2011.

done by registered e-conveyancers who submit through a password protected system. The Botswana deeds registry having not automated fully does not relate to the Kenyan context which is partially digitized and in advanced stages of developing the NLIMS.

3.8 Electronic Conveyancing in Canada

The Province of Ontario is the first jurisdiction in the world to provide electronic registration of land related documents. Since 1999 when the Land Registry Office in Ontario made the first transition from the old paper-based system, The province, together with its private sector electronic service delivery provider, Teranet Inc., has offered consumers and businesses a secure and technologically efficient online system for searching land records as well as for transmitting electronic, paperless land titles documents.⁴⁹²

Any person may lodge electronic documents for registration in the Land Registry provided they have an account with a third party licensed operator, Teranet. A Personal Security Package (PSP) consisting of a personal security disk (floppy diskette with encrypted information) and a pass phrase is also required to access the system. A detailed subscriber agreement is entered into between the user and Teranet. There is no direct agreement with the Ontario Land Registry department.⁴⁹³

The Land Titles Assurance Fund (LTAF) was created under the Land Titles Act to compensate people, or certain financial losses due to real estate fraud, omissions and

⁴⁹²Brennan, G., "Defining Econveyancing." In *The Impact of eConveyancing on Title Registration*, pp. 51-114. Springer International Publishing, 2015.

⁴⁹³Brennan, G., *The Impact of e-Conveyancing on Title Registration*. Vol. 10. Springer International publishing. Switzerland. Accessed from doi, 2015.

errors of the land registration system.⁴⁹⁴ Claims arising out of the following may qualify for compensation from the Fund. Fraud, in certain circumstances, errors or omissions of the land registration system, errors in recording by land being brought under the act; and errors in recording an instrument in the automated land registration system.⁴⁹⁵

The land registry in Kenya has experienced several cases of fraud and forgeries of title documents resulting in compensation of proprietors by the Exchequer. The Canadian system of Land Titles Assurance Fund can be emulated in the process of establishing the NLIMS in Kenya.

3.9 Electronic Conveyancing in United States of America

In the United States of America, from July 2000 the first online mortgage application and paperless real estate closing took place in Florida. The transaction was then electronically recorded by the county, title insurance was issued, and images and index data for the deed and mortgage were digitally sealed before being transmitted to the Broward County Records Division through a website portal created especially for electronic transactions.⁴⁹⁶

The United States Congress enacted the Electronic Signature in Global and National Commerce (E-SIGN) Act in 2000.⁴⁹⁷ Uniform Electronic Transaction Act (UETA) was

⁴⁹⁴Christensen, S. A., "Electronic Land Dealings in Canada, New Zealand and the United Kingdom: Lessons for Australia." *ELaw Journal: Murdoch University Electronic Journal of Law* 11, no. 4, 2004:pp. 1-29.

⁴⁹⁵Cameron, D., et. al., "Democracy in Ontario." Ontario Panel on the Role of Government.; www. law-lib. utoronto. ca/investing/reports/rp35. pdf;(25 October 2004) 2003.

⁴⁹⁶Stonefield, S., "Electronic Real Estate Documents: Context, Unresolved Cost-Benefit Issues and a Recommended Decisional Process." *W. New Eng. L. Rev.* 24 (2002):p. 205.

⁴⁹⁷Electronic Signature in Global and National Commerce Act 2000.

drafted in 1999. Uniform Real Property Electronic Recording Act (URPERA) was approved in 2004 which recognize electronic signature and electronic documents.⁴⁹⁸ The enactment of the laws by the United States congress to support the use of electronic signature and electronic documents indicates the need for Kenya to legislate on the use of digital and electronic signatures.

3.10 Conclusion

The electronic conveyancing systems considered in the International arena above indicates that various jurisdictions have different forms of registration. The New Zealand system which has succeeded in implementing paperless titles and automated all the land registration systems ought to be considered for adoption and customization in Kenya. The present manual systems operating in the processing of land records has served to the extent that it provides security of title and is deemed to be accurate. It does afford protection for registered rights, gives notice to the public of such protection and provides an easily accessible record should disputes arise.

The present system of land recording in Kenya supported by legislation and considerable practice over the years has been successfully maintained. However there are present day challenges which require the country to move and adopt electronic conveyancing as in other jurisdictions. The challenge now lies in effecting speedier and more cost-effective land delivery through technology without detracting from the accuracy and security of title enjoyed by the Kenyan public at present.

⁴⁹⁸Conveyancing, Transnational. "The American University Law Review."

When compared with Australia which applies similar system of land registration being the Torrens principle as Kenya, the legal aspects of e-conveyancing in Australia ought to be considered and adopted to suit the NLIMS to make e-land registration system achievable. It should be possible for a conveyancer or accredited government official to access the Lands office from any place in the Republic with a Personal Computer, modem and telephone line.

Similarly the New Zealand e-dealing system has proved to be the most successful whereby all land transactions are undertaken online. Conveyancers in Kenya should be able to submit documents of transfer, mortgage and discharges for registration in electronic form and receive them duly registered through the internet, as it happens in New Zealand. This will ensure that land registration systems are simplified and brought closer to the people who require the services especially in the rural areas.

Legislation will have to be enacted to provide for the introduction of electronic land registration, certain amendments to the Land Acts are required.⁴⁹⁹ The United States of America, New Zealand, Australia, Canada and South Africa considered above have had to align their land registration laws to suit the electronic environment. Thus it is imperative for Kenya to embark on a comprehensive Law Reform for e-land records, electronic conveyancing and procedures to adapt to the digital economy.

The rules in Electronic Conveyancing National Law (ECNL) and Electronic Lodgement Network (ELN) seen in the Australian context, ought to be applied as well as insurance

⁴⁹⁹Land Act No. 6 of 2012.

required for Kenyan Conveyancers who will engage in e-conveyancing on behalf of their clients, where digital or electronic signatures are required. The risks of fraud in land transactions are enormous and lawyers, estate agents and conveyancing practitioners have to caution themselves from any liability for electronic signature systems to operate fully.

Implementation of electronic land registration would necessitate, for at least an initial period, a parallel registration system. The present paper based system will have to run concurrently with an electronic system as it would be impossible to convert to an electronic system in one fell swoop.⁵⁰⁰

Electronic Title should be the ultimate goal for Kenya, considering that some jurisdictions have managed to dispense with the production of manual paper Titles to land for instance in Australia and New Zealand. Documents of land transactions should be lodged electronically including survey records and agreements to transfer and sell parcels of land.

⁵⁰⁰Friedman, L. N. et al., "Implementing an electronic medical record." *Critical care clinics* 23.3.2007: pp. 347-381.

CHAPTER FOUR

LEGAL FRAMEWORK OF E-CONVEYANCING IN KENYA

4.1 Introduction

This Chapter reviews the legal aspects and implications of electronic conveyancing in Kenya and enabling statutes for its implementation. The legal framework in place for conveyancing, the supreme law being the Constitution and other statutory provisions for e-commerce as well as land laws in Kenya are discussed. Digital signatures and other electronic signatures, electronic evidence and challenges of e-conveyancing in Kenya have been highlighted.

4.2 Land Administration and Management in Kenya

Land administration is the process of determining, recording and disseminating information about the tenure, value and use of land when implementing land management policies.⁵⁰¹ It is considered to include cadastral surveying and mapping, fiscal, legal and multi-purpose cadasters, land registration and land information systems.⁵⁰²

In Kenya the institutions that are responsible for land administration and management are the Ministry of Lands and Physical Planning and the National Land Commission. The National Land Commission sought the court's opinion in regard to separation of powers

⁵⁰¹Williamson, I. P., "Land administration "best practice" providing the infrastructure for land policy implementation." *Land Use Policy* 18.4,2001: 297-307.

⁵⁰²Dale, P. and McLaughlin, J., "Land administration." *OUP Catalogue* (2000); Williamson, I. et al., *Land administration for sustainable development*. Redlands, CA: ESRI Press Academic, 2010.

and mandates of the Ministry of Lands vis a vis those of the NLC.⁵⁰³ The Ministry of Lands and Physical Planning is an executive arm of the National Government, while the National Land Commission is an independent body created by the Constitution.⁵⁰⁴ The Institution of Surveyors of Kenya (I.S.K) in their report,⁵⁰⁵ noted that the lack of clearly defined institutional hierarchy for land administration has resulted in multiple land allocations which have led to complicated land disputes. The I.S.K. report also stated that the lack of an efficient land information system results in multiple allocations of land because the volume of land information or data has increased substantially, making it difficult for the existing manual land information management systems to cope.⁵⁰⁶

Some aspects of the present legal and institutional framework of land tenure, land use, and system of acquisition and disposition of land rights have been in place since the colonial times. These have brought about tension, strife and litigation in land matters. When the British established their rule over Eastern Africa towards the end of the nineteenth century, they appropriated all land to the Crown and declared it Crown Land. In order to administer these areas, the British promulgated land laws starting with the East African (Lands) Order in Council of 1901.⁵⁰⁷

Dualism in the law was inevitable in Kenya once it was accepted that the protectorate should be a settled colony. The white settlers came with a large body of English law

⁵⁰³ In Supreme Court Advisory Opinion No. 2 of 2014. In the Matter of the National Land Commission.

⁵⁰⁴ Constitution of Kenya 2010, Article 67(1); Chapter 15 (2) (b).

⁵⁰⁵ Njuguna, H. K. and Mbaya, M. M., “ Land Reforms in Kenya” An Institution of Surveyors of Kenya (ISK) Initiative.

⁵⁰⁶ Njuguna, *ibid.*

⁵⁰⁷ *Ibid.*

which for a long time was restricted in scope and application to this small community.⁵⁰⁸ For instance, the Transfer of Property Act of India 1882 was extended to the East Africa Protectorate in 1897, under the East African Order in Council 1897 which gave inter alia protectorate authorities general jurisdiction over British subjects and later Kenya. Although well documented these laws are often complex and are an embodiment of many principles that are foreign, and have their origin in the history and traditions of England.⁵⁰⁹ Sometimes even professionals in the legal and conveyancing professions find them difficult to interpret.

4.3 Constitutional Provisions on Land Management in Kenya

The Constitution of Kenya 2010⁵¹⁰ provided for the repeal of the old Land laws and enactment of new land legislation. Chapter five of the Constitution provide for Land and Environment. It stipulates that land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable.⁵¹¹ The Constitution on the Bill of rights provides that every citizen has a right of access to information held by the state or another person and required for the exercise or protection of any right or fundamental freedom.⁵¹²

According to Waiganjo, the challenges that led to land reforms included the lack of a coherent land policy framework, historical injustices and disparities in land

⁵⁰⁸ Okoth-Ogendo, H.W.O., *The Political Economy of Land Law*. Yale University, Doctor of Science of Law at the Law School, Thesis. 1978.

⁵⁰⁹ *Ibid.*

⁵¹⁰ Constitution of Kenya promulgated on 27th August 2010.

⁵¹¹ Constitution of Kenya 2010, Article 60.

⁵¹² Constitution of Kenya 2010. Article 35(1).

distribution.⁵¹³ He added that insecure land tenure, excessive fragmentation and environmental degradation, rapid urbanization, rampant land grabbing, fraud and corruption, administratively disjointed and disintegrated sectoral approach of the Customary Law and the Statutes, and inadequacy of the now repealed Registered Land Act.⁵¹⁴

The Constitution guarantees and protects the right to property and states that every person has the right, either individually or in association with others, to acquire and own property of any description, and in any part of Kenya.⁵¹⁵ It also recognizes that a person may be deprived of his or her right to property, but sets out conditions under which such deprivation may take place, it requires prompt payment in full, of just compensation to the person, and allows any person who has an interest in, or right over, that property a right of access to a court of law.⁵¹⁶

In a reported case,⁵¹⁷ a parcel of land was compulsorily acquired on the grounds of the construction of the Thika Superhighway by Government of Kenya. The gazette notice identified the 3rd respondent as owner for purposes of compensation. The Claimant alleged that in collusion with the 3rd respondent being the custodian of all the titles to land, the Commissioner of Lands must have known that the rightful

⁵¹³Kamotho Waiganjo, “The Constitution and New Land Acts.” paper presented to a C.L.E. at Panari Nairobi, August 2013.

⁵¹⁴Registered Land Act (Cap 300) Laws of Kenya.

⁵¹⁵The Constitution of Kenya 2010, Article 67.

⁵¹⁶ *Ibid.*

⁵¹⁷High Court Constitutional Petition No. 414 of 2013: Juliet Wamaitha Wainaina – vs – Attorney General, Commissioner of Lands, Githunguri Constituency Ranching Company Limited & National Land Commission. Land Acquisition Act Cap 265 (Repealed by Land Act No. 6 of 2012), In the matter of Articles 10,19,20,21,22,23,31,40,47,50.,159,238(2)(h), 239(5),258,259,260 of the Constitution. Constitution Articles 20,21,40,47,50. In the matter of the Constitution (Protection of Rights and Freedoms) Practice and procedure Rules 2013).

owner was the claimant. She brought to the attention of the respondents that compensation had not been paid to her. The parcel of land was taken since 2011 by government thus denying her constitutional right.⁵¹⁸ She averred that there was a case in the Environment and Land Court by the 3rd Respondent seeking compensation on the basis of the gazette notice and acquisition of her plot.⁵¹⁹

The Petitioner had exercised her rights which were infringed as provided for in the Constitution especially the right of access to information, and arbitrary deprivation of her right to enjoy quiet possession of the land having been converted to a public superhighway without due compensation. Had there been electronic systems for data capture and retrieval the mistaken identity of the rightful owner of the parcel of land would not occur.

There are several matters in court over land where the Ministry of Lands has been enjoined which cases would be avoided if there is e-conveyancing. This has led to loss of millions of shillings by the government through fraudulent compensations on roads and the railways. The standard gauge railway acquisition and compensation process has been dogged by controversy over several payments and claims by fraudsters in collusion with inefficient and inept officials.

The Constitution provides for the enactment of various laws relating to land, for instance the Finance Act 2012 which amends laws relating to taxes and duties, which Act prevents

⁵¹⁸Constitution of Kenya 2010, Article 40(3).

⁵¹⁹Environment and Land Court ELC Case no. 368 of 2012.

the Government from charging stamp duty twice.⁵²⁰ The Constitution laid down the basis for land management by the establishment of the National Land Commission and defined the tenure systems of land in Kenya.⁵²¹ It gave the parameters within which an aggrieved person may seek redress in a court of law for deprivation of their constitutional right to own property. As seen in the above case and various other cases at the Environment and Land Court and Constitutional Petitions at the High Court of Kenya.

4.4 Land Laws and Statutory Provisions for Conveyancing in Kenya

As already discussed there are numerous laws that govern conveyancing practice in Kenya. The existence of multiple legislation in regard to land administration and management resulted in double allocations and contradictory means of transacting in land causing confusion in conveyancing practice in Kenya.

The promulgation of the Constitution of Kenya 2010 resulted in the enactment of the new Land Laws of 2012 that repealed the following statutes: Wayleaves Act,⁵²² Land Acquisition Act,⁵²³ Indian Transfer of Property Act 1882,⁵²⁴ Government Land Act,⁵²⁵ Registration of Titles Act,⁵²⁶ Land Titles Act,⁵²⁷ and Registered Land Act.⁵²⁸ Some of these repealed statutes however, are still in application as the operationalization of the new laws is not yet fully effected. These land laws are discussed hereunder.

⁵²⁰ Finance Act 2012, Laws of Kenya. Section 31.

⁵²¹ The Constitution of Kenya 2010, Chapter V.

⁵²² Wayleaves Act (Cap 292) Laws of Kenya.

⁵²³ Land Acquisition Act (Cap 295) Laws of Kenya.

⁵²⁴ Indian Transfer of Property Act 1882 (Group 9).

⁵²⁵ Government Land Act (Cap 280) Laws of Kenya.

⁵²⁶ Registration of Titles Act (Cap 281) Laws of Kenya.

⁵²⁷ Land Titles Act (Cap 282) Laws of Kenya.

⁵²⁸ Registered Land Act (Cap 300) Laws of Kenya.

4.4.1 The National Land Commission Act

The Act establishes the National Land Commission (NLC) which is mandated to administer and manage all public land.⁵²⁹ According to the Act,⁵³⁰ the NLC is charged with the responsibility to manage public land on behalf of the national and county governments, to recommend a national land policy to the national government, to advise the national government on a comprehensive programme for the registration of title in land throughout Kenya which requires completion in ten years.

The NLC is also required to conduct research related to land and the use of natural resources, and make recommendations to appropriate authorities, to initiate investigations, on its own initiative or on a complaint, into present or historical land injustices, and recommend appropriate redress; to encourage the application of traditional dispute resolution mechanisms in land conflicts, to assess tax on land and premiums on immovable property in any area designated by law and to monitor and have oversight responsibilities over land use planning throughout the country.⁵³¹

The Act provides that the National Land Commission take the roles previously played by the executive that is the President through the Commissioner of Lands and the Attorney-General. The Act specifically requires the Commission to prepare and keep a database of all public land which ought to be georeferenced. In this regard this requirement can only be effectively achieved where the Commission initiates and implements a computer based system for capturing the data to make it available for use in a Database. Further

⁵²⁹The Constitution of Kenya 2010, Article 67.

⁵³⁰The National Land Commission Act No. 5 of 2012.

⁵³¹The Constitution of Kenya 2010, Art 67.

the NLC Act requires the commission to develop and maintain an effective land information management system at national and county levels.⁵³²

The National Land Commission effectively created a Directorate of National Land Information Management Systems (NLIMS Directorate) with the aim of developing and maintaining a land information management system (LIMS) for the National Government. Whereas NLC is clearly required to only deal with public land database this has led to a revision of the law, which gives the Cabinet Secretary the mandate to develop and maintain the National Land Information Management System (NLIMS).⁵³³

4.4.2 Land Act No. 6 of 2012

The Land Act is the substantive law governing land matters in Kenya. The Act deals with the administration and management of private land, leases, charges and compulsory acquisition. The Act applies to public land, private land and community land. It provides for forms of tenure as being; freeholds, leaseholds; such forms of partial interest as may be defined by an Act of Parliament and customary land rights, where consistent with the Constitution.⁵³⁴

The Act provides for acquisition of title to land which may be acquired through allocation, land adjudication process, compulsory acquisition, prescription, settlement programs, transmissions, transfers, or through long term leases exceeding twenty one (21) years created out of private land.⁵³⁵ The holders of leaseholds for more than 99 years

⁵³²National Land Commission Act No. 5 of 2012. Section 5(2)(d).

⁵³³The Land Laws (Amendment) Act 2016.

⁵³⁴Land Act No. 6 of 2012 Laws of Kenya.

⁵³⁵*Ibid.*

will have their tenure automatically reduced to 99 years by the operation of the Act. All disputes pertaining to land will be handled by the Environment and Land Court. Management of land shall be compliant to the values and principles provided for under Section 4(2) (d) of the Land Act which are virtually similar to those entrenched in Article 10 of the Constitution and are aimed at ensuring justice in as far as dealings in public land are concerned.

The Act, provides for allocation of land by the National Land Commission which may, on behalf of the national or county governments allocate public land by way of public auction to the highest bidder, application confined to a target group of persons or groups, public notice of tenders, public drawing of lots, public request for proposal, public exchanges of equal value. The Act provides that the NLC may allocate land to foreign governments on a reciprocal basis in accordance with the Vienna Convention on diplomatic relations which Kenya is a party.

Reversion of an interest in or a right over a land shall be in the national or county government. Land allocated by the NLC that is not developed or utilized in accordance with the purposes for which it was allocated and within the time stipulated will automatically revert back to the government.⁵³⁶ It also provides for charges, spousal overriding interest over matrimonial property included as subsisting over all registered land section 28 of Land Registration Act.⁵³⁷ Section 81 (4) of the Land Act provides for protection against fraud, dishonesty or misrepresentation prior to a charge. The Court

⁵³⁶Land Act No. 6 of 2012, Laws of Kenya.

⁵³⁷Land Registration Act No. 3 of 2012, Laws of Kenya. Section 28.

can make orders that any interest in private land acquired with a bid to defeat an unsecured creditor be reversed.⁵³⁸

In managing public land on behalf of the national and county governments, the Commission shall identify public land, prepare and keep a database of all public land, which shall be georeferenced and authenticated by the statutory body responsible for survey. The Commission shall evaluate all parcels of public land based on land capability classification, land resources mapping consideration, overall potential for use and resource evaluation data for land use planning; shall share data with the public and relevant institutions in order to discharge their respective functions and powers under this Act, may require the land to be used for specified purposes and subject to such conditions, covenants, encumbrances or reservations as are specified in the relevant order or other instrument.⁵³⁹

4.4.3 Land Registration Act No. 3 of 2012

This harmonizes land laws into one statute to foster proper understanding of legal regimes and to reduce multiple registration regimes for titles to land.⁵⁴⁰ The Act now provides that a certificate of title is to be issued upon registration under the statute and any other title document issued before the commencement of the Act is to be deemed to be a Certificate of Title. Section 8 of the Land Registration Act provides for the establishment of the community land registries which govern the community land.⁵⁴¹

⁵³⁸ Land Act No. 6 of 2012, Laws of Kenya. Section 81(4).

⁵³⁹ The National Land Commission Act No. 5 of 2012, Laws of Kenya.

⁵⁴⁰ Chitere, P. et al., "Kenya Constitutional Documents: An Analysis." 2006.

⁵⁴¹ Land Registration Act No.3 of 2012, Laws of Kenya. Section 8.

The Act enables the conversion of all titles into one registration system therefore simplify the operations of conveyancing and effectively facilitate e-conveyancing. Having one registration statute makes it easier to formulate regulations to be applied across the board by all persons seeking to register and deal with land.

4.4.4 The County Governments Act

The County Governments Act,⁵⁴² was enacted to provide for County governments powers, functions and responsibilities to deliver services, pursuant to devolved Government and relevant Articles of the Constitution of Kenya 2010.⁵⁴³ The Act provides that every Kenyan citizen shall on request have access to information held by any county government or any unit or department thereof or any other state organ in accordance with Article 35 of the Constitution.⁵⁴⁴ The county may impose reasonable fees or charges for accessing information held by county government, its departments or agencies.

A county planning unit shall be responsible for ensuring the collection, collation, storage and updating of data and information suitable for the planning process and ensuring the establishment of a Geographical Information System (GIS) based database system.⁵⁴⁵ A GIS based database system is a geographical information management system that integrates hardware, software and data for capturing, managing, analyzing and displaying forms of geographically referenced information. County plans include integrated

⁵⁴²County Governments Act of 2012, Laws of Kenya.

⁵⁴³The Constitution of Kenya 2010. Articles 174, 175,176(2), 178, 196, 197, 199,200,231 and 235.

⁵⁴⁴The County Government Act. 2012, Laws of Kenya. Section 96(1).

⁵⁴⁵Ibid. Section 105(1).

development plan, county sectoral plans, County Spatial plan and cities and urban areas plans.

An Integrated Development Plan shall have attached to it maps, statistics and other appropriate documents, or refer to maps, statistics and other appropriate documents that are not attached but held in a GIS based database system that are open for public inspection at the offices of the county in question.⁵⁴⁶ This provision has expressly made reference to electronic documents of conveyancing in the County Governments Act, that is Integrated Development Plans for counties held in a GIS based database that will not require attached hard copy paper based maps and additional documents. This is a very positive initiative and an enabling law for implementation and adoption of e-conveyancing in the County Land Information Management towards achievement of Vision 2030, and Cadastre 2034.

The Act, require that a ten year County GIS based database system Spatial Plan for each county should be in place, which is a component part of the County Integrated Development Plan. This provides a depiction of the social and economic development programme of the county as articulated in the integrated county development plans. It makes a clear statement of how the spatial plan is linked to the regional, national and other county plans, and a clarifications on the anticipated sustainable development outcomes of the spatial plan.⁵⁴⁷ This leads to development of a sustainable e-conveyancing for all the Counties in Kenya, and therefore the entire country to easily interact on a digital platform. The time stated by the Act is definite and it is expected the

⁵⁴⁶*Ibid.* Section 108(3)

⁵⁴⁷*Ibid.* Section 110(1)(a)(b)(c).

County Governments, for achievement of their Spatial Plans and other development projects, will require to implement the GIS based database system.

Under the Act, the strategies and policies regarding the manner in which the spatial development framework for the county, indicating a desired pattern of land use within the county and set out basic guidelines for a land use management system. Taking into account any guidelines, regulations or laws as provided for under Article 67(2) (h) of the Constitution.⁵⁴⁸ The Act does not specifically require electronic documents to be used in the preparation of the spatial development plans. The GIS Based data base system will make it easier to incorporate the use of digital maps and data in effecting work in the County governments. This will easily link to the national land information management system depending on the interoperability of the systems so developed.

4.4.5 The Registration of Documents Act

Introduced in 1901, the Registration of Documents Act (RDA)⁵⁴⁹ was the first registration Act in Kenya to facilitate the registration of documents relating to transactions involving alienated Crown land.⁵⁵⁰ The RDA required that registration of transactions be affected within six months of execution.

The registration processes under the Act were not accompanied by any survey plans and only a copy of the registered documents was retained in the registry. The proprietor of land had to trace the root of the title to the satisfaction of any intending purchaser.

⁵⁴⁸ *Ibid.* Section 110 (2) (b) (c).

⁵⁴⁹ Registration of Documents Act (Cap 285) Laws of Kenya.

⁵⁵⁰ Kameri-Mbote, P, and Kindiki, K., "Trouble in Eden: How and Why Unresolved Land Issues Landed 'Peaceful Kenya' in Trouble in 2008." *Forum for Development Studies*. Vol. 35. No. 2. Taylor & Francis Group, 2008.

Initially Registration of Documents Act registries were located in Nairobi, Mombasa, Malindi and Naivasha. However in 1915 the Malindi and Naivasha registries were closed and merged with Nairobi and Mombasa.

The Registration of Documents Act (RDA) register is a deeds system which also is used to register documents such as marriage certificates, agreements of any nature particularly on land matters without supporting documents such as deed plans, architectural plans, deed polls and trust deeds.⁵⁵¹

Currently the Registration of Documents Act register is operating on manual entries by the officers and all documents are lodged in paper format. There have been no attempts to digitize, scan or automate the RDA system by the NLIMS. This apparently is the simplest form of registration as it does not require a file reference or Deed File number. The documents registered under the RDA system are numerous and very difficult to locate as a result of the lack of file references. Therefore, the RDA could benefit greatly by development of a digital system requiring all lodgements to be made electronically and effected on the system as a pilot of e-conveyancing.

4.4.6 The Land Titles Act

The Land Titles Act,⁵⁵² was enacted in 1908 for alienation of Crown Land at the Coast especially the ten (10) mile coastal strip which had been leased from the Sultan of

⁵⁵¹Wayumba, G.O., *An evaluation of the Cadastral System in Kenya and a Strategy for its Modernization*. University of Nairobi, PhD Thesis, School of Engineering, Department of Geospatial and Space Technology. 2013.

⁵⁵²Land Titles Act (Cap 282) Laws of Kenya(now repealed and replaced with Land Registration Act No.3 of 2012).

Zanzibar.⁵⁵³ The individuals who successfully claimed private land were issued with certificates of ownership giving them freehold titles and certificate of mortgage or interest covering leasehold depending on the nature of title adjudicated.

A title issued under the Land Titles Act did not create new rights but they only conferred the existing rights. The Act is administered only in the Coast registry at Mombasa. The same has now been repealed and replaced by the Land Registration Act, and effectively all titles under the Act are deemed to be certificates of title under the LRA.⁵⁵⁴

4.4.7 The Government Lands Act

The Government Land Act⁵⁵⁵ (GLA) was enacted in 1915 to make better on further provisions to regulate leasing and repealed the Crown Lands Ordinance of 1902. The GLA governed all freeholds and leasehold interests granted by Government prior to 1920, except freeholds under the Registration of Titles Act (RTA) and leaseholds converted to 999 years. Under the GLA only the President could sign documents granting title however the President delegated his powers to the Commissioner of Lands.

The GLA laid down the procedures the Commissioner of Lands would follow in allocating land. The Act abolished the compulsory requirement under the Registration of Documents Act in respect to transactions relating to alienated government land. Under the Act, registration of transactions and grants is compulsory and unregistered documents

⁵⁵³Ojienda, T. O., and Rachier, A. O., "Conveyancing Theory and Practice." *Faculty of law, Moi University, Eldoret, Kenya*, 2001.

⁵⁵⁴Land Registration Act, No. 3 of 2012. Laws of Kenya.

⁵⁵⁵Government Lands Act ⁵⁵⁵(Cap 280) Laws of Kenya,(now repealed and replaced by the Land Act No. 3 of 2012).

or deeds have no validity in law. The GLA Registries are located only in Nairobi and Mombasa.

The Act is a deeds registration system supported by authenticated survey plans and approved deed plans. Titles registered under the Act are kept in Volumes and a folio is opened for each parcel of land. Under the GLA the owner keeps the original documents and the copies are kept in the Registry Deed files that contain supporting documents of the transactions which include conveyances, indentures, assignment, mortgages or reconveyance of mortgages and or any other relevant documents.

However, the GLA had been misused to allocate land to a few well connected individuals leading to mistrust and double allocations.⁵⁵⁶ Though the GLA has been repealed and replaced by the Land Registration Act,⁵⁵⁷ conveyancing practice still continues with the old GLA registers because conversion to the new registration system has not been effected. The paper records and Volumes kept under the GLA system are at times lost, misplaced and torn or tattered as a result of the manual handling of records. These registers have been very difficult to automate or digitize because most of them require reconstruction in which cases information has been lost without a trace, while others have been tattered beyond repair. The GLA system has proved to be very prone to corrupt dealings because a citizen seeking information will at times be required to part with extra inducement for his or her documents to be retrieved.

⁵⁵⁶Kimaiyo, J. T., *Ogiek Land Cases and Historical Injustices*. Egerton, Nakuru: Ogiek Welfare Council, 2004.

⁵⁵⁷Land Registration Act No. 3 of 2012.

4.4.8 Indian Transfer of Property Act of 1882

The substantive land law was contained in the Indian Transfer of Property Act of 1882(ITPA).⁵⁵⁸ The Government resulted to the ITPA pursuant to article 11b of the 1897 East African Order in Council which allowed the application of the 1882 ITPA in Kenya. The Act dealt with transfer of land, leases, licenses, mortgages and charges, easements and profits, restrictive covenants, and the contracts of sale of land itself. It was suitable for the development of the settler economy in the East African Protectorate and proved useful in resolution of interpersonal disputes.⁵⁵⁹

However any omissions in it were to be substituted by the common law of England, the doctrines of equity and the statutes of general application in force in England on 12th August 1897.⁵⁶⁰ The Act for a long time provided for the lacuna in Kenya to deal with conveyancing relating to the LTA and GLA.⁵⁶¹ Though the Act is not a conveyancing or registration statute it is now repealed and replaced by the Land Act.⁵⁶²

4.4.9 The Registration of Titles Act

The Registration of Titles Act,⁵⁶³ (commonly referred to as the RTA) was enacted in 1920 for titles adjudicated in 1920 and thereafter. The RTA was enacted principally for the purpose of improving issuance of titles to land as well as regulating transactions in land. The Act is based on the Australian Torrens system of title registration and

⁵⁵⁸Indian Transfer of Property Act of 1882,(Group 9 of the Laws of Kenya) now repealed and replaced by the Land Act No. 3 of 2012.

⁵⁵⁹Okoth-Ogendo, H.W.O., *The Political Economy of Land Law*. Yale University, Doctor of Science of Law at the Law School, Thesis. 1978.

⁵⁶⁰Okoth-Ogendo, H.W.O., *The Political Economy of Land Law*. Yale University, Doctor of Science of Law at the Law School, Thesis. 1978.

⁵⁶¹Wayumba, *ibid*.

⁵⁶²Land Act No. 3 of 2012.

⁵⁶³Registration of Titles Act (Cap 281) Laws of Kenya.

introduced conveyancing by statutory form.⁵⁶⁴ The RTA dealt with all land granted by government or subject to the certificate of ownership, mortgage or interest issued by the registrar of titles under the LTA.

It also applied to all leaseholds which had been converted from the 99 years term or 999 years term since 1920 to freeholds, or to any titles converted on a voluntary basis from government lands act or LTA. The Act dealt with Land both in the Inland and the coast and there are two registries based in Nairobi known as Central Registry and the Coast Registry based in Mombasa. The Act was repealed and replaced with the Land Registration Act.⁵⁶⁵

However, registration and dealings with land under this Act have continued in earnest and this also poses a great difficulty in automation and digitization because of the complexity of the registration system. It is recommended that all the documents of title existing under this regime be converted to the Land Registration Act, to make it uniform across the country.⁵⁶⁶

4.4.10 The Registered Land Act

The Registered Land Act,⁵⁶⁷ (RLA) was enacted in 1963. The objectives were enabling land owned by Africans to be registered under the law and to simplify and unify the registration process which at the time was spread over several registration statutes. RLA

⁵⁶⁴Registration of Titles Act (Cap 281) Laws of Kenya (now repealed and replaced with Land Registration Act No.3 of 2012).

⁵⁶⁵Land Registration Act No. 3 of 2012, Laws of Kenya.

⁵⁶⁶ *Ibid.*

⁵⁶⁷Registered Land Act (Cap 300 Laws of Kenya) now repealed and replaced with Land Registration Act No. 3 of 2012.

provided for the conversion of all registration under other statutes into its provisions. The RLA was also repealed and replaced with the Land Registration Act,⁵⁶⁸ however titles held under the RLA are still in use and conversion has not been undertaken.

Some of the registration districts operating under the RLA have been partially digitized and operate a dual system of both computerized entries and searches although documents are lodged manually. The Ministry of Lands has developed a system to be used in the capture and dissemination of data on all registries operating the RLA system across the country and it is likely that once all data has been scanned electronic conveyancing may be possible to implement.

4.4.11 The Land Control Act

The Land Control Act, was enacted in 1967 with the aim of regulating by means of public control the manner in which the land owner of interest in land is supposed to deal with it.⁵⁶⁹ The Act originated from the Land Control Ordinance of 1944. The ordinance had come up with a Land Control Board which gave powers to impose conditions as to the development of land and failure to comply with the conditions would lead to forfeiture of land. All transactions in land were to be controlled apart from transmissions of land unless it involved subdivision of the land foreclosures and transactions made in favor of the Government or trust board.

⁵⁶⁸Harpum, C. and Bignell J., *Registered Land, the New Law: A Guide to the Land Registration Act 2002*. Jordans Pub, 2002.

⁵⁶⁹ The Land Control Act (Cap 302) Laws of Kenya.

The Land Control Act empowers the Minister to establish a Land Control Board for every land control area or Division. The Board so established shall have control of all dealings in agricultural land for instance the sale, transfer or other disposal of or dealing with any agricultural land situated within a land control area. The Land Control Boards have been used to the detriment of the intended parties because cases arise where families have been thrown out of their farms without notice after the land is sold by the patriarch.

The Land Control Board members have to meet physically and make decisions and require manual evidence tabled before consent is given. Even if it is possible to hold a skype meeting and conduct business online for a Land Control Board, any changes will be met with resistance from the members of the Board who mostly are not techno savvy. The members of the public will also resist the automation/digitization of the Board meetings because many want to appear in person or with representation at such meetings and may fear that their land matters will not be effectively dealt with on electronic medium.

4.4.12 Trust Land Act

The Trust Land Act, was established to guide the national and local government in the management and control of land set aside as trust lands. The Act provides for setting apart of land,⁵⁷⁰ and states that full compensation shall be promptly paid by the Government to any resident of the area of land set apart who has the right to occupy or is prejudicially affected by the setting apart.⁵⁷¹

⁵⁷⁰The Trust Land Act (Cap 288) Laws of Kenya. Section 7.

⁵⁷¹ *Ibid*, Section 8.

The Act specifically states that any notices, instruments or documents under the Act are required to be served to the recipient personally, by registered post or by leaving it at his last known place of abode.⁵⁷² It further states that any notices or order or other documents required to be made and published may be published by affixing a copy at the District Commissioner's Office and in the Gazette.⁵⁷³

These requirements for paper based written documents imply that even where digitization is to take place it would be necessary to have printed documents to enable the service to be effected. These provisions will require to be amended to include the electronic mailing of notices and documents through email addresses of the recipient, to enable e-conveyancing.

4.4.13 Sectional Properties Act

The Sectional Properties Act,⁵⁷⁴ enacted in 1987 compliments the Registered Land Act,⁵⁷⁵ for properties that are subdivided horizontally and vertically. The Act applies only in respect of land held on freehold title or on a leasehold title where the unexpired residue of the term is not less than forty five (45) years. Sectional plans require to be registered in quadruplets accompanied by certificate of a surveyor and approval of the local authority. The plans have to be endorsed by a registered architect.

The Act require that all owners of units in a sectional property or plan to establish a corporation for its effective administration and management.⁵⁷⁶ Service of documents and

⁵⁷² Trust Land Act (Cap 288) Laws of Kenya, Section 56.

⁵⁷³ Trust Land Act (Cap 288) Laws of Kenya, Section 57.

⁵⁷⁴ Sectional Properties Act of 1987 (Laws of Kenya).

⁵⁷⁵ Registered Land Act (Cap 300) Laws of Kenya.

⁵⁷⁶ Sectional Properties Act of 1987 (Laws of Kenya), Section 17.

notices on a corporation is to be effected by registered post or by leaving copy at the address shown on the Sectional Plan.⁵⁷⁷ Under the Act, the Minister may make regulations in respect of forms to be used including the form of Certificates of Title in giving effect to this Act.

The registration of sectional plans currently use the manual paper based systems and this does not support electronic conveyancing. The Act will need to be amended to include the use of GIS based techniques of data for plans to manage the registration of the titles to sectional properties, therefore enabling the sustainable digitization of maps, plans and attributes on the registers for e-conveyancing to be effectively achieved in Kenya.

4.4.14 The Trust of Land Act

The Trust of Land Act was enacted to give guidelines on trusts for sale of land and other settlements.⁵⁷⁸ The Act defines a trust for sale of land as an immediate binding trust for sale, whether or not excisable at the request or with the consent of any person, and with or without a power at discretion to postpone the sale. Trustee for sale means the person including a personal representative holding land on trust for sale.

If the consent of more than two persons is by the disposition made necessary to the execution of a trust for sale of land, then, in favor of a purchaser, the consent of any two of those persons to the execution of the trust or to the exercise of any statutory or other powers vested in the trustees for sale shall be deemed sufficient.⁵⁷⁹ The trustees for sale

⁵⁷⁷ *Ibid.* Section 64.

⁵⁷⁸ Trust of Land Act (Cap 290), Laws of Kenya.

⁵⁷⁹ *Ibid.* Section 6.

shall, as far as practicable, give effect to the wishes of the persons of full age for the time being beneficially interest in possession in the rents and profits of the land until sale, or in case of dispute of the majority (according to the value of their combined interests) of those persons, but a purchaser shall not be concerned to see that those wishes are complied with.⁵⁸⁰

The Act, does not affect the right of any person to require that instead of a sale, the property to be conveyed to him or in accordance with his directions, and it applies to all settlements including wills.⁵⁸¹ Any land by virtue of any deed, will, agreement, act or instrument, is purported to be limited to or in trust for any persons by way of succession or , limited to or in trust for any person in possession for any estate or interest subject to a limitation, gift or disposition over on failure of his issue or in any other event or, limited to or in trust for any estate contingent on the happening of any event, or under the age of majority for any estate, for a married woman of the age of majority in possession for any estate with restraint on anticipation, or charged voluntarily or in consideration of marriage or by way of family arrangement, etc, shall be deemed to be settled land.⁵⁸²

The Act provides that the trustees for sale may lease the land or any part thereof, or any easement, right or privilege of any kind over or in relation to the land.⁵⁸³ A counterpart of every lease is required to be executed by the lessee and delivered to the trustee for sale, of which execution and delivery of the lease by the trustee for sale shall be sufficient evidence. This requirement for execution by the trustees for sale and the lessee as well

⁵⁸⁰*Ibid.* Section 6 (3).

⁵⁸¹*Ibid.* Section 9 (2).

⁵⁸²Trust of Land Act (Cap 290) Laws of Kenya. Section 10.

⁵⁸³*Ibid.* Section 18.

as the formal lease drawn is presumed to be on manual and paper format. The execution of the lease may be done by parties through electronic signatures and documents exchanged on electronic or digital format to enable e-conveyancing. Therefore these provisions of the Act should be amended to accommodate the e-signatures and electronic documents of lease.

The Act also provides for a tenancy at the best rent that can be reasonably obtained without fine or premium.⁵⁸⁴ The trustees for sale of land may at any time either with or without consideration, grant by writing an option to purchase or take a lease of that land.⁵⁸⁵ The trustees of land may by deed or writing either with or without consideration in money or otherwise, release, waive or modify any covenant, agreement or restriction imposed on any land for the benefit of the land held upon trust for sale or any part thereof, or release or agree to release, any other land from any easement, right or privilege, including a right of pre-emption, affecting it for the benefit of the land held upon trust for sale, or any part thereof.⁵⁸⁶

On a disposition of the land the Trustees for Sale of land, may as regard the land sold, given in exchange, leased, mortgaged, charged or otherwise disposed of, , effect the transaction by deed or writing to the extent of the estate or interest held upon trust for sale..⁵⁸⁷ Such a deed or writing, to the extent and in the manner to and in which it is expressed or intended to operate and can operate under this Act, is effectual to pass the

⁵⁸⁴Trust of Land Act (Cap 290) Laws of Kenya. Section 18 (5).

⁵⁸⁵*Ibid.* Section 22(1).

⁵⁸⁶*Ibid.* Section 25(2).

⁵⁸⁷*Ibid.* Section 34(1).

land conveyed or transferred, or the easements, rights, privileges, or other interests created, discharged from all the limitations, powers and provisions of the instrument.⁵⁸⁸

Trustees for sale of land may revocably delegate the powers of and incidental to leasing, accepting surrenders of leases and management conferred on them, by writing, signed by them, to any person of full age.⁵⁸⁹ The receipt or direction in writing of or by the trustees for sale of land, or corporation or personal representative, of or by that trustee, relating to any money or securities paid or transferred to or by the direction of the trustees, trustees or representatives, effectually discharges the payer or transferor therefrom.⁵⁹⁰

The provisions highlighted hereinabove all point to the fact that the requirements of a written deed is mandatory for the operation of this Act. It will be therefore necessary to address all the requirements for writing and substituting them with electronic documents should be explored in order to gradually have users accepting to migrate to e-conveyancing form of transactions.

4.4.15 The Stamp Duty Act

The Stamp Duty Act provides that every instrument executed which relates to property situated in Kenya is chargeable with the stamp duty subject to the exemptions.⁵⁹¹ The Act enables the Collector of Stamp Duty to effectively raise Government revenue on conveyancing transactions and other transactions. Upon execution or receipt in Kenya an instrument is to be duly stamped within thirty (30) days or within 21 days of the notice of

⁵⁸⁸Trust of Land Act (Cap 290) Laws of Kenya. Section 34 (2).

⁵⁸⁹*Ibid.* Section 35.

⁵⁹⁰The Trust of Land Act (Cap 290) Laws of Kenya. Section 50.

⁵⁹¹The Stamp Duty Act (Cap 480) Laws of Kenya.

the assessment where the opinion of the Collector has been sought. The failure by any person to present instrument for stamping is to be proceeded against either civilly or criminally without reference to any civil liability of the parties *inter se* for the payment of the stamp duty.⁵⁹²

The Act provides that only duly stamped instruments may be received in evidence in any proceedings in criminal or civil proceedings, except in criminal or civil proceeding by the collector to recover stamp duty.⁵⁹³ No instrument chargeable with stamp duty shall be filed, enrolled, registered or acted upon by any person unless it is duly stamped.⁵⁹⁴ Conveyance on sale includes an instrument and a decree or order of a court, whereby any property, or any estate or interest in property, upon the sale thereof is transferred to or vested in a purchaser, or any other person on his behalf or by his direction (b) a decree or order for, or having the effect of an order for, foreclosure.⁵⁹⁵ Any vesting order by the court shall bear the same stamp as if it were a conveyance on sale.

Any conveyance or transfer operating as a voluntary disposition *inter vivos* shall be charged with stamp duty as if it were a conveyance or transfer on sale, with the substitution in each case of the value of the property conveyed or transferred for the amount or value of the consideration for the sale. Except if the transfer is in favor of a body corporate and the property is to be held as a public utility (open space), or the body is for charitable purposes only or the trustees of a trust so established.⁵⁹⁶

⁵⁹²*Ibid.* Section 6(6).

⁵⁹³*Ibid.* Section 19(1).

⁵⁹⁴*Ibid.* Section 19 (2)

⁵⁹⁵The Stamp Duty Act (Cap 480) Section 43.

⁵⁹⁶*Ibid.* Section 52.

Leases and licences shall be charged with the same duty so far as the consideration therefor consists of rent, whether reserved as a yearly rent or otherwise.⁵⁹⁷ A lease shall so far as the consideration therefor consists of any premium or other consideration whatsoever other than rent, moving either to the lessor or to any other person, be charged with ad valorem stamp duty computed on that consideration as if it were a conveyance on sale for the amount of that consideration.⁵⁹⁸ A lease granted in perpetuity shall be charged with ad valorem stamp duty as if it were a conveyance on sale, and the duty shall be computed on the value of the property.⁵⁹⁹

According to the Act, a Mortgage means a legal charge or security by way of mortgage for the payment of any definite or certain sum of money advanced or lent at the time, or previously due and owing or foreborne to be paid, being payable, or for the repayment of money to be thereafter lent, advanced or paid, or which may become due upon an account current, together with any sum already advanced or due.⁶⁰⁰ A contract or bond accompanied by a deposit of title deeds or other instruments evidencing a right to property for making a mortgage or pledging or charging the same as a security, and any deed operating as a mortgage of any stock or marketable security.⁶⁰¹

The payment of stamp duty is now done on electronic platform through *ITAX*, however the assessment and valuation are still done manually. This is a positive move towards digitization of conveyancing processes. The Collector of Stamp Duty however, has to

⁵⁹⁷*Ibid.* Section 56.

⁵⁹⁸*Ibid.* Section 57.

⁵⁹⁹*Ibid.* Section 58.

⁶⁰⁰Stamp Duty Act (Cap 480) Laws of Kenya. Section 68.

⁶⁰¹*Ibid.*

frank the documents having confirmed the payment online. The digitization of stamp duty has met resistance from users especially in a few cases where some have been using fictitious personal identification numbers (PIN). This will therefore result in higher collection of revenue and improve the services provided by the Ministry.⁶⁰²

4.4.16 The Local Government Act

The Local Government Act,⁶⁰³ which commenced in 1963 provided for the establishment of the authorities, functions and matters connected with local government. In regard to land matters the Act provide for the local authorities for its purposes and functions, to acquire any land by way of purchase, lease, exchange or gift, whether the land is situated within or without the area of the local authority.⁶⁰⁴ A Local authority may let, or grant any person a licence to occupy, any land which it may possess with the consent of the Minister for any term, or for 7 years without Ministers consent and may charge rents, stand premium or fees.⁶⁰⁵

The local authority may sell any land which it may possess and or exchange any land with or without paying or receiving any money for equality of exchange.⁶⁰⁶ The Municipal or County Council may prohibit and control the development and use of land and buildings in the interest of the proper and orderly development of its area.⁶⁰⁷ Some county governments have taken initiatives to design and develop their own land

⁶⁰²Daily Nation, Wednesday May 24, 2017.,p.42. KRA nets Sh10bn rent income tax.

⁶⁰³Local Government Act (Cap 265) Laws of Kenya.

⁶⁰⁴*Ibid.* Section 144.

⁶⁰⁵Local Government Act (Cap 265) Laws of Kenya. Section 144 (5).

⁶⁰⁶*Ibid.* Section 144 (6).

⁶⁰⁷*Ibid.* Section 166.

information management systems (LIMS). These operate in silos although the LIMS in the counties enable them to manage and collect rates and taxes on land.⁶⁰⁸

4.4.17 Land statutes still in force

Other statutes concerning land law, land administration and management that requires to be revised or harmonized to conform to the letter and spirit of the Constitution. The Landlord and Tenant (Hotels, Shops and Catering Establishments) Act, Land Consolidation Act, Equitable Mortgages Act, Trespass Act, Survey Act, Rent Restriction Act, The Distress for Rent Act, Physical Planning Act and Regulations 1996, Companies Act, and the Law of Contract Act.⁶⁰⁹ In relation to whether the legal aspects and safeguards necessary to facilitate implementation of electronic conveyancing in Kenya are achieved, it is evident from the above laws that there are insufficient provisions for enabling e-conveyancing in Kenya.

4.5 The Legal Framework of e-Conveyancing in Kenya

The creation of an enabling legal and regulatory environment was identified as a critical factor for the effective implementation of e-government and e-commerce strategies at national and regional levels by the East African Council of Ministers.⁶¹⁰ Legislation related to data security, network security, cybercrime, information systems and electronic

⁶⁰⁸ Nyeri County Government, Kirinyaga County Government and Mavoko County Government are some of the counties that have attempted to develop a LIMS to manage their land records.

⁶⁰⁹ The Landlord and Tenant (Hotels, Shops and Catering Establishments) Act, Cap 301, Land Consolidation Act Cap 283, Equitable Mortgages Act, Cap 291, Trespass Act Cap 294, Survey Act, Cap 299, Rent Restriction Act Cap 296, The Distress for Rent Act Cap 293. Physical Planning Act and regulations 1996 (Cap 286), Companies Act (Cap 486), Law of Contract Act (Cap 23).

⁶¹⁰ UNCTAD United Nations conference on Trade and Development, “Harmonizing Cyberlaws and Regulations: The experience of the East African Community” 2006.

transactions and strong back up support is needed to achieve operational efficiency of such strategies.

In Kenya the Land Act⁶¹¹ makes the following provision on Management and Administration of Public Land and provides that;

The Commission on behalf of National and County Government shall identify public land, prepare and keep a Data Base, geo-referenced and authenticated by Survey Department, and share data with the public and relevant institutions.

These and other enabling statutes have laid down the backbone for the requirement for electronic conveyancing to be developed and operated in Kenya. The preparation of data bases on land which ought to be geo-referenced and authenticated will effectively provide the users of land information with a platform to operate digitally.

Section 6 of the Land Act, further on management and administration institutions, mandates the Cabinet Secretary to develop policies on land,⁶¹² facilitate the implementation of land policy reforms and coordinate the management of National Spatial Data Infrastructure, coordinate the formulation of standards of service in the land sector, regulate service providers and professionals to ensure quality control.⁶¹³ Thus the Act empowers the Cabinet Secretary to introduce land reforms and develop policies on land which could in effect be in the areas of electronic conveyancing. The use of digital data and the National Spatial Data Infrastructure it is believed will go a long way in simplifying the access of land information to users from wherever they may require it.

⁶¹¹ Land Act No. 6 of 2012, Laws of Kenya. Section 8.

⁶¹² Land Act No. 6 of 2012, Laws of Kenya. Section 6.

⁶¹³ *Ibid.*

The Land Registration Act⁶¹⁴ stipulates in Section 9(1):

“the Registrar shall maintain the register and any document required to be kept under the Act in a secure, accessible and reliable format including (a) publications, or any matter written, expressed, or inscribed on any substance by means of letters, figures or marks, or by more than one of those means, that may be used for the purpose of recording that matter, (b) electronic files, and (c) an integrated land resource register.”

The Chief Land Registrar has not yet made available data in electronic format as envisaged by the statute, although the NLIMS projects of scanning and data capture of most Titles at the Central Registry based at the Headquarters in Nairobi and the Nairobi District Registry were piloted. The Database Management System (DBMS) at the Central Registry has not been updated in the sense that land records and information generated after the pilot project ended in 2009 has not been captured into the system and the registry business continue to operate on a manual paper based system.

The Land Registration Act⁶¹⁵ further provides that,

“subject to the Constitution and any other law regarding freedom and access to information The Registrar shall make information in the register accessible to the public by electronic means or any other means as the Chief Land Registrar may reasonably prescribe, and shall allow public access of these documents maintained.”⁶¹⁶

The statute,⁶¹⁷ mandates the Cabinet Secretary, to make regulations as to particulars and format to be contained in a register or other documents to be kept under the Act to operationalize the provisions of this Act. This requires extensive consultation with conveyancers and land sector practitioners to come up with new frameworks that will be

⁶¹⁴Land Registration Act No. 3 of 2012.

⁶¹⁵Land Registration Act No. 3 of 2012, Laws of Kenya.

⁶¹⁶Land Registration Act No.3 of 2012, Laws of Kenya. Section 9(1).

⁶¹⁷*Ibid.*

the rules of engagement including liability insurance for risks management. In the meantime so far in regard to electronic conveyancing implementation there have been no regulations formulated to date.

While the Land Act is the substantive land law guiding the administration and management of land in Kenya.⁶¹⁸ The Act came into force on May 2012 in response to demands for the repeal and review of the Government Land Act⁶¹⁹ to mitigate the challenges experienced during the period preceding the Constitutional Review, as well as to adapt to the developments of the Twenty first (21st) century.

It is my argument that the new land laws have brought about change and consistency of the legal framework on conveyancing in Kenya. A key achievement is the enactment of the National Land Commission Act which provides a framework for the Commission to become operational and is one of the very positive highlights of the new laws. This should bring about positive change in e-conveyancing.⁶²⁰

4.6 Contracts over Land in Kenya

The provisions of the Land Act, amplify the need for written and signed conveyances and provides;

that no suit shall be brought upon a contract for the disposition of an interest in Land unless (a) the contract upon which the suit is founded is in writing, is signed by all the parties thereto, and the signature of each party signing has been attested to by a witness who was present when the contract was signed by such party⁶²¹.

⁶¹⁸Land Act No. 6 of 2012, Laws of Kenya.

⁶¹⁹Government Land Act (Cap 280) (now repealed and replaced with Land Act No.6 of 2012.

⁶²⁰Coulson Harney, “A snapshot of the new land laws in Kenya” 2015.

⁶²¹Land Act No. 6 of 2012, Laws of Kenya. Section 38 (i).

The requirement regarding contracts on land and transactions relating to interests in land that is conveyancing, to be undertaken by use of paper based means. A written contract is manually signed by the parties to the contract, if a corporate body it should be sealed and signed by the parties to the contract, then witnessed and attested by their lawyers. These imply that electronic contracts on land, that is e-conveyancing cannot be fully realized in Kenya as anticipated by other provisions of the new Land Acts. The statute is therefore a hinderance to electronic conveyancing practice in Kenya.

The Law of Contract Act⁶²² and the Kenya Information Communications Amendment Act⁶²³ resonate these provisions for paper based land conveyancing transactions. Therefore, the need for amendments to the legal requirements of written paper based contracts on land are necessary otherwise there is a legal impediment to e-conveyancing in Kenya.

4.7 ICT and Cyberlaws in the East African Community

The East African Community (EAC) Council of Ministers adopted the EAC Regional e-Government programme in 2006 as an important step towards deepening regional integration through provision of government information and services.⁶²⁴ Supported by the United Nations Economic Commission for Africa (UNECA), the regional strategy for e-government aimed at improving and enhancing public service delivery through the use of information and communication technologies (ICTs) in public administrations, combined with organizational change and the development of new skills.

⁶²²Contract Act Chapter 23 of the Laws of Kenya.

⁶²³Kenya Information Communications Amendment Act (Cap 411) Laws of Kenya.

⁶²⁴UNCTAD United Nations conference on Trade and Development, "Harmonizing Cyberlaws and Regulations: The experience of the East African Community." 2011.

The regional ICT and the increase of the online activities by the public and the private sectors underline the need to develop an up-to-date harmonized cyber laws in the region that reflects the international best practices.⁶²⁵ These ensure the creation of an enabling environment for the successful implementation of the e-government programmes in the region. The creation of an enabling legal and regulatory environment was identified as a critical factor for the effective implementation of e-Government and e-commerce strategies at national and regional levels.

Legislation related to data security, network security, cybercrime, information systems and electronic transactions, thus strong back up support is needed to achieve operational efficiency of such strategies. Cyber laws and e-Justice were identified by the EAC as key cross-cutting issues that need to be in place for the successful implementation of e-Government applications and the development of e-commerce in the region. The strategy was incorporated in the overall EAC Development strategy for the period 2006-2010.

4.8 ICT Infrastructure Development in the EAC

In July 2009 undersea fibre optic cable network (SEACOM) reached the region connecting cheaper and faster internet. In 2010 the second submarine fibre optic cable system, became operational along the East and South African Coasts to service voice, data, video and internet needs of the region.

⁶²⁵*Ibid.*

In developing the draft legal framework for EAC partner states, the task force divided the reform process into two phases. Phase one included cyberlaw reforms which were to focus on five key topics. These are electronic transactions, electronic signature and authentication, data protection and privacy, consumer protection and computer crime. Phase two would address four topics that affected cyberspace activities being, intellectual property rights, competition, taxation and information security.⁶²⁶

4.9 ICT Policy and Legal Framework in Kenya

The Government has recognized and integrated the ICT platform in the achievement of development goals under the Vision 2030. The ICT platform is recognized in public policy as a tool to improve the livelihood of Kenyans and is backed with a commitment to ensuring the availability of accessible, efficient, reliable and affordable services.⁶²⁷

The retired President Mwai Kibaki stated that:-

“effective and operational e-Government will facilitate better and efficient delivery of information and services to the citizens, promote productivity among public servants, encourage participation of citizens in Government and empower all Kenyans.”⁶²⁸

Kenya now has a cyberlaw framework articulated under the Kenya Information and Communication Act (KICA).⁶²⁹ The Kenya Communication (Electronic Transactions) Regulations were passed in 2010, to amplify and complement the normative principles

⁶²⁶Waema, M. T., "A brief history of the development of an ICT policy in Kenya." *At The Crossroads: ICT Policy Making In East Africa*, 2005: pp. 25-43.

⁶²⁷Mambi, A. J., *ICT law book: a source book for information and communication technologies & cyber law in Tanzania & East African community*. African Books Collective, 2010.

⁶²⁸Wafula, J. M., et al. "ICT Policy and ICT Initiatives: What Linkages." *At the Crossroads: ICT Policy Making in East Africa*, 2005: p.142.

⁶²⁹Kenya Information and Communication Act, Chapter 411A of the Laws of Kenya passed in 2009.

captured in the primary legislation.⁶³⁰ The Communications Authority of Kenya (CAK) is the ICT regulator.

Following the promulgation of the Constitution of Kenya 2010, the Kenya Information and Communication Act, 1998 required amendment to align it with Articles 33 and 34 of the Constitution.⁶³¹ It established a governance structure and the Kenya Information and Communication (Amendment) Act, 2013 was developed. The Communication Authority of Kenya replaced the Communications Commission of Kenya whose mandate is the regulation of broadcasting sub-sector, postal and courier services sub-sector, enforcement of licence conditions, electronic transactions, competition and include cyber security.

The Kenya Information and Communication Act,⁶³² provides for functions of the Commission in relation to electronic transactions. These are to facilitate electronic transactions by ensuring the use of reliable electronic records. To facilitate electronic commerce, eliminate barriers to electronic commerce such as those resulting from uncertainties over writing and signature requirements.⁶³³

To promote public confidence in the integrity and reliability of electronic records and electronic transactions, foster the development of electronic commerce through the use of electronic signatures to lend authenticity and integrity to correspondence in any electronic medium.⁶³⁴ Promote and facilitate efficient delivery of public sector services by means of

⁶³⁰Kenya Communication (Electronic Transactions) Regulations were passed in 2010.

⁶³¹Constitution of Kenya 2010, Articles 33 and 34.

⁶³²Kenya Information and Communication Act. Sec 83C.

⁶³³Kenya Information and Communication Act, Sec 83C.

⁶³⁴Thian, A., "Legal challenges in the digital environment." 1999.

reliable electronic records. Develop sound frameworks to minimize the incidence of forged electronic records and fraud in electronic commerce and other electronic transactions.⁶³⁵

KICA officially recognizes electronic transactions in Kenya and spells out in detail the functions of the Commission. This meant that information would no longer be denied legal effect, validity or enforceability solely on the ground that it was in the form of an electronic version.⁶³⁶ However the Act,⁶³⁷ excludes the creation or execution of a will, negotiable instruments and documents of title by electronic means. This in effect hinders the efforts to automate land transactions and means that e-conveyancing cannot be realized fully. There will be need to amend the legislation to provide for creation and execution of documents of title by electronic means.

KICA also provides for the use of electronic records and electronic signatures in government and by its agencies.⁶³⁸ It states that publication of any rule, regulation, order, notification or other matter to be published in the electronic gazette. It also enables the formation of contracts through electronic message.⁶³⁹ Other laws to consider in the electronic contracts in Kenya include the following; Commonwealth model Law on Electronic Transactions,⁶⁴⁰ the UNCITRAL Model Laws on Electronic Commerce,⁶⁴¹

⁶³⁵ Muturi, P. N., *Regional electronic marketplace framework: case of Kenya electronic commerce*. Dissertation. University of Nairobi, 2010.

⁶³⁶ Kenya Information and Communication Act, Section 83C.

⁶³⁷ Kenya Information and Communication Act, Section 83B.

⁶³⁸ Kenya Information and Communication Act Section 83S.

⁶³⁹ Kenya Information and Communication Act Section 83J.

⁶⁴⁰ Commonwealth model Law on Electronic Transactions (2002).

⁶⁴¹ The UNCITRAL Model Laws on Electronic Commerce (1996).

Electronic Signatures,⁶⁴² the United Nations Convention on the use of Electronic Communications in International Contracts⁶⁴³ and the SADC Model Law on Electronic Transactions and Data Protection⁶⁴⁴ which were also inspired by UNCITRAL texts.

4.10 Legal Recognition of Electronic Signatures

Advanced electronic signature affixed and in the prescribed manner, should be generated through a signature creation device, signature creation data were linked to the signatory and of no other person, signature creation data were at the time of signing under the control of the signatory and of no other person. Any alteration to the electronic signature made after the time of signing is detectable. Where the purpose of the signature is to provide assurance of the integrity of that information, any alteration made to that information after the time of signing is detectable.

There is legal recognition of electronic records, electronic signatures and electronic contracts. It is generally accepted that a signature may not be denied legal effect or enforceability solely because it is in electronic form.⁶⁴⁵ A contract may not be denied legal effect solely because an electronic record was used in its formation, if a law requires a record to be in writing an electronic record satisfies the law and if a law requires a signature an e-signature satisfies the law.⁶⁴⁶

⁶⁴²Electronic Signatures (2001).

⁶⁴³The United Nations Convention on the use of Electronic Communications in International Contracts (2005).

⁶⁴⁴SADC Model Law on Electronic Transactions and Data Protection.

⁶⁴⁵Levit, N., "Electronic Evidence Annotated Bibliography."2015.

⁶⁴⁶Phillips, E. Lars. "Newly Discovered Evidence of Innocence: Its History and Future Treatment in Montana." *Mont. L. Rev.* 76 (2015): 327.

4.11 Data Protection in Electronic Contracts

The Data Protection Bill proposes to give effect to the Constitution to regulate the collection, retrieval, processing, storing, use and disclosure of personal data.⁶⁴⁷ It contains provisions on the functions and powers of the Freedom of Information Commission on data protection as well as remedies in relation to violation of data protection principles.

The Bill is in tandem with the United Kingdom Data Protection Act (DPA) principles that information about a subject should be fairly and lawfully processed (consent), processed for limited purposes, adequate relevant and not excessive, accurate and up to date, not kept longer than necessary. The data should be processed in accordance with the data subjects rights, secure, and should not be transferred to countries without adequate protection.

Data protection principles require that appropriate technical and organizational measures shall be taken against unauthorized or unlawful processing of personal data and against accidental loss or destruction of, or damage to, personal data. It requires that the data controller must take reasonable steps to ensure the reliability of staff having access to the personal data. These principles are resonated in the regulations on privacy and electronic communications, Data Protection Directive 95/46⁶⁴⁸ and DPA Act 200/58/EC Directive on Privacy and Electronic Communications of the European Union.⁶⁴⁹

⁶⁴⁷Constitution of Kenya 2010, Article 31(c) and (d).

⁶⁴⁸Pouillet, Y., "EU data protection policy. The Directive 95/46/EC: Ten years after." *Computer Law & Security Review* 22, no. 3,2006:pp. 206-217.

⁶⁴⁹Strindberg, M., "Protection of Personal Data, a Power Struggle between the EU and the US: What implications might be facing the transfer of personal data from the EU to the US after the CJEU's Safe Harbour ruling?." 2016.

4.12 Cyber Law to Support ICT Application

Cyber law is a term used to describe emerging body of law relating to the internet and electronic commerce. Several threats to internet security have been noted over the years such as Malware the malicious software, intrusive and hostile software, Hackers, Trojan, Worm, Botnet, Zombie, Phishing that is obtaining of sensitive data, Pharming, Keystroke logging. As such certain laws have been developed to counter cybercrime and protect use of data on the internet.

There are several legislation in various jurisdictions to provide for cyber regulations such as the Australian Access by people with disability Discrimination Act,⁶⁵⁰ the OECD guidelines on the Protection of Privacy and Transborder Flows of Personal Data.⁶⁵¹ There is also consumer protection law by government seeking protection of transactions between consumers and business, these include product liability, unfair business practices, fraud and misrepresentation.⁶⁵² The OECD guidelines on consumer protection in electronic commerce and Electronic Fund Transfer Code of conduct (EFT Code) of Australia,⁶⁵³ also the Kenya Information and Communications Amendment Act provides for penalties for cybercrime and other violations while amending the Penal Code and the Evidence Act.⁶⁵⁴

⁶⁵⁰ Access by people with disability Discrimination Act 1992 (Cth)

⁶⁵¹ OECD guidelines on the Protection of Privacy and Transborder Flows of Personal Data 1990.

⁶⁵² The OECD guidelines on consumer protection in electronic commerce 2000.

⁶⁵³ Electronic Fund Transfer Code of conduct (EFT Code) (Australia).

⁶⁵⁴ Kenya Information and Communication Amendment Act (Cap 411), Penal Code (Cap 63), Evidence Act (Cap 80).

4.12.1 Cybercrime

Cybercrime is a criminal activity done using computers and the internet, these includes non-monetary offences like creating and distributing viruses on other computers or posting confidential business information and internet. The EU Convention on Cybercrime (The Cybercrime Convention),⁶⁵⁵ provide guidelines on how to deal with cases of illegal access criminal offences, illegal interception, data interference, damage, deletion, deterioration, alteration or suppression of computer data without right. Other crimes identified include system interference, unlawful access and computer trespass, consisting computer fraud.

In electronic transactions, the existing criminal law does not adequately address traditional criminal conduct like fraud that is carried out using ICTs or new forms of criminality for example those perpetrated through the use of viruses. As well as reforming the substantive criminal law, to effectively criminalize such conduct, reforms may also be required to national rules governing criminal procedure, especially the adequacy of the investigative powers of law enforcement.

In Kenya the Cyber Security and Protection Bill of 2016 establishes the legal mechanism for dealing with cybercrime in the National Cyber Threat Response Unit within the Ministry of Information and Technology to work in coordination with the Ministry for Interior Security in combating Cyber terrorism.⁶⁵⁶ The unit will be responsible for receiving and investigating reports on cyber treat incidences, running a computer forensic

⁶⁵⁵EU Convention on cybercrime (The Cybercrime Convention).

⁶⁵⁶Cyber Security and Protection Bill of 2016.

lab for the benefit of law enforcement agencies, advising on measures to combat cyber threats and supporting research into cyber security.

The Act spells out the offences of computer crimes and cybersecurity threat and pronounces their punishments upon prosecution. The Act endeavors to provide for the enhancement of security in cyberspace, prohibition, detection, response, investigation and prosecution of cybercrimes in the country. The enactment of the Cyber Security and Protection Bill will encourage the use of e-government in that it will deter cybercrimes to a great extent and therefore promote confidence in the Users of e-conveyancing. The knowledge that any tampering of data on the information system will be severely punished increases the confidentiality and integrity of the system.

4.13 Australian Legal Provisions on e-Conveyancing

Australia has the same common law principles with East African Community, and has enacted law on cyberspace or digital technology legislation for example the Electronic Transaction Act 1999.⁶⁵⁷ The Evidence Acts in Australia accepts digital signatures as valid identity of the sender, date and identity of the addressee in case of documents sent by e-mail, fax, telegram or telex.⁶⁵⁸

An electronic signature can be a sound, a symbol or process attached to a document as a means and with the intent of the person to sign the document. It is often in the form of a digitized image of a handwritten signature. It is not viewed as secure as digital or

⁶⁵⁷The Electronic Transaction Act 1999 (cth).⁶⁵⁷

⁶⁵⁸Forder, J., "The inadequate legislative response to e-signatures." *Computer law & security review* 26.4, 2010:pp. 418-426.

physical signatures due to the ability of an individual to type or copy the image of another person's signature and use it to sign. It is also seen as a less ideal method for signing documents as it's more difficult to prove the intent of the person to sign.

A registry instrument that is digitally signed by a subscriber in accordance with the participation rules applicable to that instrument has the same effect as if a paper document having the equivalent effect had been executed by, the subscriber if s/he signs under a client authorization, each person for whom the subscriber signs in accordance with the client authorisation, or the subscriber in any other case.⁶⁵⁹

If a registry instrument is digitally signed in accordance with the participation rules to that instrument, it is taken to be in writing for the purposes of every other law.⁶⁶⁰ The requirements of any other law relating to the execution, signing, witnessing, attestation or sealing of documents must be regarded as having been fully satisfied.⁶⁶¹ In Australian law there are elaborate participation rules and regulations on the application of e-conveyancing and digital signatures. This has made it possible for electronic conveyancing to be implemented in states parties in Australia.

4.13.1 Client Authorizations and Digital Signatures

Client authorisation is a document by which a party to a conveyancing transaction authorises a subscriber to do one or more things on that party's behalf in connection with

⁶⁵⁹Clark, E., "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.* 21,2011: p.62.

⁶⁶⁰Electronic Conveyancing (Adoption of National Law) Bill 2012, New South Wales, Part 2: Section 9 (3).

⁶⁶¹Christensen, S. A.. "Electronic Land Dealings in Canada, New Zealand and the United Kingdom: Lessons for Australia." *ELaw Journal: Murdoch University Electronic Journal of Law* 11.4, 2004:pp.1-29.

the transaction so that the transaction can be completed electronically. For example to digitally sign registry instruments or other documents, to present registry instruments or other documents for lodgement electronically, to authorize or complete any associated financial transaction.⁶⁶² A client authorisation has effect according to its terms and it is not a power of attorney.⁶⁶³

4.13.2 Electronic Lodgment Networks of Australia

Electronic Lodgment Networks (ELN) is an electronic system that enables the lodging of registry instruments and other documents in electronic form for the purposes of the land titles legislation.⁶⁶⁴ It may also enable the preparation of registry instruments and other documents in electronic form for lodging under the land titles legislation.⁶⁶⁵

The Registrar may provide and operate ELN and approve and appoint officers, give conditions to an approval and vary them and issue operating requirements. The Registrar has powers to ensure compliance with the requirements, removal of persons, renewal of approval to operate, revocation or suspension of approval as an ELN Officer.⁶⁶⁶ The Registrar may monitor activities in an ELN for any reason without limitation for the purpose of maintaining the integrity of the titles register.⁶⁶⁷

⁶⁶²Srivastava, Aashish. "Electronic signatures: a brief review of the literature." *Proceedings of the 8th international conference on Electronic commerce: The new e-commerce: innovations for conquering current barriers, obstacles and limitations to conducting successful business on the internet*. ACM, 2006.

⁶⁶³Arora, K. and Krishna, R., "Method and apparatus for providing efficient authorization services in a web cache." U.S. Patent No. 7,908,649. 15 Mar. 2011.

⁶⁶⁴Electronic Conveyancing Act 2014, Western Australia; Electronic Conveyancing (Adoption of National Law) Bill 2012, New South Wales; Electronic Conveyancing National Law (Queensland).

⁶⁶⁵*Ibid.*

⁶⁶⁶Karki, S. et al., "Development of validation rules to support digital lodgement of 3D cadastral plans." *Computers, Environment and Urban Systems* 40 (2013): 34-45.

⁶⁶⁷Liane, T., and Apelt, C., "Globalisation, Innovation and Information Sharing in Tax Systems: The Australian experience of the diffusion and adoption of electronic lodgement." *eJournal of Tax Research* 2 (2005): 1-28.

According to the law in Australia, the Registrar may determine in writing requirements relating to the operation and provisions of an ELN Officer (ELNO). These include financial standing of an ELNO, compliance with the participation rules, participation agreements, technical and operational requirements of an ELNO, Insurance cover to be held by an ELNO.⁶⁶⁸ The law provides for the circumstances in which Registrar may suspend or revoke the approval of a person as an ELNO, the giving of directions to an ELNO by the Registrar to restrict, suspend or terminate a subscribers or other persons use of an ELN.⁶⁶⁹

ELN legislation provides for a framework that enables documents in electronic form to be lodged and processed under the land titles legislation and does not derogate from the fundamental principles of the Torrens system of land titles as incorporated in the land titles legislation of each participating jurisdiction, such as indefeasibility of title. The statutes in sections 7,8 and 9 provides for the registration of documents lodged electronically and have the same effect as if the instrument were in the form of a paper document.⁶⁷⁰

Under the Electronic conveyancing National law (Queensland) the registrar of titles can determine the requirements for electronic lodgment networks and their operators and set rules for participation in the networks. In some circumstances the registrar can waive compliance with these circumstances.⁶⁷¹

⁶⁶⁸Electronic Conveyancing National Law (Queensland).

⁶⁶⁹Electronic Conveyancing Act 2014, Australia;

⁶⁷⁰Electronic Conveyancing Act 2014, Western Australia; Electronic Conveyancing (Adoption of National Law) Bill 2012, New South Wales; Electronic Conveyancing National Law (Queensland).

⁶⁷¹Business and industry portal, Queensland , national electronic conveyancing, 2016.

4.13.3 Participation Rules for Electronic Lodgement Network

The Registrar may determine eligibility criteria for subscribers, obligations of subscribers, representation or warranties they require to give and the circumstances in which a subscriber's authority to use the ELN may be restricted, suspended or terminated.⁶⁷² Obligations of subscribers to verify the identity of clients, the certification of registry instruments and other documents for use in connection with the ELN. Digital signing, the retention of documents created or obtained in connection with a subscriber's use of an ELN.⁶⁷³ Compliance by subscribers with the participation rules, including how the subscribers demonstrate compliance with the rules, the procedures for notifying non-compliance and how non-compliance may be remedied.⁶⁷⁴

Registrar must have regard to the desirability of maintaining consistency with any model provisions. The publication of operating requirements and participation rules of the current operating requirements. The Registrar should also publish participation rules all superseded versions of the operating requirements and participation rules, at least 20 business days before the changes take effect, or immediately if emergency situation exists of the occurrence of an event or circumstances the operation, security, integrity or stability of an ELN or the titles register of the land titles system is being or is likely to be jeopardized.⁶⁷⁵

⁶⁷²Electronic Conveyancing National Law (Queensland.)

⁶⁷³Eugene, C., "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.* 21 (2011): 62.

⁶⁷⁴Rabee, R., "Developing a successful e-government." *Proc. Sympos. e-Government: Opportunities and Challenge, Muscat Municipality, Oman, IV1-IV13* (2003).

⁶⁷⁵Eugene, C., "E-conveyancing in Australia: An important step along the journey to E-government." *JL Inf. & Sci.* 21 (2011): 62.

Documents may be made publicly available in any manner the registrar considers appropriate including without limitation by means of a website.⁶⁷⁶ Waiving compliance with operating requirements if registrar is satisfied that granting the waiver is reasonable in the circumstances, may be total or partial waiver or generally or limited in its application or by reference to specified exceptions or factors, and apply indefinitely or for a specified period and be unconditional or subject to conditions or restrictions.⁶⁷⁷

Appeals against decisions of Registrar may require Registrar to provide in writing the grounds for the decision, approve, renew, suspend, revoke, vary, restrict, terminate the use of ELN subscribers access to ELN. An aggrieved party may appeal against the decision to the responsible tribunal.⁶⁷⁸

4.14 Digital Signatures and other e-Signatures

Digital signatures, are as a more advanced method of signing and have a higher level of integrity. They are seen essentially as an electronic ‘fingerprint’, which is a coded message that is unique to the document and the signer. Digital signatures ensure the authenticity of the signer.⁶⁷⁹ They are more universally accepted and a signer cannot later deny they signed after their digital signature is affixed. Also, if the document is changed or altered in any way after the ‘signature’ is affixed, this invalidates the signature. This means and ensures a digital signature has a higher level of authenticity, accountability and data integrity.⁶⁸⁰

⁶⁷⁶Electronic Conveyancing Act 2014, Australia

⁶⁷⁷*Ibid.*

⁶⁷⁸*Ibid.*

⁶⁷⁹UNICITRAL Model law on Electronic Signatures with a guide to enactment, 2001.

⁶⁸⁰Roland, S. E., "Uniform Electronic Signatures in Global and National Acommerce Act: Removing Barriers to E-Commerce of Just Replacing Them with Privacy and Security Issues." *Suffolk UL Rev.* 35,2001: 625.

Digital Signature means encrypted electronic data intended for the exclusive use of a particular person as a means of identifying that person as the sender of an electronic communication or the signer of a document.⁶⁸¹ Digitally sign, in relation to an electronic communication or a document, means to create a digital signature for the communication or the signer of a document. The European Union passed the EU Directive for Electronic Signatures,⁶⁸² and the United States passed the Electronic Signatures in Global and National Commerce Act,⁶⁸³ both made electronically signed contracts and documents legally binding like paper-based contracts.⁶⁸⁴

By now, most countries have adopted legislation and regulations modeled after the United States or the European Union, with a preference in many regions for the E.U. model of locally managed, digital signature technology-based eSignatures. In addition, many companies have improved compliance with the regulations established by their industries⁶⁸⁵ which has been achieved by using digital signature technology. These country and industry specific regulations are continuously evolving, a key example being the Electronic identification and trust services (EIDAS) regulation that was recently adopted in the European Union⁶⁸⁶.

Digital signatures, like handwritten signatures, are unique to each signer. Digital signature solution providers, such as DocuSign, follow a specific protocol called PKI

⁶⁸¹Stern, J. E. "The Electronic Signatures in Global and National Commerce Act." *Berkeley Technology Law Journal*, 2001:pp.391-414.

⁶⁸²EU Directive for Electronic Signatures in 1999.

⁶⁸³Electronic Signatures in Global and National Commerce Act (ESIGN) in 2000.

⁶⁸⁴Aashish, S., "Electronic Signatures: Legislative Developments and Acceptance Issues." *Electronic Signatures for B2B Contracts*. Springer India, 2012. 31-59.

⁶⁸⁵For example the FDA 21 CFR Part 11 in the Life Sciences industry.

⁶⁸⁶Stern,*ibid*.

(public key infrastructure). PKI requires the provider to use a mathematical algorithm to generate two long numbers, called keys. One key is public, and one key is private.⁶⁸⁷ When a signer electronically signs a document, the signature is created using the signer's private key, which is always securely kept by the signer. The mathematical algorithm acts like a cipher, creating data matching the signed document, called a hash, and encrypting that data. The resulting encrypted data is the digital signature. The signature is also marked with the time that the document was signed. If the document changes after signing, the digital signature is invalidated.⁶⁸⁸

To protect the integrity of the signature, PKI requires that the keys be created, conducted, and saved in a secure manner, and often requires the services of a reliable Certificate Authority (CA). Digital signature providers, like DocuSign, meet PKI requirements for safe digital signing.⁶⁸⁹ If a subscriber's digital signature is created for a registry instrument or other document in connection with a conveyancing transaction, then unless he repudiates that digital signature it is taken to be signed by that subscriber, and is binding in relation to that registry instrument or other document.⁶⁹⁰ Subsection 4 provides for repudiation of a digital signature if it is established that it was not created by subscriber, or by subscribers' employee (agent) or had express or implied authority to create, a failure to fully comply with the requirements of the participation rules or to take reasonable care.⁶⁹¹

⁶⁸⁷Ronald R. L., et al., "A method for obtaining digital signatures and public-key cryptosystems." *Communications of the ACM* 21.2 (1978): 120-126.

⁶⁸⁸*Ibid.*

⁶⁸⁹*Ibid.*

⁶⁹⁰Stephens, D.O., "Digital signatures and global e-commerce: Part I-US initiatives." *Information Management*, 35(1), 2001, p.68.

⁶⁹¹Stern, J.E., "The Electronic Signatures in Global and National Commerce Act." *Berkeley Technology Law Journal*, 2001: pp.391-414.

Electronic Signature is data in electronic form which is attached to other electronic data and serves as a method of authentication.⁶⁹² An electronic signature may take a number of forms; a digital signature, a digitized finger print, a retinal scan, a pin number, a digitized image of a handwritten signature that is attached to an electronic message, or merely a name typed at the end of an email message. Lloyd Ian, in his book *Information Technology Law* argues that electronic Signature is very broad which encompasses the use of scanning equipment to create a digital image of a person's signature using encryption among other advanced technology methods.⁶⁹³

The use of a digital signature shall have the same force and effect as the use of manual signatures if and only if it embodies all the following characteristics; It is unique to the person using it, it is capable of verification, it is under the sole control of the person using it, and it is linked to data in such a method that if the data is changed, the digital signature is invalidated.⁶⁹⁴ Digital signatures are a higher level of authenticity, so if one uses electronic signatures as a regular means of signing in their business, he/she should consider putting in place digital signature processes for more important documents.⁶⁹⁵

Australia recognises both forms of signing, but any digital signature will have a greater level of evidential strength in any litigation or legal situation over an electronic signature.

⁶⁹²See Article 2 of UNICTRAL model law on Electronic Signatures 2001 at page 21. See also Article 2 of EU Directive on E-Signatures.

⁶⁹³Lloyd J. I., *Information Technology Law*, 3rd Edition 2000 at pg 586

⁶⁹⁴Mambi J. A., *ICT Law Book, A source Book for information and Communicaiton Technology & CyberLaw in Tanzania & East African Community*, Mkuki na Nyota, Dar es Salaam. p. 99

⁶⁹⁵Stephen, *ibid*.

Electronic signatures are backed by valid European laws and thus qualified digital signatures have great potential. Strong digital signatures have great importance to all businesses who must do electronic transactions with European partners because they have a very deep juridical value.⁶⁹⁶ A secure digital signature warrants the authentication, integrity, confidentiality, and non-repudiation of a signatory; these are the most desired guarantees in e-business. Strong digital signatures thus have widespread use for high value e-commerce situations.⁶⁹⁷

4.15 South Africa Law on e-Signature

The South African law on e-transactions and e-communications provides that “Where the signature of a person is required by law and such law does not specify the type of signature, that requirement in relation to a data message is met only if an advanced electronic signature is used.”⁶⁹⁸

The South African Electronic Communications and Transactions Act (the ECT Act),⁶⁹⁹ provides functional equivalence between manuscript signatures and e-signatures.⁷⁰⁰ It follows the UNCITRAL Model Law. South Africa is now one of the countries that have based their law for recognizing electronic transactions on the Model Law.⁷⁰¹

⁶⁹⁶Smedinghoff, T. J., and Ruth H. B., "Moving with Change: Electronic Signature Legislation as a Vehicle for Advancing E-Commerce." *J. Marshall J. Computer & Info. L.* 17, 1998: p.723.

⁶⁹⁷Mazzeo, M., "Digital Signatures and European Laws." *SecurityFocus*, <http://www.securityfocus.com/infocus/1756> (current April 2004) (2004).

⁶⁹⁸Esselaar, S. et al., "South African ICT sector performance review." *Research ICT Africa*, 2007.

⁶⁹⁹ See Section 13 of the Electronic Communications and Transactions Act of South Africa.

⁷⁰⁰The Electronic Communications and Transactions Act (the ECT Act) 25 of 2002. The Act was assented to on 31 July 2002, and brought into operation on 30 August 2002.

⁷⁰¹Amadi-Echendu, A., *An analysis of conveyancing business processes in South Africa*. 2013.

The Model Law proposed regulating data messages rather than computers. Article 1 of the Model Law defined a data message as ‘information generated, sent, received or stored by electronic, optical or similar means including, but not limited to, electronic data interchange (EDI), electronic mail, telegram, telex or telecopy.’⁷⁰² The Model law adopted a new functional equivalent approach, recognizing that written and electronic communications are different.⁷⁰³ Integrity of data messages, authenticity and reliability and evidential weight of data messages are well articulated.⁷⁰⁴

An advanced electronic signature means an electronic signature which is uniquely linked to the signatory, is capable of identifying the signatory, and is created using means that the signatory can maintain under his sole control. It is linked to the data to which it relates that any subsequent change of the data is detectable.⁷⁰⁵ An advanced electronic signature has more significant value than an electronic signature as it guarantees the integrity of the text, as well as the authentication. The juridical value it has is for integrity and one is sure the text received is the same that was sent, and that no hacker had changed it.⁷⁰⁶ The ECT Act defines an advanced electronic signatures as an electronic signature which results from a process which has been accredited by the Authority as provided for in Section 37 of the Act.⁷⁰⁷ It ensures confidentiality, The Promotion of Access to Information Act (PAIA) makes it an offence to damage, alter,

⁷⁰²Berends, A. J., "The UNCITRAL Model Law on Cross-Border Insolvency: A Comprehensive Overview." *Tul. J. Int'l & Comp. L.* 6,1998: p.309.

⁷⁰³Amadi. *ibid*

⁷⁰⁴Mason S., *Electronic Evidence*, LexisNexis, 2nd Edition, 2014.pg 776

⁷⁰⁵The Electronic Communications and Transactions Act (the ECT Act) 25 of 2002.Article 2.2.

⁷⁰⁶Coggins, T. L., and S.G. HOLTERHOFF., "Authenticating Digital." *Government Information Management in the 21st Century: International Perspectives*,2011: p.133.

⁷⁰⁷The Electronic Communications and Transactions Act (the ECT Act) 25 of 2002.

conceal or falsify a record or make a false record with intent to deny a right of access in terms of this Act.⁷⁰⁸

Law trust was the first accredited authentication service provider in South Africa, and remains to be the only private company accredited under the requirements of the ECT Act of 2002, for the provisions of Advanced Electronic Signatures. Accredited Advanced Electronic Signatures (AAESign) are the only signatures which are deemed by law to have been valid and applied correctly by the signatory.⁷⁰⁹ These high assurance signatures are the equivalent of a handwritten signature and thus can be relied on implicitly in most forms of transactions.

Extract from the ECT Act Signature, provides specifically that where the signature of a person is required by law and law does not specify the type of signature, that requirement in relation to a data message is met only if an advanced electronic signature is used.⁷¹⁰ It further states that where an Advanced Electronic Signature has been used, such signature is regarded as being a valid electronic signature and to have been applied properly unless the contrary is proved.⁷¹¹

An advanced signature is a digital signature created with a digital certificate from an accredited authentication service provider after following a face-to-face identification

⁷⁰⁸ Promotion of Access to Information Act (2 of 2000) (PAIA).

⁷⁰⁹ Van der Haak, M., et al., "Data security and protection in cross-institutional electronic patient records." *International journal of medical informatics* 70, no. 2, 2003: p.117-130.

⁷¹⁰ Electronic Communications and Transactions Act (the ECT Act) Section 13(1) South Africa.

⁷¹¹ Electronic Communications and Transactions Act (the ECT Act) Section 13(4) South Africa.

process with the subscriber. It is deemed particularly reliable in law and is *prima facie* valid that is always assured to be valid and been applied correctly.

4.16 E-signatures in the United Kingdom

The United Kingdom has implemented the EU Directive on Electronic Signatures and Electronic Commerce,⁷¹² through Electronic Communication Act of 2000, which empowers the responsible Minister to modify any statute in order to cope with electronic changes. However, Section 15 of Common Wealth Model Law on electronic transactions provides that the Bill or Act does not apply to the creation or transfer of interests in real property, Negotiable instruments, documents of title, Wills and trusts created by will, any class of documents, transactions or rules of law excluded by regulation under this Act.⁷¹³ This law presupposes that probate documents and bills of lading cannot be done effectively electronically.

The legal recognition and use of data message and digital signatures under e-commerce as an alternative to paper based method do not mean the absolute departure from traditional methods. There are transactions which need legal documents such as title deeds and negotiable instruments which need paper based method using original documents signed and made by deed or in writing for example, right of occupancy, transfer deed, bill of lading, and assignment of copyright.⁷¹⁴

⁷¹²Blythe, S. E., "Digital signature law of the United Nations, European Union, United Kingdom and United States: Promotion of growth in E-commerce with enhanced security." *Rich. JL & Tech.* 11,2005: pp. 6-8.

⁷¹³Common Wealth Model Law, Section 15.

⁷¹⁴Section 90 (3) of the Copyright, Designs and Patents Act 1988 (UK)

Article 2 of the EU Directive on E-Commerce,⁷¹⁵ is useful in solving requirements under paper based transactions. For instance in dealing and solving the legal consequences posed by the requirement of manuscript signatures under the paper based method when it comes to e-commerce UNCITRAL Model under Article 7 provides that;

“Where the law requires a signature of a person, that requirement is met in relation to a data message if; the method is used to identify that person and to indicate that person’s approval of the information contained in the data message, and that method is as reliable as was appropriate for the purpose for which the data message was generated or communicated, in the light of all the circumstances, including any relevant agreement.”⁷¹⁶

The 1999 OECD Guidelines on E-Commerce,⁷¹⁷ are relevant in considering the application of electronic contracts in conveyancing practice and land administration in Kenya. The guidelines are relevant and should be considered by the Law Reform in Kenya when designing the policies and legislation on e-commerce.

4. 17 Electronic Signatures in New Zealand

The Electronic Transactions Act 2002 (ETA) is the key piece of legislation in New Zealand and it is an overarching legislation that applies to all aspects of private and public sector activity.⁷¹⁸ It requires dealings to take place in paper format, unless expressly excluded from the scope of the ETA, will also be able to take place electronically if all the parties consent. There is no path to authenticate the signer or the document, or to guarantee that the information is unaltered in transit and the

⁷¹⁵Blythe, S. E., "Digital signature law of the United Nations, European Union, United Kingdom and United States: Promotion of growth in E-commerce with enhanced security." *Rich. JL & Tech.* 11, 2005: pp. 6-8.

⁷¹⁶UNCITRAL Model Law, Article 7.

⁷¹⁷Gibbs, J. L. and Kraemer. K.L., "A cross-country investigation of the determinants of scope of e-commerce use: An institutional approach." *Electronic markets* 14.2, 2004:pp. 124-137.

⁷¹⁸Lloyd G., Electronic Vs Digital signatures – the same thing?

security is easily compromised, electronic signatures open clients to a range of potential liabilities that are better avoided.⁷¹⁹

The Law Commission acknowledges that the law for breach of confidence involving electronic transmission is uncertain in New Zealand.⁷²⁰ However, the Commission considers that a person who, without authority, intercepts a message containing confidential information may be subject to a duty of confidence.⁷²¹ To ensure secured signing, New Zealand's digital signature technology ensures that every signature is uniquely linked to the signatory and to the document by using the signatory's Private Key. The service creates a unique digital certificate for the signatory using a Cryptographic Key that eliminates the possibility to create and/or duplicate the same signature.⁷²²

Secured signing sends documents for signing only to the person whose signature is required; no one else will receive them. In order to sign, the signatory has to provide credentials verifying their right to sign, a proof of ownership of a unique e-mail address and a password to login. Signed documents are sealed with the signatory's trusted digital signature key, the system is also able to detect any changes that might be made to the content of the document after it is first signed. If the document is

⁷¹⁹ Electronic Transactions Act 2002: Discussion Paper, Ministry of Economic Development, May 2000, p. 8.

⁷²⁰ Law Commission "Electronic Commerce Part One: A Guide for the Legal and Business Community" *NZLC Report 50*, 1998, pp. 3 and 61.

⁷²¹ Law Commission, "Electronic Commerce Part One: A Guide for the Legal and Business Community" *NZLC Report 50*, 1998, p. 7.

⁷²² Agnew, G. B., et al., "Improved digital signature scheme based on discrete exponentiation." *Electronics Letters*, 26(14), 1990, pp. 1024-1025.

modified, signatures will immediately become invalid. The indication that changes have been made will appear when opening the documents in electronic format it will also appear at the verifier desktop.

4.18 Electronic Signatures in the Netherlands

Under Dutch law, an electronic signature has the same legal effect as a handwritten signature, provided that the method used for authentication is sufficiently reliable, taking into account the purpose for which the electronic signature is used and all other circumstances of the case.⁷²³

4.19 Electronic signatures in Botswana

Botswana's Parliament passed the Electronic Communications and Transactions Bill, No. 25 of 2013. It helps protect and improve all business and individual electronic transactions by enabling electronic transactions to be recognized in the same manner as paper based transactions, the promotion of a legal framework to support electronic commercial practices and the promotion and adoption of information technologies in relation to electronic transactions.

In addition, the Bill provides functional equivalence of electronic information to written information such that certain legal requirements for information retention, presentation of information or information admissible as evidence is recognized regardless of form and promotes uniformity of legislation and support commercial practices with legal coverage.

⁷²³ Boudrez, F., "Digital signatures and electronic records." *Archival Science*, 7(2), 2007: pp.179-193.

4.20 Electronic signatures in Canada

Every jurisdiction in Canada, both at the federal and provincial levels has enacted legislation and regulations addressing the use of e-signatures. The legislation sets out guidelines for the form of e-signatures and broadly indicates when e-signatures are acceptable.⁷²⁴ Where a signature is required under provincial law, an e-signature is treated as functionally equivalent to a handwritten signature.

Provincial e-commerce law define an e-signature as electronic information that a person creates or adopts in order to sign a record and that is attached to, or associated with, the record. In other words, e-signatures are technologically neutral and can be constituted and used in a number of ways, including typing a person's name, inserting an electronic image of a person's cursive signature or a code intended to be used as a signature. Quebec legislation however, has additional requirement that the e-signature be a distinctive mark regularly used to signify the intention of the person who made the mark.⁷²⁵ In Canada, all federal and provincial governments enacted e-commerce laws that gave recognition to the legal effect of most types of authenticated electronic signatures.⁷²⁶

⁷²⁴Aki, S. G., "Digital signatures: a tutorial survey." *Computer*, 16(2),1983, pp. 15-24.

⁷²⁵ Don M., & Natasha S., "Canada: Signed, Sealed and Delivered (Via E-Mail): The

Regulation Of E-Signatures In Canada." 2015.

⁷²⁶Borins, S., "On the frontiers of electronic governance: A report on the United States and Canada." *International review of administrative sciences*, 68(2),2002, pp. 199-211.

In Canada the key federal law that governs the use of electronic signatures is Part 2 of the Personal Information Protection and Electronic Documents Act (PIPEDA).⁷²⁷

Under the (PIPEDA), a secure electronic signature must be unique to the person making the signature; the technology or process used to make the signature must be under the sole control of the person making the signature; that specific technology or process must have the capability to be used to identify the person; and the electronic signature can be linked with an electronic document in a way that will allow one to determine if the document has been changed since the signature was attached to it.⁷²⁸

Consent and authorization helps evidence the authenticity of the e-signature, protect against accusations of fraud and demonstrate the intention of the parties to create a legally binding obligation.⁷²⁹

4.21 Electronic Signature in the USA

The United States of America has two types of laws for the digital signature regulation both federal nature (E-Sign Act) and state nature (UETA). The law shares certain points with the broader national law which regulates digital signature and dates back to a year before (1999) called Uniform Electronic Transactions Act, commonly known as UETA and whose jurisdiction in addition to comprise the 47 US States applies to territories of the country.⁷³⁰

⁷²⁷Personal Information Protection and Electronic Documents Act (PIPEDA), Part 2.

⁷²⁸Mason, S., & Seng, D., *Electronic evidence*, 2017.

⁷²⁹Michael D., *Electronic Communications Convention- Impact on Common Law jurisdictions*, 2008.

⁷³⁰Ford, W., & Baum, M. S., *Secure electronic commerce: building the infrastructure for digital signatures and encryption*. Prentice Hall PT, 2000.

Since 2000, e-signatures have been legally binding in New York under the Electronic Signatures and Records Act (ESRA).⁷³¹ The law established the legal equivalent of electronic and handwritten signatures. The handwritten and e-signatures have the same legal validity, and they are admissible in courts of law as long as they comply with the law.⁷³² In Washington DC for instance the UETA has not been adopted but Washington Electronic Authentication Act which was enacted to ensure security of e-messages and e-signatures legal recognition.⁷³³

4.22 Application of Electronic Evidence in South Africa

Electronic evidence is data comprising the output of analogue devices or data in digital format that is manipulated, stored or communicated by any man-made device, computer or computer system, that has the potential to make the factual account of either party more probable or less probable than it would be without the evidence.⁷³⁴ It is conceivable, given the ease with which electronic data is easily manipulated and altered, that attempts will be made in future to falsify and alter documents before a trial takes place.⁷³⁵ Tampering with evidence amounts to perverting the course of justice as was observed ⁷³⁶ in the case of Premier Homes and Land Corporation v Cheswell, Inc., on fabrication of an email.⁷³⁷

⁷³¹Electronic Signatures and Records Act (ESRA).

⁷³²Stephen E. B., *E-Commerce Law Around The world: A Concise Handbook*, 2011.

⁷³³Stephen M., *Electronic Signatures in Law*. 4th Edition, Cambridge University Press. 2016.

⁷³⁴Mason. S., *Electronic Evidence*, LexisNexis, 2nd Edition, 2014; p. 27.

⁷³⁵Mason S. *ibid*.

⁷³⁶Krause, T. L. and Coggio, B. D., "Electronic Discovery: Where We Are, and Where We're Headed." *Intellectual Property & Technology Law Journal* 16.3, 2004.

⁷³⁷Premier Homes and Land Corporation v Cheswell, Inc., 240 F. Supp 2d 97. (D.Mass. 2002), Ng, Calvin. "Use of Electronic Evidence in Hong Kong: Implications of Evidence Law and Civil Procedure Rules, The." *HKJ Legal Stud.* 7, 2013; p.101.

4.23 Data Destruction

Data destruction is the process of destroying data stored on tapes, hard disks and other forms of electronic media so that it is completely unreadable and cannot be accessed or used for unauthorized purposes. When data is deleted, it is no longer readily accessible by the operating system or application that created it. But deleting a file is not enough; data destruction software must be used to overwrite the available space/blocks with random data until it is considered irretrievable.⁷³⁸

Data can also be destroyed through degaussing, which destroys data on magnetic storage tapes and disk drives by changing the magnetic field. One caveat with this method is that the person who wishes to destroy data will need to know the exact strength of degaussing needed for each tape type and drive. Storage media can also be destroyed by using a mechanical device called a shredder to physically mangle tape, optical media and hard disk drives.

To maintain an effective method of managing the process of data destruction is important, whereby all media requiring destruction is correctly organized and accounted for.⁷³⁹ The process helps to achieve successful audit results by keeping a log of all media that may contain sensitive information.

The log which should contain a section for destruction certificates provides evidence guaranteeing the sanitization of the media by the nominated waste disposal contractor

⁷³⁸Simson, L. "Remembrance of data passed: A study of disk sanitization practices." 2003.

⁷³⁹Williams, C. G., et al. "System and method for lost data destruction of electronic data stored on a portable electronic device using a security interval." *U.S. Patent No. 7,421,589*. 2 Sep. 2008.

and date of destruction of the data. Considerably to demonstrate the integrity of electronic data in future, which will in turn help substantiate the claim for authenticity and reflect the reliability of the data.⁷⁴⁰ Hiding Data through Cryptography is the best known anti-forensic method to hide data from third parties.

4.24 Encrypted Data

In the United Kingdom, the Regulation of Investigatory Powers Act (RIPA 2000) which extends to Northern Ireland, incorporates provisions relating to digital data that might be encrypted or protected in some way.⁷⁴¹ RIPA 2000 rationale is to ensure that the powers are used in accordance with human rights with the main purpose being interception of communications, the acquisition of communications data, intrusive surveillance on residential premises or in private vehicles or both.

4.25 Conclusion

The development of e-conveyancing in Kenya is hampered by the fact that there is no platform developed on which it can be implemented. The National Land Information Management System has suffered false starts since inception by the LIMS-Technical Working Group⁷⁴² and the Project on Improving Land Administration in Kenya.⁷⁴³ This has been compounded by the continued legal battles between the National Land Commission and the Ministry of Lands in regard to interpretation of the mandates on land administration and management which have greatly affected the progress of activities at the Ministry and thus development of the system.

⁷⁴⁰Berghel, H., "Hiding data, forensics, and anti-forensics." *Communications of the ACM* 50.4,2007:pp.15-20.

⁷⁴¹The Regulation of Investigatory Powers Act 2000 (RIPA 2000).

⁷⁴² LIMS-TWG discussed in chapter 5.

⁷⁴³ PILAK discussed in chapter 5.

In conclusion and in comparison with other jurisdictions implementing e-conveyancing a well defined legal framework is essential and a prerequisite to operating an effective e-conveyancing. The legal and institutional framework is not elaborate in Kenya as far as e-conveyancing implementation is concerned and therefore it is a challenge to its achievement. Whereas there are as seen hereinabove various legislation on land law and conveyancing in Kenya, the laws are not sufficient enough to provide an enabling environment for the operation of e-conveyancing in Kenya.

CHAPTER FIVE

MINISTRY OF LANDS AND PHYSICAL PLANNING COMPUTERIZATION PROJECTS

5.1 Introduction

In this Chapter the question whether the project management and organization structure of NLIMS has the requisite skills and capacity to implement electronic conveyancing in Kenya is interrogated. The Ministry of Lands and the various projects initiated towards the achievement of a Land Information Management System, which includes the Project on automation of all land records in Kenya, establishment of a Land Information Management Systems Technical Working Group as part of the National Land Policy recommendations are discussed. The chapter further discusses the findings of a field survey conducted employing semi-structured questionnaires targeted at different respondent categories in the Ministry of Land.

5.2 The Organization and Functions of the Ministry of Lands

The core function of the Ministry is to manage and administer the land resource. The Ministry's functions are critical to the realization of the National Development Goals and Objectives outlined in the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC), Vision 2030 and the Millenium Development Goals (MDGs) and Sustainable Development Goals (SDGs); especially poverty reduction, infrastructure and economic growth.

The Ministry of Lands through Executive Order No. 2/2013 following the inauguration of the new Government that collapsed the hitherto 44 Ministry's into 18, in accordance

with Constitution of Kenya, 2010, was charged with the responsibility of providing policy direction and coordinating all matters related to lands, housing and urban development. The Ministry's functions had earlier been land policy, physical planning, land transactions, survey and mapping, land adjudication, settlement matters, land registration, valuation, administration of state and trust land, land information system.⁷⁴⁴

Later the functions of the Ministry were elaborated through an Executive Order No. 1/2016 on the Organization of the Government of the Republic of Kenya⁷⁴⁵ which changed the Ministry of Land, Housing and Urban Development to be known as the Ministry of Lands and Physical Planning. It reiterated the Ministry's functions to include national land policy and management, physical planning, land transactions, survey and mapping, land adjudication, settlement matters, rural settlement planning i.e eco-village. Other functions include, land reclamation, land registration, national spatial infrastructure, land and property valuation services administration, administration of public land as designated by the Constitution and land information systems. The institutions within the Ministry include the National Land Commission and Settlement Trustee Fund.⁷⁴⁶

The structure of the Ministry of Lands is organized under the following departments: Administration and Planning (Management and Support Services), Survey, Physical Planning, Lands, and Land Adjudication and Settlement.

⁷⁴⁴ An integrated National Land Information Management System (NLIMS) was identified as an added core mandate of the Ministry in 2008.

⁷⁴⁵ Executive Order No. 1/2016 on the Organization of the Government of the Republic of Kenya stated that the former Ministry of Land, Housing and Urban Development would be now called Ministry of Lands and Physical Planning.

⁷⁴⁶ *Ibid.*

5.2.1 The Administration and Planning Department

The Department is responsible for overall policy direction and co-ordination, planning and management of resources; human and financial, legal advisory services, coordination of parastatals under the Ministry mandate,⁷⁴⁷ liaison with International Organizations, development partners and other stakeholders, Information Communication Technology (ICT) services, Land Reform Transformation Unit (LRTU), public relations, cross cutting issues, management information systems, gender mainstreaming and HIV/AIDS control.

This Department is responsible for the overall policy direction and co-ordination, resource planning and management and has been very instrumental in the design of NLIMS. However, during the interviews it was evident that financial resources as well as qualified human resources were inadequately provided to the Ministry to enable the realization of NLIMS. Those interviewed from the Department were of the opinion that there were also vested interests impeding the projects of e-conveyancing.⁷⁴⁸

5.2.2 The Department of Survey

The Department offers the following services; surveying and mapping, photogrammetric and remote sensing services, map printing and general publishing, maintenance of land registration maps, inspection and re-establishment surveys of national and international boundaries, provision of hydrographical survey services, supervision and maintenance of quality control and assurance on surveying and mapping data, pre-service and in-service training courses at the Kenya Institute of Surveying and Mapping (KISM).

⁷⁴⁷See 5.2 above.

⁷⁴⁸See RA1 and RA4 comments on the issues discussed later in this chapter.

5.2.3 The Department of Physical Planning

The Department is responsible for formulation of national, regional and local physical development policies and guidelines, preparation of regional and local physical development plans, initiate and undertake research in matters concerning physical planning. It gives advice to the Government on matters concerning alienation of land under Government Lands Act and Trust Land Act, and county governments on most appropriate use of land including land management for example change of user, extension of lease, subdivision and amalgamation, and require county governments to ensure proper execution of physical development controls and preservation orders.

5.2.4 Department of Land Adjudication and Settlement

The Department deals with land adjudication, consolidation, group ranches and settlement of landless citizens. The Department is governed by four main Acts of Parliament namely, Land Consolidation Act,⁷⁴⁹ Land Adjudication Act,⁷⁵⁰ Land Group Representatives Act,⁷⁵¹ and Agriculture Act.⁷⁵²

The Land Adjudication division is mandated to ascertain rights and interests on land in trust land areas, and transformation of ownership from customary tenure to individual ownership through demarcation, survey and registration. Currently the data collected from the adjudication areas, spatial data is geo-referenced and digitally availed together with the area lists and supporting documents to the National Titling Centre where the same is captured, verified before digitized titles are printed and issued. The exercise of

⁷⁴⁹Land Consolidation Act⁷⁴⁹ (Chapter 283) Laws of Kenya.

⁷⁵⁰Land Adjudication Act (Chapter 284) Laws of Kenya.

⁷⁵¹Group Representatives Act (Chapter 287) Laws of Kenya.

⁷⁵²Agriculture Act (Chapter 318) Laws of Kenya.

land adjudication is fast moving to the electronic platform which is a positive initiative towards electronic conveyancing in Kenya.

The Settlement division is mandated with the acquisition, planning, demarcation, survey and allocation of economically viable agricultural settlement land to landless, poor and unemployed Kenyans on loan basis.⁷⁵³ Similarly those lands set aside for settlement of the landless are subdivided and allocated to the beneficiaries. Upon completion of the loans from Settlement Fund Trustees (SFT), the titles are prepared at the National Titling Centre using the digital data. This process in essence has reduced the duration taken to prepare and issue titles to citizens through manual systems, and is an indication that electronic conveyancing can be achieved in Kenya.

5.2.5 Department of Lands

The Department is mandated with the administration of Government and trust lands. This includes also registration of titles and various land transactions, valuation of land for various purposes, resolution of land and boundary disputes, establishment and management of Land Control Boards and Land Dispute Tribunals. The Department also is charged with the generation of revenue in the form of Appropriation in Aid (AinA) for example consent fee, approval fee, title preparation and registration fee and through assessment of stamp duty and land rent, management and custody of land resource records.

Prior to the establishment of the National Land Commission (NLC) under the Constitution, to implement the above mandate, the recurrent activities included; the

⁷⁵³ For example the land in Coast commonly referred to as Waitiki Farm was purchased by Government and subdivided to accommodate the squatters who were issued with charged titles recently.

alienation of both the Government and trust land under the provisions of Government Land Act⁷⁵⁴ and Trust Land Act⁷⁵⁵ respectively, including issuance of letters of allotments as first ownership documents.

The Department of Lands participates in the approval of development plans and part development plans for urban areas. The preparation, registration and issuance of land title deeds for all categories of land under Registered Land Act, Government Land Act, Registration of Titles Act, Land Titles Act and Sectional Property Act. As well as stamping and registration of documents relating to land, consideration and approval of building plans to ensure leasehold land is developed as intended.

The Department issues approval of applications for extension and change of user for all categories of land, consideration and approvals for extension of leases. Establishment and management of the Land Control Boards, setting apart of Trust Land for public purpose development. Valuation of both government and trust land for alienation purposes, stamp duty, compulsory acquisition, public trustees, rental purposes, for rating rolls etc., processing and documentation of land subdivision scheme plans, Updating of land records.

The Department of Lands is now headed by the Secretary Lands though previously it was headed by the Commissioner of Lands. It has three substantive divisions; Land Valuation, Land Registration and Land Administration. Cutting across these divisions in

⁷⁵⁴Government Land Act (Cap 280) Laws of Kenya (now repealed and replaced with Land Act No. 6 of 2012).

⁷⁵⁵Trust Land Act (Cap 288) Laws of Kenya.

terms of services are the Accounts branch, General Land Records office, the Plan Records office and the Clerical establishment.

However, following the promulgation of the Constitution of Kenya 2010 which established the National Land Commission, there has been a major change in the Department of Lands, the office of the Commissioner of Lands was replaced by the National Land Commission, having Commissioners and Land Administration Officers seconded or transferred to the National Land Commission. The NLC instituted a court case seeking an advisory opinion from the Supreme Court of Kenya in regard to the roles and responsibilities of the National Land Commission and those of the Ministry of Lands.⁷⁵⁶

While the advisory opinion of the Supreme Court was pending, services at the Ministry of Lands suffered due to lack of direction and efficiency in delivery of services. The conveyancers did not know which office between the National Land Commission and the Department of Lands would attend to their requests. Among others the NLC sought advice from the Supreme Court, on which agency the development of the NLIMS fall.⁷⁵⁷

The Supreme Court was of the opinion that apart from the functions listed in the Constitution,⁷⁵⁸ the National Land Commission Act⁷⁵⁹ assigned the NLC other tasks which include the development and maintenance of an effective land information

⁷⁵⁶Supreme Court of Kenya, Advisory Opinion Reference No. 2 of 2014, Between The National Land Commission And Attorney General & Others

⁷⁵⁷*Ibid.*

⁷⁵⁸Article 67(2) of The Constitution of Kenya 2010.

⁷⁵⁹National Land Commission Act No. 5 of 2012, Section 5 (2).

management system at National and County levels.⁷⁶⁰ However, the amendment to the Land Laws Act in 2016 reassigned the NLIMS docket to the Cabinet Secretary Ministry of Lands and Physical Planning. In exercise of this power the Cabinet Secretary will only seek advice from the National Land Commission.

5.2.6 Challenges and Weaknesses in Service Delivery in Ministry of Lands

The four technical departments in the Ministry face the following twenty challenges; records are manual, voluminous and hence vulnerable to wear and tear, records are lost or missing, fraudulent and illegal alterations of land records, and illegible writings on the manual records. The titles are too big for handling and storage especially those issued under the Registration of Titles Act,⁷⁶¹ for example new grants, certificates of title, etc.⁷⁶²

Lengthy, slow and cumbersome processes, inefficient monitoring and evaluation system, duplication of land records, non-sharable analogue data, lack of up to date land information. There is poor storage and tedious retrieval of land data, backlog of the un-digitized maps is overwhelming, use of un-rectified photo enlargements has worsened the already weak general boundary system. The lack of real time Data Service GPS control Points, and no capacity to provide magnetic declination data on time.

In the survey department there is lack of common coordinate system, the existing computer based information systems are stand-alone, insecure, with low scale operations. Inadequate funding, inadequate human capacity, insufficient hardware and software for

⁷⁶⁰National Land Commission Act of 2012, Section 5 (2).

⁷⁶¹Registration of Titles Act, Cap 281 of the Laws of Kenya.

⁷⁶²Ministry of Lands Draft Reference Paper on National Land Information Management Systems (NLIMS) 2008, pp. 34-35.

digital data processing, limited skills and awareness on modern Information Management Technology. Use of archaic or obsolete equipment for example full balance machine in SFT, stereo plotters, printing machine, deed plan sealing machine.⁷⁶³

The processes at the Ministry are hampered by continued cases of missing files and at times proprietors are requested to swear affidavit and indemnify the Government for missing titles before another file is opened. This is due to lack of back-up for both manual and digital records. There is also vulnerability of the manual records in case of a disaster like fire and forgeries of title documents.⁷⁶⁴

The Ministry of Lands can overcome the above challenges and weakness, if electronic conveyancing is implemented through successful development and deployment of the National Land Information Management System.

5.3 Project on Automation of all Land Records in Kenya

The Ministry of Lands in May 2007 appointed a Task Force on Computerization of all Land records. The Terms of Reference were seven, being firstly to examine the current processes and practices and recommend efficient solutions with emphasis on cutting down on turnaround time and resources, secondly, to identify and take stock of all the relevant land records and data sets for capture and computerization, thirdly, to carry out an update of the records, fourthly to determine linkages across the Departments, fifthly to digitize all the land records and data sets identified. The sixth was to design and establish a computer based operation system to support and be responsive to all the essential

⁷⁶³*Ibid.*

⁷⁶⁴*Ibid* p. 35.

services, and finally, to ensure that there was sufficient networking to provide for sharing of the data from within the Ministry both for Headquarters and the field stations.

The Task force consisted of officers drawn from all the Four Technical Departments and headed by the Director of Surveys.⁷⁶⁵ The Mission and Vision of the Task Force was set and articulated and later the findings of the project documented and reported in a Reference Document towards the establishment of a GIS-based National Land Information Management System (NLIMS).⁷⁶⁶

The Task Force was reconstituted into a Rapid Result Initiative (RRI) Team on Automation of the Land Records in July 2007 when the Ministry of Lands was placed under Rapid Results Initiative (RRI), a Result Based Management (RBM) tool, by the Public Service Reform and Development Secretariat (PSR & DS) Office of the President.

The team identified and implemented five quick win goals in the Ministry.⁷⁶⁷ The Task Force members addressed all the Terms of Reference and came up with recommendations and solutions for a National Land Information Management System (NLIMS) as detailed in the reference document complete with a budget for its implementation.⁷⁶⁸

⁷⁶⁵See annexure of letter of appointment by PS Ministry of Lands.

⁷⁶⁶Reference document towards the establishment of a GIS-based National Land Information Management System (NLIMS) Titled A Report on the Automation of all Ministry's Land Records. August 2008.

⁷⁶⁷See RRI explained in Chapter 5 *ibid*.

⁷⁶⁸*Ibid*.

The Land Information Management Technical Working Group (LIMS-TWG) identified and implemented five quick win goals in the Ministry. The initiatives have been implemented in several departments as follows:-

First, Reconstruction of GLA Volumes and records, in the Central Registry, Lands Registration Division. The initiative aimed at reducing time for retrieving files, as well as safeguarding documents and has included scanning of documents.

Second, Creating a Land or Property Value Database at the Valuation Department. The database in MS Access was implemented on a stand-alone computer. Information which earlier was kept only in manual files was captured in order to facilitate analysis for valuation and can be retrieved from the database.

Third, Creating a Document Management System for survey plans, Department of Survey. A number of survey plans have been scanned.

Fourth, Creation of a Document Management System for approved development plans, Department of Physical Planning. Physical development plans were scanned and some plans also being digitized.

Fifth, Create a file tracking system for settlement plot files, Department of Land Adjudication and Settlement. A file-tracking system was developed in Microsoft Access with the objective to reduce the time needed for retrieval of settlement plot files.

Other four computerization projects at the Ministry of Lands included Land Rent System, Settlement Fund Trustee (SFT) Billing System, Land Information for informal Settlement (LIIS) and the Kenya National Spatial Data Infrastructure.

The Kenya National Dialogue and Reconciliation Agenda 4; long term issues and solution matrix of the implementation agenda recommended for the establishment of a transparent, decentralized, affordable and efficient GIS-based Land Information Management System and a GIS-based Land Registry at the Ministry of Lands including all Local Authorities.⁷⁶⁹

The replacement of land ownership documents for owners affected by post-election violence, establishment of a Land Reform Transformation Unit in the Ministry of Lands to facilitate the implementation of the Land Reform programme as outlined in the National Land Use Policy. These underpin the importance of land and emphasized the country's need to have an NLIMS implemented without which services pertaining to land titles and dispute resolution in tribunals and courts are not concluded speedily.

5.3.1 LIMS Technical Working Group

Land Information Management Systems Technical Working Group (LIMS-TWG) was established under the Land Reform Transformation Unit (LRTU) in Institutional Framework of the National Land Policy. This was envisaged under Section 5.1 of Land Policy Implementation Framework.⁷⁷⁰ The land information management technical working group consisted of members of the Task Force on Computerization of All Land Records, whose assignment was to further implement the provisions for LIMS in the

⁷⁶⁹The Kenya National Dialogue and Reconciliation Agenda 4; in 2008 (Post election violence), Agenda 4 Recommendations on Land Reforms and National Land Information Management System.

⁷⁷⁰National Land Policy, Sessional Paper No. 3 of 2009 at p. 65

policy.⁷⁷¹ The policy provided for Land Information Management System principles and outlined the essential steps that the Government would take in providing a LIMS.

It noted that deficiencies of the existing LIMS include expensive cadastral surveys, centralization of cadastral processes, and slow, cumbersome procedures.⁷⁷² Kenya lacked up to date information on different land uses such as agriculture, forestry, wildlife, water and infrastructure. Lack of this vital information complicated effective planning, zoning and overall management of land.⁷⁷³

Land information consists of datasets for decision making in land administration and management. These include data on geo-referencing, mapping, land ownership, land rights, land use planning, valuation and inventories of different categories of land.⁷⁷⁴

Land Information Management System (LIMS) is an information system that enables the capture, management, and analysis of geographically referenced land-related data in order to produce land information for decision-making in land administration and management.⁷⁷⁵

To facilitate the establishment of an efficient land information management system, the Government is required to, firstly, establish a comprehensive, computer based, efficient, user friendly, accessible, affordable, transparent and gender sensitive land information management system. Secondly, ensure that the land information system facilitates the

⁷⁷¹ National Land Policy, Sessional Paper No. 3 of 2009 p.39.

⁷⁷² *Ibid.*

⁷⁷³ National Land Policy, Section 158, *ibid* at p. 39.

⁷⁷⁴ National Land Policy, Section 159, *ibid* at p.39.

⁷⁷⁵ National Land Policy, Section 160, *ibid* at p. 39-40.

accurate classification and mapping of all categories of land including land claimed by minority groups, pastoral communities, disputed land, and land identified to have been irregularly allocated.⁷⁷⁶ Thirdly, establish national guidelines on land information, to govern matters such as land information standards, security, dissemination and pricing.⁷⁷⁷

Fourthly, make land information available in a form and language that can be understood by most citizens, including accessible and clear hard copy information products and simple maps,⁷⁷⁸ re-organize, update and authenticate existing land records,⁷⁷⁹ Fifthly, establish a National Spatial Data Infrastructure (NSDI) to ensure integration of and access to spatial data sets held by different national and sectoral agencies.⁷⁸⁰

The Government is to ensure network connectivity by providing the necessary infrastructure,⁷⁸¹ such as electricity, computers and Internet connectivity at all levels of land administration. Promote the growth of a viable land information market, enact a land information law to facilitate access to and management of land information and facilitate the sharing of information across Government departments.

It would encourage public-private partnerships in the setting up of and administration of the LIMS, create human resource capacity to develop, operate and maintain a modern LIMS. It is expected to establish a regulatory body for Geo-Information professionals to generate and develop a code of ethics and to standardize training of professionals and establish mechanisms for the incorporation of traditional land information in the LIMS.

⁷⁷⁶ *Ibid.*, Section 163 (b) at p. 40.

⁷⁷⁷ *Ibid.*, Section 163(c) at p. 40.

⁷⁷⁸ *Ibid.* Section 163 (e) at p. 40.

⁷⁷⁹ *Ibid.*, Section 163(d) at p. 40.

⁷⁸⁰ *Ibid.*, Section 163 (f) at p. 40.

⁷⁸¹ *Ibid.*

The National Land Policy also stated that land information is currently held mostly in paper form and managed manually. This is inefficient, time consuming and cannot support timely decision making.⁷⁸²

5.3.2 The Land Rent System

The land rent system handles payments for land rent payers for example issuance of demand notices for annual rent owing to the Government.⁷⁸³ The information in the system includes land reference number, file number, parcel type, locality, district, street and lessee. The information included has been captured in the same way as it is represented in the manual card systems.

The Ministry of Lands is one of the highest revenue collectors for the Government every year through the payments made for Land Rent by proprietors of land classified as Leasehold from the National Government. The system is built with Top Speed Database and the 4GL programming language Clarion. The ICT unit started work with this system in 2005 which included data capture of information from the manual system. The Land Rent System since inception has seen tremendous increase in collection of land rent and is an indicator of success in implementation of e-conveyancing.

5.3.3 The Settlement Fund Trustee (SFT) Billing System

The SFT Billing system is developed in Microsoft Access and aims at automating the billing and accounting processes for settlement schemes. It includes printing of bills

⁷⁸²National Land Policy, Sessional Paper No. 3 of 2009, Section 161, pp. 40.

⁷⁸³PILAK – Institutional cooperation between MOL and Lantmateriet.

(Statements), handling SFT Loans, managing accounts and records and final accounts.⁷⁸⁴

Those interviewed and filling the questionnaires have mostly agreed that the SFT billing system has been useful in generating reports for loans. However, the system requires updating and networking to the District and County offices to enable access by the citizens who are located in rural areas. The SFT billing system can be utilized as a backbone to the NLIMS platform if the software is interoperable and therefore enable electronic conveyancing.

5.3.4 Land Information for Informal Settlement (LIIS)

The main objective of the project was to develop a standardized methodology for carrying out inventories for informal settlements. The results were introduced in a GIS system. The LIIS project was developed within a Swedish International Development Authority (SIDA) funded programme at the department of Physical Planning.

The system included methodology for data collection of information about informal settlements, such as the colonial villages in Nyeri. Data capture module for entering data and enumeration, data capture module for verification of data, GIS-application for analyzing the data which is a web application. It is noted that the LIIS system was not fully implemented. The informal settlements inventory captured into the LIIS was later used to develop the Kenya Slum Upgrading Programme (KENSUP) where

⁷⁸⁴*Ibid* at p. 27.

the beneficiaries have been identified and provided with modern housing under Sectional Property Act. In Nairobi KENSUP was used in settling some inhabitants in Kibera slums.

5.3.5 The Kenya National Spatial Data Infrastructure (KNSDI)

The KNSDI was developed with the support of the Japan International Cooperation Agency (JICA). Its main objective was to establish a platform for access of spatial data through the Internet, and thereby facilitating sharing of spatial information.⁷⁸⁵

The KNSDI project was abandoned when the donor funding ended and therefore only the City Council of Nairobi spatial data had been developed. The KNSDI lays down a good foundation for digitization of land records especially digitized maps. It also enables the development of electronic conveyancing in Kenya.

5.3.6 Project on Improvement of Land Administration in Kenya

The Land Information Management Systems (LIMS) technical working group (TWG) partnered with donor agencies such as the Lantmateriet and undertook benchmarking studies in Sweden in 2009 and 2010 for its members. Thereafter a Project on Improving Land Administration was conceived which included institutional cooperation between Ministry of Land (Kenya and Lantmateriet, Sweden). A project document was authored by the LIMS team and staff of Lantmateriet, The National Mapping, Cadastre and Registration Authority of Sweden.⁷⁸⁶

⁷⁸⁵The information is provided at the website address www.knsdi.go.ke

⁷⁸⁶Institutional Co-operation between Ministry of Lands (Kenya and Lantmateriet, Sweden), August, 2009.

The implementation plan for the Project on improvement of land administration in Kenya (PILAK) plan had eight components, these were, Firstly, Safeguarding land paper records, secondly, developing business and IT architecture, thirdly, modernizing the geodetic framework, fourthly, parcel identification reform, fifthly to develop land rent collection system, sixthly, a systematic conversion to the Registered Land Act (RLA) titles, and develop other land administration systems and public awareness.

5.3.6.1 Component 1 - Safeguarding Land Paper Records

There was urgent need for improving record keeping and ensuring that documents related to land administration are safeguarded. Due to the continuous deterioration of existing records it was found that this component would require the highest priority by the (LIMS-TWG) and the Swedish team.

A detailed work plan was prepared with the end results projected as the creation of a model analogue archive in place for nationwide implementation. Two land registry archives at the Ministry's headquarters were to be re-organized into proper analogue archives with accessible but secure information ready for scanning. This was achieved by setting up an analogue registry with a Data Base Management System that guided the officers on the actual location of the file and arranged the Strong Room at the Central Registry using Archive boxes.

The component envisaged that a production line for scanning of important documents with trained staff be in place in Nairobi.⁷⁸⁷ All documents in the model archives were to

⁷⁸⁷ See the establishment of Land Records Conversion Centre.

be scanned and made accessible via a digital archive system, thus creating a model digital archive that could be replicated in other land registries and land offices. The Central Registry documents were scanned and archived but could not be utilized by the officers because development of another system to interact with the data was not availed before the donors contract ended.

5.3.6.2 Component 2 - Developing Business and IT Architecture

This component was to form the strategic framework for the development of land administration systems that would provide support to the many land administration processes. This would ensure that systems and information are compatible and follow the national objectives of e-government.

Emphasis was to be put on information and ICT security as these areas form the basis for a trustworthy, well-functioning and sustainable land information system. A policy on information and ICT security was to be developed under this component. An information and land administration system is of vital importance for different spheres in the society. The system should be able to provide relevant, accurate, easy to access and up-to-date information to different users. It should include information on private persons, demands concerning integrity and security must specifically be taken into account. Both specific legislation and general administrative law must be considered when developing a policy for this component. The IT systems put in place should be transparent and possible to audit.⁷⁸⁸

⁷⁸⁸ AnnKatrin Myles, Kristina Bwire Lund & Magdalena Anderson . PILAK 1 p. 40.

Proper maintenance of land information management system (LIMS) is a prerequisite for having a stable and reliable system, which can be adapted to changes required in the future in an orderly manner. The expected results of the component was to ensure, Business and ICT architecture are developed and serve as a strategy or “blueprint” for LIMS development and implementation.

This include mapping of land administration processes as well as analyzing and re-engineering these processes. The national framework for e-government and ICT strategies have to be investigated and mapped to the LIMS project. The methodologies for system development should be selected and the concerned staff should be trained. An information and ICT security policy should be developed and introduced.

5.3.6.3 Component 3 - Modernizing the Geodetic Framework

As stated in the National Land Policy, the processes of land surveying and mapping are integral to an efficient land administration and management system⁷⁸⁹. In addition to preparing the maps and plans to support land registration, they map the earth for land use planning. These processes have been hampered by slow, cumbersome and outdated modes of operation.

The Government shall amend the Survey Act,⁷⁹⁰ to allow for the use of modern technology such as Global Positioning Systems (GPS) and Geographical Information Systems (GIS), and streamline survey authentication procedures. Establish a unitary

⁷⁸⁹Sessional paper No. 3 of 2009 on National Land Policy, August 2009.

⁷⁹⁰Survey Act, Cap 299, Laws of Kenya.

and homogeneous network of control points of adequate density, preferably using dynamic technology such as GPS. Improve mapping standards in general boundary areas through definition, realignment and pegging of shared or general boundaries so that they fit into a computerized system.

Revising and modernizing the current geodetic reference frame relates to the establishment of a unitary and homogeneous network of control points as stated above. Global Positioning Systems (GPS) equipment should be used in order to speed up land surveys and to ensure good geo-referencing of land parcels, as well as other spatial objects. Good geo-referencing of spatial objects is necessary for the implementation of Geographical Information Systems (GIS).

The expected result is that a modern geodetic framework is designed and implemented in large parts of Kenya. Two continuously running reference stations will have been established in prioritized urban centers, and data from them made available to government surveyors, as well as private survey companies. Official transformation parameters between the new frame for example the African Geodetic Reference Frame (AFREF) and Kenya Geodetic Reference Frame (KENREF) currently used coordinate systems will have been established.⁷⁹¹

5.3.6.4 Component 4 - Parcel Identification Reform

To prepare for computerization of land records and the easy exchange of information between the various system modules a standardized parcel identification system was to

⁷⁹¹Ludwig, C., "Status of the African Geodetic Reference Frame (AFREF) project as at September 2008." *Augmentation systems and Applications* (2008): pp. 11-14.

be developed in cooperation with all stakeholders. Reference numbers currently in use might be replaced with a new unique parcel identification, but remain as historic information in the systems through cross-referencing.

The cadastral parcel can then become an important building block in the Kenya National Spatial Data Infrastructure. The expected result from this component was that a standardized system for unique referencing of land parcels would be developed and implemented.⁷⁹² Stakeholder consultations for Parcel Identification Reform was conducted by the Land Reform Transformation Unit in 2010, however their recommendations have not been implemented as yet.

5.3.6.5 Component 5 - Develop Land Rent Collection System

The land rent system was to be improved by introducing a computer system that can communicate electronically with banks, monitor payments, and provide information through the Internet.⁷⁹³ This module of the (LIMS) would naturally come after cadastre and land registry have been computerized. Rent can be collected more actively and efficiently, which will bring in revenue to sustain this system as well as other ICT systems that will be introduced. The payment procedure will be much quicker and easier, saving people from making several visits to the lands offices.⁷⁹⁴

5.3.6.6 Component 6 - Systematic Conversion to RLA Titles

The National Land Policy⁷⁹⁵ states that the Government shall enact a Land Registration Act, which shall recognize and protect all legitimate rights and interests in land held

⁷⁹²PILAK – Institutional Cooperation between MOL and Lantmateriet. p. 42

⁷⁹³*Ibid.*

⁷⁹⁴*Ibid.* p. 43.

⁷⁹⁵Sessional paper No.3on National Land Policy, August 2009.

under the categories of land set out in the Policy.⁷⁹⁶ It proposed the repeal of the Land Adjudication Act,⁷⁹⁷ Land Consolidation Act,⁷⁹⁸ Registration of Titles Act (RTA),⁷⁹⁹ Land Titles Act (LTA),⁸⁰⁰ and the Registered Land Act (RLA).⁸⁰¹

Currently some of the Land Acts have been repealed and replaced by new Statutes which include the National Land Commission Act, The Land Act and the Land Registration Act all of 2012. The intention was to have only one registration system. Another route towards a unified land registration system, without the need of legal development, would be explored. In the area selected for testing of systematic conversion, the new parcel Identification would be introduced. To support conversion an orthophoto map would be produced which form the basis for digital cadastral map, containing all parcels within the test area.

This component aimed at developing a procedure for systematic conversion from the (RTA) to (RLA) registration. However, upon the promulgation of the Constitution of Kenya 2010, the conversion to RLA has ceased as the said Act was repealed and replaced with the Land Registration Act.⁸⁰²

5.3.6.7 Component 7 - Develop other Land Administration Systems

A number of system modules needed to be developed for the efficient administration of land in Kenya. The twinning project with the assistance from other donors, or in-house

⁷⁹⁶Section 3.3.1 of the Policy.

⁷⁹⁷Land Adjudication Act Cap 284 Laws of Kenya.

⁷⁹⁸Land Consolidation Act Cap 295 Laws of Kenya.

⁷⁹⁹Registration of Titles Act Cap 281, Laws of Kenya.

⁸⁰⁰Land Titles Act Cap 282, Laws of Kenya.

⁸⁰¹Registered Land Act Cap 300, Laws of Kenya.

⁸⁰²Land Registration Act No. 3 of 2012.

would develop the modules adhering to the overall system architecture, so that information can be shared.⁸⁰³

5.3.6.8 Component 8 - Public Awareness on Project on Improvement of Land

Administration in Kenya

The Twinning Project between Lantmateriet and LIMS-TWG would cooperate with the Technical Working Group within the Land Reform Transformation Unit (LRTU) dealing with public awareness to ensure that the public is made aware of the progress in the Ministry of Lands on land administration improvements.⁸⁰⁴ The results of the component would be that stakeholders and the general public were continuously informed of developments in land administration.

The Twinning Project had anticipated to cooperate with other donor support in the Development Partners Group on Land (DPGL), such as the USAID and World Bank which had shown interest in the (LIMS) development. The Lantmateriet contract with the Ministry of Lands ended in 2012, having not completed work on the above stated eight components. However, a model analogue archive and digital archive were implemented as well as a Land Records Conversion Centre (LRCC) set up at the Ministry of Lands with the technical assistance of Lantmateriet and the (SIDA).⁸⁰⁵

5.4 The National Land Information Management Systems (NLIMS)

The overall objective of the (NLIMS) was to facilitate efficient and effective service delivery in land management as spelt out in the Constitution, Vision 2030 and the

⁸⁰³PILAK.

⁸⁰⁴PILAK – Institutional cooperation between MOL and Lantmateriet.pp. 44.

⁸⁰⁵Ministry of Lands, Requirements for Land Records Conversion Centre, 2010.

National Land Policy.⁸⁰⁶ The NLIMS Programme was appended in the Ministry's core functions as per the Ministerial Strategic Plan⁸⁰⁷ and the Ministerial Performance Contract.⁸⁰⁸

The National Land Information Management Systems (NLIMS) mission was to ensure an integrated land information system based on Geographical Information Systems (GIS), a GIS-based NLIMS. This would incorporate e-Land Ownership Records and e-Land Registration Maps to provide the citizens with high quality and needs-oriented land information products and services on a timely basis.⁸⁰⁹

The expected result was a standardized and integrated online platform to enable customer access the NLIMS services seamlessly. The effect would be accessibility to information in different levels, cost affectivity administration, transparency, good governance systems and practices. It would result in enhanced GIS & IT capacity and capacity building.⁸¹⁰ The project objectives were to create a flexible, reliable and secure NLIMS that would fully meet the needs of the Ministry. That is land administration, land registration, property valuation, physical planning, survey and mapping and land adjudication and settlement.⁸¹¹

The specific objectives of the project were to establish the institutional framework of the National Land Information Management Systems (NLIMS), develop and implement an

⁸⁰⁶National Land Commission, Development and Implementation of an Automated National Land Information Management System (NLIMS), 2013.

⁸⁰⁷Ministerial Strategic Plan 2008-2012.

⁸⁰⁸Ministerial Performance Contract of financial year 2009/10-2010/11.

⁸⁰⁹*Ibid.*

⁸¹⁰*Ibid.*

⁸¹¹ National Land Information Management System-2013, p.p. 5

integrated GIS based land information management system. Safeguard and automate existing land paper records. Establish a modern geodetic reference framework. Develop and implement an online platform to facilitate access to land information. Finally, enhance capacity to develop, operate an NLIMS and a monitoring and evaluation system for NLIMS.

The expected outcome or impact on the implementation of NLIMS was an e-Land Records with results for all stakeholders such as the provision of secure official documents in both hard copy and digital formats. This also includes online access to the electronic register, associated databases, topographic maps, digital orthophotos, cadastral maps and land use plans. This would reduce redundancy and duplication of tasks between departments and agencies of the Government dealing with land management. Thus lead to increase in tax collection through the use of an information portal via an intranet and/or internet.

The benefits would include compliance with the Kenya National Spatial Data Infrastructure (KNSDI) standards, complete interoperability of the hardware and software, reduce time taken and cost to retrieve files and conveyancing. Therefore, decrease corruption within land offices and increase efficiency at all levels of land management.⁸¹²

⁸¹²*Ibid.*

5.4.1 National Land Information Management System Directorate

The National Land Commission in exercise of its mandate to develop and maintain effective Land Information Management System at the national and county levels, established a Directorate of NLIMS which developed a master plan.⁸¹³ This was an implementation plan whose objectives were to establish the institutional framework of NLIMS with the sub objective of undertaking the situational analysis, establish a vision and a strategy for the project and stakeholder analysis.

The NLIMS Directorate was to establish a baseline status of Ministry of Land projects, the project organization and appoint the steering committee and project implementation teams. The NLIMS Directorate would establish a report progress plan to external and internal stakeholders where the stakeholders communicate and participate in the project organization. Then create a web based project portal accessed through the Internet to Ministry of Lands and build capacity in change management.⁸¹⁴ It envisaged business process reengineering which includes analyzing the current business processes, documenting them and conducting a SWOT analysis.⁸¹⁵

The identification of irrelevant processes, best business processes practices, as well as benchmarking by undertaking study tours. The Directorate would seek and obtain policy guideline for adoption of the identified best practice business process, automate and enforce the new business processes.⁸¹⁶

⁸¹³National Land Commission Act No. 5 of 2012 Laws of Kenya; The NLIMS Master Plan 2011-2014.

⁸¹⁴National Land Commission, Master Plan for NLIMS 2011-2014, pp. 17.

⁸¹⁵Strength Weakness Opportunities and Threats.

⁸¹⁶*Ibid.*

The Project teams embarked on system requirements analysis, to determine the user requirements, evaluation of existing systems, preparation of request for proposal of NLIMS system and hardware and software acquisition.⁸¹⁷ The conceptual design, system development and procurement of hardware and software platform of the integrated NLIMS followed. There were identified several modules to be designed and developed for data capture for the NLIMS. These included cadastral records, adjudication records, settlement land documents, development of a value data bank, land registration records and physical development plans.

Other activities during project development were the harmonization of relevant parcel information, design and development of interoperable data integration modules for GIS (maps) and ownership databases. The preparation of user manuals and data migration would be undertaken upon identification of suitable software for NLIMS.⁸¹⁸ Finally the Project Team would undertake the system testing, preparation of data-test and technical manual, parallel running of the new and old system, high level quality assurance and training on how to operate the systems. If the development of NLIMS was successful then the implementation would result in complete migration to the new system and relinquish the manual systems, continuous user training, monitoring and evaluation.

The establishment of NLIMS Directorate was based on the provisions of the National Land Commission Act which empowered the Commission to develop and implement the NLIMS. However, after the Land Laws Amendment Act of 2016, the functions of the Department were transferred to the Cabinet Secretary in charge of the Ministry of Lands.

⁸¹⁷*Ibid.*

⁸¹⁸*Ibid.*

Therefore the NLIMS Directorate could not progress with the extensive plans as set out. Its functions were relegated to advice and act as consultants by the Ministry's ICT Department and their consultants.

5.4.2 System Roll out and launch of NLIMS

The (NLIMS) projects would involve the appraisal of the records to determine their value for preservation purposes and destruction of valueless records to decongest the storage spaces in the Ministry of Lands, as per the legal requirements.⁸¹⁹ The preservation of the valuable records as per the Act,⁸²⁰ and preparation of records retention and disposal schedules.

The NLIMS Directorate on 30th May 2016 launched the NLIMS pilot project having obtained the requisite hardware and developed software for land administration services. The launch signaled progress made towards achievement of the objectives as set out in the Master Plan.⁸²¹ The roll out of the system awaits complete data migration and training of users to use the system as well as the development of other modules to be integrated in the NLIMS.⁸²²

5.4.3 Features of the NLIMS System

The National Land Information Management System when fully implemented will have the following properties and features. First, a model system in line with principles of

⁸¹⁹Public Archives and Documentation Service Act (Cap 19) Laws of Kenya.

⁸²⁰National Land Commission, Master Plan for NLIMS 2011-2014

⁸²¹NLIMS Launch at Radisson Blu Nairobi, on 30th May 2016.

⁸²²*Ibid.*

cadaster 2014. Second, the ISO standard Land Administration Domain Model (LADM) and third, the Social Tenure Domain Model (STDM).

The Cadaster 2014 is a set of principles of what a modern cadaster should address.⁸²³ The system that is envisaged will use the principles, terminologies and models that these standards and principles entail.⁸²⁴ A capable team of professionals with experience and training in GIS development and spatial data management will be required.⁸²⁵ The infrastructure that will be specific to NLIMS will be the GIS and database servers resident in a data center or any other designated center and disaster recovery center. These will require network infrastructure, dedicated internet connectivity and sufficient bandwidth to support delivery of information to end-users in an efficient and timely fashion.⁸²⁶

A distributed GIS based enterprise database system, which will be able to leverage computing resources and ICT infrastructure reducing costs of procuring many standalone applications. The NLIMS will be a distributed GIS based enterprise system serving many entities both at the county level and at the national level.⁸²⁷ A parcel fabric based cadaster, which captures all attributes that touch on the land parcel and allow it to be managed well. This will recognize the role of georeferencing as required by law in Kenya.⁸²⁸

⁸²³Kaufmann, J., and Steudler, D., *Cadastre 2014: A vision for a future cadastral system*. 1998.

⁸²⁴Lemmen, C. H. et al. "The modelling of spatial units (parcels) in the Land Administration Domain Model (LADM)." *Proceedings of the XXIV FIG International Congress 2010: Facing the Challenges-Building the Capacity, April 2010*. International Federation of Surveyors, FIG, 2010.

⁸²⁵Wayumba, G. O., *An evaluation of the cadastral system in Kenya and a strategy for its modernization*. Dissertation University of Nairobi, 2013.

⁸²⁶Lemmen, *ibid*.

⁸²⁷National Land Commission, 2014.

⁸²⁸National Land Commission Act No. 5 of 2012, Laws of Kenya.

The applications developed will be network-aware allowing various entities to utilize the system irrespective of their points of operation, be it at headquarters or at the county offices.⁸²⁹ This will leverage the network infrastructure and the distributed application architecture in delivering the services to the end users. The solution implemented will be highly available serving all end users seamlessly, and in a timely fashion. The NLIMS once implemented needs to be able to talk to other applications, exchange data transparently and securely and link with other business centric application solutions.⁸³⁰

Land is an emotive issue in Kenya, like in most developing countries,⁸³¹ and as such data on land is of a highly confidential nature. Strict measures should be put in place for information security and both logical and physical controls employed. These include passwords for accessing the systems, audit trails, user rights restriction for editing. Firewalls and other security features should be enforced to protect the NLIMS. The system should have a shutdown mechanism in the event of persistent hacking attempts to dissuade brute force hacking approaches.⁸³²

The overall system implementation is intended to be effected in phases. This will be in consideration of data access and conversion constraints, year-to-year budgetary allocations and additional funding availability and access. The NLIMS implemented should be able to scale in support of more data, more functions and its distribution

⁸²⁹Swazuri, *ibid.*

⁸³⁰Kasaine, A. et al., "Developing a National Land Information Management System – the Kenyan Strategy." *Presentation at the 2016 World Bank Conference on Land and Poverty the World Bank - Washington DC*, March 14-18, 2016.

⁸³¹Wangalachi, S. N., "Sustainable Land Management in a Bid to Alleviate Poverty and Prevent Deforestation in Kenya." *International Journal of Afro-Asian Studies* 1, 2011:p.45.

⁸³² Kasaine.et.al, *ibid*

countrywide.⁸³³ This is informed by best practice advise that large systems need to be implemented incrementally according to a modular programming approach.⁸³⁴

Codification of processes involved in land transactions include surveys, valuation, registration of titles, deeds in line with the existing laws. The NLIMS implemented should be able to automate all processes, or components of the processes that can be automated and support the authentication and quality control.⁸³⁵ The implemented solution should capture in the form of workflows, all transactions undertaken by the National Land Commission and the Ministry in line with the various Acts forming the body of land law in Kenya.

Access rights and rigorous user authentication system, being an enterprise system NLIMS will have many users with different access levels. The segregation also serves the function of breaking down the system to components where each user only interacts with the component relevant to them. This will make the system less intimidating and encouraging early adoption by the staff and stakeholders.⁸³⁶ The database system should also be able to disallow any changes that may be attempted directly in the database by say a database administrator or a user with elevated access rights.⁸³⁷

An online portal for the public featuring free and for pay services offered by the (NLC) and Ministry. The public has an interest in various categories of information on land which may be made available from an online portal, such as maps with cadastral

⁸³³*Ibid.*

⁸³⁴Swazuri.et.al, *ibid.*

⁸³⁵Kasaine.et.al, *ibid.*

⁸³⁶Swazuri.et.al, *ibid.*

⁸³⁷*Ibid.*

boundaries displayed, plot numbers, indications of type of land either public, private, or community, but without owner information.⁸³⁸ There should be implemented in the system secure means of verifying authenticity of users who have made payments so that they are not denied service, but block anyone unauthorized from accessing these services.⁸³⁹

As an extension to the online portal, members in the conveyancing professions may be granted access to more information based on their professional status. These include surveyors, planners, valuers, land administrators and lawyers. In such cases, these professionals need to be registered in the system first upon payment of some subscription fees after which they will be able to make requests for some specific information such as survey plans, spatial and development plans, registry maps and valuation records. These payments should be processed through the payment module(s) inbuilt into the system.⁸⁴⁰

The (NLIMS) should have embedded capabilities for performing spatially driven business analysis. This could be to identify for example leases due for renewal or extension, defaulting landowners, and double or multiple allocations in addition to other cases amenable for spatial analysis. This should extend to more complex analysis and editing capabilities allowing spatial operations such as parcel splitting and amalgamation, that are critical for such land management functions as parcel subdivision, parcel consolidation, land use zoning and dissolution.⁸⁴¹

⁸³⁸Kasaine.et.al, *ibid*

⁸³⁹*Ibid.*

⁸⁴⁰Kasaine, et. al., *ibid.*

⁸⁴¹*Ibid.*

A proper cadastral system should support the ability to trace the root of a title or history of a parcel of land by default. It is what allows a historical trace of a given land parcel through the various stages of its transformation. This can be useful in helping the NLC and the Government generally, in its responsibility of addressing historical injustices in land.⁸⁴²

The (NLIMS), the Commission will offer services to various players, right from the general public to specialists within the landed professions. Some of the services to be offered as alluded to, will need to be paid for. Thus the solution implemented should have a secure and reliable online or mobile payment modules.⁸⁴³ This is especially critical as it is one of the main means through which the Commission will generate revenue and help in maintaining and upgrading NLIMS. This aspect will ensure sustainability of NLIMS and support the revenue base of the Commission and Ministry.

The NLIMS will thus to a large extent be defined by the data that will be stored and availed from it. While the Ministry has made efforts at scanning some of the land records (titles), and scanning and digitization of some of the survey plans for a few towns, yet there is still a lot of conversions to be done within the confines of the project. It is therefore planned to have workflows for data conversion and storage developed along the lines of, conversion of analogue non spatial data to digital form ingested in the relational database. Automated data extraction methods to be

⁸⁴²Manji, Ambreena. "The grabbed state: lawyers, politics and public land in Kenya." *The Journal of Modern African Studies* 50.03,2012: pp.467-492

⁸⁴³*Ibid.*

implemented supporting the reading off of information in the documents and storing of these information into the database.⁸⁴⁴

Surveying in the country for purposes of cadaster has been carried out using different spatial reference systems.⁸⁴⁵ This has hampered the integration of all surveys to support a seamless cadaster.⁸⁴⁶ When implemented, NLIMS shall support geo-referencing of cadastral maps in the GIS and digitization based on the correct geo-referencing framework.

The current processes put a lot of emphasis on the generation of hard copy official documents such as titles, part development plans and survey maps. NLIMS should support these processes but in the final phases should be able to migrate this requirement to generation of digital official documents without requiring the physical printing of the official document unless in very special cases.⁸⁴⁷ The law will need to be amended and or legislation promulgated to allow for digital official documents of title and conveyancing practice in Kenya.

In this regard, the official record in the NLIMS will serve to provide the proof and confirmation of whatever the current official documents confer e.g. ownership rights or spatial plan. A big challenge in this regard is the requirement in various laws for paper-based validation. This proposed approach requires formulation and passage of legislation

⁸⁴⁴Kasaine.et.al, *ibid*.

⁸⁴⁵Wayumba, *ibid*.

⁸⁴⁶Li, Jingwen, et al. "A new object-oriented approach towards GIS seamless spatio-temporal data model construction." *Joint International Conference on Pervasive Computing and the Networked World*. Springer Berlin Heidelberg, 2012.

⁸⁴⁷Kasaine,et.al, *ibid*

recognizing digital official documentation as authentic and legally binding documents, and assurances in the system security and credibility.⁸⁴⁸

There are many services in Government and in the private sector that touch on land such as in establishing the wealth of public officers, securing loans and mortgages and locating persons with suspicious dealings or character. The (NLIMS) by virtue of the data held shall be set up to support Government functions through an open architecture allowing other systems in Government to plug in. Once verified and sufficiently authenticated, would be allowed access to the part of the information supporting their task at hand. This function will have a big role to play in e-governance and will feed into the ‘one source of truth’ initiative of the current National Government.⁸⁴⁹

NLIMS will be a massive system with many modules developed, handling humongous amounts of data and serving very many sectors, in addition to serving the Kenyan public in general. It is expected that the successful implementation will include an elaborate training schedule to facilitate technology transfer and effective use of the system. This would be key in making this system useful and play its role in helping improve the image of the National Land Commission and the Ministry, nationally and internationally. The training aspects take care of making the staff accept and adopt the system and the enabling technologies. These help in managing change in operations and in the processes.⁸⁵⁰

⁸⁴⁸*Ibid.*

⁸⁴⁹*Ibid.*

⁸⁵⁰Kasaine.*et.al*, *ibid.*

5.4.4 Implementation Strategy of NLIMS

To realize this ambitious project, the Commission put in place the National Land Information Systems Directorate having the status of a Directorate and given the Project tag to emphasize the urgency in the expectation to transition from vision to reality.⁸⁵¹ This Directorate is charged with the express mandate of ensuring that the legal requirement of developing and managing of NLIMS at both national and county levels is realized in the shortest time possible.⁸⁵²

All the data will be hosted in a data center that will be accessed by both database and GIS servers. For purposes of maintaining the data, administrative capabilities will be provided but which will be restricted to routine system maintenance and not tinkering with data held on the system. Members of staff of the National Land Commission and the Ministry who will be generating data, modifying data and utilizing various workflows will access the functionalities in the form of well-defined applications encapsulated in the applications layer.⁸⁵³

This application layer will be responsible for managing the interactions with the underlying GIS and database servers, which will in-turn be reading from and writing to the (NLC) Data Centre. Other users will interact with the system via the Internet through an online application portal that subsequently accesses the information via the application layer. Other users can gain access to functionalities of the system that will be delivered through a mobile gateway.

⁸⁵¹*Ibid.*

⁸⁵²Kasaine *et al.*, *ibid.*

⁸⁵³*Ibid.*

In all these interfaces, payments made are remitted to the bank or to the mobile money account, thereby doing away with the requirement for cash payments at the agency offices. This will help reduce the opportunities for corrupt dealings, reduce the amount of work done by the officers and the number of steps the citizens have to go through to access the services.⁸⁵⁴

Due to challenges in connectivity that may impede working on data from a central repository, and in enhancing productivity of employees, the implemented solution will feature the capacity of all data producers retaining a version of the data they produce. This will be accomplished by utilizing the versioning features of the underlying database systems procured in the implementation. These local copies will be synchronized at the end of an agreed upon period.⁸⁵⁵

This period will be determined from considerations on network connectivity and the need for data currency. The rationale in this approach is premised on the fact that data producers are the best placed to ensure adherence to best practices, professionalism and standards, while assuring the quality of the data they produce. These different professionals will, through the system, accomplish their routine tasks much of which will have been automated.⁸⁵⁶

The Department of Lands and the Department of Surveys in the Ministry of Lands and the Directorate of Land Administration in the (NLC) interact with each other in

⁸⁵⁴Kasaine et.al.. *ibid.*

⁸⁵⁵*Ibid.*

⁸⁵⁶*Ibid.*

workflows involved in the titling and registration processes, which they will be able to access seamlessly. The Department of Land Adjudication and Settlement and the Directorate of Land Adjudication in the (NLC) will interact in workflows on land adjudication and allocation processes. Further, the Department of Surveys will be supported by workflows for processing of survey jobs and amendment of supporting survey graphics.⁸⁵⁷

5.4.5 Phased Implementation of NLIMS

The (NLIMS) when fully implemented will be a massive system, although the development will not be done in a one-step fashion. An incremental but integrated approach will be used in this implementation. The project is broken up into a number of phases that are spread out across a 3-4 year time window.

The phased implementation as anticipated in the execution of the work consists of five startup phases up to linkages with other systems and directorates. To be able to commence the implementation of the solution, there needs to be in place a competent core team of GIS driven application developers, system designers, and data collection, collation and conversion experts.

The second phase will be procurement of the basic system components, mainly the GIS servers, database servers, scanners and plotters. The procurement of the system component will be phased starting with a few pieces of equipment for the headquarters with densification of resources following later. The third phase involves the collection,

⁸⁵⁷*Ibid.*

collation and conversion of data. Some of the data is already in digital form but the majority of the data is in paper form. These will be acquired with the cities and main towns being worked on first and the rest of the regions following later. This will be the most important, most expensive and involving phase and will continue in perpetuity.

The fourth phase will involve the codification of various processes that routinely take place in the management of land, transactions in support of conveyancing, conversion of land ownership, and conversion of land use among many others. To begin with high impact low cost processes such as the processing of ownership search queries will be targeted with the system development moving onwards with more complex processes and procedures.

The fifth phase will be the continuous development of applications using the service-oriented architecture to implement more and more capabilities of the system. This phase kicks the cyclic phases whose purpose will be the continual improvements on the overall system with respect to data collection, conversion, extension and refinement of various workflows. Extensions with respect to connectivity of the system to other systems in Government and the development and maintenance of applications to capture technology trends and citizen needs.

By following through with this implementation approach, there will be a reduction in turnaround time for the various processes that citizens and agencies engage with the NLC and Ministry of Lands on a routine basis. This will have a domino effect that will positively impact on the economy allowing citizens to expend more time on other

development priorities.⁸⁵⁸ Spinoffs from the success of the system will include improvement in perception of the image of the Commission and the Ministry, increase in revenue generation and collection, and reduction in the numbers of citizens requiring to visit the government land offices among other positive outcomes.

5.4.6 Activities Undertaken on National Land Information Management System

The (NLC) through the (NLIMS) Directorate has already undertaken a number of activities propelling the realization of the NLIMS strategy. These include the enhancement of capacity to implement NLIMS through a vigorous human resource recruitment exercise. The establishment of the NLIMS directorate with a core team of 13 specialists in Spatial Information Management, GIS developers and Spatial Database experts. These core staff serve as Quality Control officers in assuring quality of outsourced works and helping secure the data and systems given the sensitivity of the land information.

The other achievement is the development of integrated systems. The NLIMS directorate developed system requirements (for phase one implementation) in conjunction with the ICT directorate. Recognizing the integrated way in which the NLIMS and the other systems of the Commission and the wider Government work, a tender for the supply of integrated systems solution was published.

The components of this system are a Citizen Relationship Management (CRM) component to handle all citizen related interactions with the Commission, an Enterprise

⁸⁵⁸Lau, T. Y., et al. "Adoption of e-government in three Latin American countries: Argentina, Brazil and Mexico." *Telecommunications Policy* 32.2 (2008): pp. 88-100.

Resource Planning (ERP) component to handle all resource management interactions of the Commission and the National Land Information Management System (NLIMS) for handling and managing all land related data and information. The successful tenderer was awarded the contract at the beginning of 2015 and has already developed and rolled out the ERP component of the integrated solution. The CRM part is steadily nearing completion as all the Functional Requirement Documents (FRDs) have been agreed upon and customization of the electronic Document Management Systems (eDMS) and CRM is ongoing.

The NLIMS component being specific to Kenya requires more work as the various workflows driving land administration and management processes in Kenya are largely unique, and the new legal dispensation in addition has modified some processes with respect to the actors, meaning that some of the processes have changed radically. Most of these workflows have been identified, the data model developed in line with the Land Administration Domain Model (picking relevant pieces that apply to the Kenyan context) and bearing in mind the principles of Cadastre 2014, and programming and customization work is now in progress.

Further the Spatial Data Conversion Laboratory was established. The engine of NLIMS is a data collection, reparation, collation and conversion unit, from which maps, plans and other documents will be converted from. A tender for the supply of the equipment and software to run in the unit, christened the NLIMS Laboratory, was awarded and established. This Laboratory is now operational, with scanning and digitization work steadily being done. Some of the equipment in this laboratory include scanners, plotters, GIS workstations and barcode scanners.

Given the nature of spatial referencing in Kenya, where we have 3 main types of spatial reference systems, namely Universal Transverse Mercator (UTM), Cassini-Solder system and local coordinate systems, the Directorate in conjunction with the National Mapping Agency (Survey of Kenya) is developing a transformation scheme that will allow wall-to-wall seamless coverage of parcels countrywide.

Development of NLIMS Standards and Guidelines. Given the limited funding allocated for the task and the depressed human resource capacity, and the fact that LIMS components are required by other units in Government, the NLC is cooperating with counties in the development of the county specific components of LIMS to the counties and other agencies dealing with parcel data.

The NLC realizing the need to allow various agencies to get along with implementing their own specific LIMS solutions initiated the development of NLIMS standards and guidelines with input and contributions from stakeholders in the land sector. These standards and guidelines are to be used by data producers and stakeholders as they implement their versions of LIMS.

This approach allows the various agencies to focus on delivering on their mandates that may include developing specific aspects of LIMS and allows the LIMS so developed to integrate with the NLIMS. The formulation of these standards and guidelines is at an advanced stage, and these shall be operationalized in 2016.

The Directorate in partnership with the Institute of Geomatics, GIS and Remote Sensing (IGGReS) of the Dedan Kimathi University of Technology attracted a funded research

project on the development of an Africanized Land Administration Domain Model (A-LADM).⁸⁵⁹ An NLIMS implementation is cross cutting and is an enabler of the devolved structure in Government. Realizing this, the NLC through the Directorate is developing a collaboration arrangement with the Nyeri County Government that will see the Commission offer some critical infrastructure, equipment and staff to help the County implement a LIMS version to serve it. This LIMS is intended to be a model that can be replicated across the country enabling all counties tap into the potential that a County LIMS heralds. This approach in return will support the nationwide LIMS since it is effectively an amalgamation of sorts of the LIMS from the Counties. The only requirement here being, the conformity of these disparate LIMS implementations to the standards and adherence to the guidelines that have been developed.

There is the recognition within Government about the critical role a functional NLIMS will serve in unlocking the economic potential of the country. In this respect, the cabinet has constituted a multiagency team that is to spearhead the development and rolling out of the system. This multiagency team has membership from National Treasury, Ministry of Lands, National Land Commission, Ministry of Information and Communication Technology, Kenya Revenue Authority and the Information and Communication Authority.

This initiative christened '*Mwangaza*' has the express objective of ensuring successful implementation and rolling out of the system by August 2016. The NLIMS directorate has already done quite substantial work as demonstrated in this strategy, and this is being

⁸⁵⁹Kuria et al, 2015.

taken as seed implementation in the new initiative, upon which the other components will be fashioned in line with.

5.4.7 Critical Success Factors of NLIMS Implementation

To develop competent technical support both for business and ICT for NLIMS implementation. To develop and implement capacity development/ICT Skills training programs and empowerment. Introduce and document standard operating procedures for effective automation. Optimized ICT Infrastructure at national and county levels to facilitate shared services. Establish ICT and services help desk. Data Centre and NLIMS infrastructure management to ensure network and applications security, availability and reliability. Enhance Security systems.

Develop and deepen change management interventions, awareness creation and publicity. ICT equipment maintenance and service level agreements will be necessary. Mobilize more resources to guarantee effective NLIMS implementation. Review of the NLIMS implementation plan. Develop and review NLIMS monitoring and evaluation framework and Continuous Monitoring and Evaluation and Reporting.

5.5 Electronic Document Management System

In financial year 2013/2014, The Ministry of Lands contracted a company to implement a framework for automation of the Ministry's processes known as the Electronic Document Management System (EDMS) with workflow and process flows.⁸⁶⁰ The contracted company offered to provide the following solutions, Data electronic document

⁸⁶⁰Tender No. MOLHUD/05/2013-2014

management needs for the Ministry, Workflow (Business Process Solution) for the two business processes to be developed which included Land Registration and application for official search.⁸⁶¹

The company upon conducting assessment of the needs and User Analysis noted some challenges as part of the solution being provided, searches will be done online where information will be gathered from a database.⁸⁶² This will work well for all new land transactions done through the system, the only problem is that it will not take into account all the manual transaction records that existed before. This will greatly limit the effectiveness of the web based Land Search solution.⁸⁶³

The contracted company proposed that to counter this, the manual records will be captured manually into a (relational database management system) RDBMS the records will be captured in a structure compatible to the online search solution systems. This will allow the historical records to be linked together with the newly generated records to provide a complete database.⁸⁶⁴

Currently an Official Search is conducted manually and any applicant must submit an official application form and payment of statutory fees as well as provide a copy of national identity card and Personal Identification Number and a copy of the title which they wish to search. The application is submitted to the application counter and issued with a booking number.

⁸⁶¹COSEKE Limited was engaged to provide business process management solution for selected processes of the Ministry as per the Tender *ibid*.

⁸⁶²COSEKE Limited Report System Design Document. June 2014 pg 5

⁸⁶³*Ibid.* pg 5

⁸⁶⁴*Ibid.*

The applicant then uses the booking number to track the progress of the search. Officers who have been assigned the specific task of conducting the search will do so by reviewing the respective files and documents (green and white cards) to retrieve the current information. The officer will produce the results appropriately in writing, certified and stamped. This will be later collected by the applicant. The process may take two to three days.

Land transactions are greatly delayed due to the inefficiencies of transporting physical files from one office to another. Loss of files and other crucial information is a constant threat. Tracing application is a tedious exercise, in most cases officers are forced to search entries on Individual A-Books to find files and establish their status. Booking can be done only at one counter and this creates bottle necks. Booking numbers are generated manually creating room for human errors.⁸⁶⁵

It is proposed that an overhaul of the current systems and replacement with an electronic solution where registered applicants will conduct searches using a web portal and confirm tickets using a texting system. An interested applicant will be able to access the services either via a web portal, short text message on phone or at the Lands Offices. Via a web portal that will be provided where interested users will first register as users within the web portal, the registration information should capture if the user is acting on his own behalf or is searching on behalf of the client. Once registered, the user will be issued with a user name and password which will be used to track his transaction.

⁸⁶⁵COSEKE *ibid.*

To conduct a search the users will first pay a fee of Kshs. 500.00 via MPESA and specify the Title Number, the user will then be prompted to enter the MPESA transaction number on confirmation the user will be able to access, the user name and session logged in will be used to form the key for generating a unique code which will be embedded within the printable receipt. Once logged in the user will be able to launch an application for search. The results will appear immediately and a ticket can be printed immediately for the same. The user conducting the search will be recorded for audit and analysis purposes and will be available to other users searching.

5.5.1 Search through Short Text Messages

Users who have registered with the Ministry of Lands can use the registered phone number to send a short message with the title number and MPESA transaction number to a specific number. The system will automatically pick the request and return the results of the search.

5.5.2 Search at the lands offices

Users who do not have access to the above option can visit the nearest Lands Office or Huduma Centre and access the services over the counter. The applicant will submit their details over the counter where a clerk will open a new session over the web interface. The solution will have an interface for clerks, where they will be able to conduct searches on behalf of applicants.

They will however have to collect contact information and details about the applicant, certify their identities and enter either the MPESA transaction number or Receipt number before conducting the search. The system will first confirm that the payment transaction

of Kshs. 500/- was successfully processed before issuing search results. Once the search results have been issued, the clerk at the counter will print out the results and issue the ticket to the client. The information for the search will be provided for by transactions carried out in the Land Registration business process. Historical records will be provided for by capturing of back log green cards and white cards.

5.5.3 Risk and Opportunities of the EDMS

There is a possibility that people may print fraudulent tickets to mislead uninformed users, to counter this the following measures are proposed; For each transaction a tracking code will be generated, this code will be saved in the database and in case of where information on the issued ticket does not match the information on the printed ticket an explicit disclaimer will clearly claim that information on the database will hold to be true.

All payments should be strictly associated with a specific Title number and no payment ID for example receipt number or MPESA transaction number should be repeated in the database. All users conducting search should be duly registered in different database, their information should be managed and other existing databases such as the IPRS to confirm the identification number, Registrars of Companies to confirm registered law firms, CCK to confirm telephone numbers submitted. Given that this process is tedious, if the databases are provided the process may be automated and only applications that do not have matching records will be flagged for special attention by an assigned officer for further processing.

Bulk users who conduct multiple searches at any given time may be given special considerations where they either pay a deposit where searches conducted are charged to that deposit, they conduct searches without being requested for payment and are issued with periodic invoices for searches conducted under that period.⁸⁶⁶

5.6 Resources Required for System Implementation

Resources for a project required are human, financial and technological. The Computer department should provide; Computer operators to run equipment, Data entry personnel, Systems analysts to define and design specifications, Application programmers to convert system specifications to computer programs, Maintenance programmers to repair errors, Supervisors, project leaders, Managers to coordinate the jobs with the users.⁸⁶⁷

Technical factors involve Departments ability to handle a project, availability of qualified analysts, designers, and software specialists to do the work, in designing Databases and implementing complex systems for a large concern.⁸⁶⁸ Behavioral factors are where the users past experience with an existing system affect the success record of the analyst and the influence the user can exert on top management to finance project.⁸⁶⁹

Economic Factors focus on system's potential return on investment which ought to be over 20 % per annum.⁸⁷⁰ Political considerations, that is the art of using influence and building coalitions when routine procedures do not achieve the right results. Such

⁸⁶⁶ COSEKE *ibid* at pg 14,

⁸⁶⁷ Elmasri, Ramez., *Fundamentals of database systems*. Pearson Education India, 2008.

⁸⁶⁸ Schwalbe, Kathy. *Information technology project management*. Cengage Learning, 2015.

⁸⁶⁹ McLeod, Laurie, and Stephen G. MacDonell. "Factors that affect software systems development project outcomes: A survey of research." *ACM Computing Surveys (CSUR)* 43, no. 4, 2011: p.24.

⁸⁷⁰ Yetton, P., et. al., "A model of information systems development project performance." *Information Systems Journal* 10, no. 4 (2000): pp. 263-289.

resistance is reduced if the end user participates in system project development they become less critical. Project implementers should anticipate resistance early and turn it into support.⁸⁷¹

5.6.1 Planning and Control for System Success

A system must first have a plan detailing the procedure, methodology activities, resources, costs and timetable for completing the system.⁸⁷² A large project must have Project Team formed of analysts, programmers, a system consultant, and user representatives. There should be shared interaction, knowledge, and the coordination realized through team effort which is extremely effective in contrast with individual analysts doing the work.⁸⁷³ Project should be divided into manageable modules to reflect the phases of system development, analysis, design and implementation.

5.6.2 Project Management and Control

The first level, work assignments are broken down into small manageable tasks that is well defined structured work unit that can be carried out by one individual. Then budgeted and scheduled and its quality measured and easily completed task independent of other project team members if rework is needed there is minimal loss or impact on other tasks except where time is critical.⁸⁷⁴

⁸⁷¹Umble, E. J., et. al., "Enterprise resource planning: Implementation procedures and critical success factors." *European journal of operational research* 146, no. 2 (2003): pp. 241-257.

⁸⁷²Kerzner, H. R., *Project management: a systems approach to planning, scheduling, and controlling*. John Wiley & Sons, 2013.

⁸⁷³ Chaffey, Dave. *E-business and E-commerce Management: Strategy, Implementation and Practice*. Pearson Education, 2007.

⁸⁷⁴*Ibid.*

Secondly, work units structured involve activities that have larger scope and are designed to produce substantial results. An activity is a group of logically related tasks that serve one phase of the system development lifecycle.

Then a phase is set of activities that bring the project activities to a critical milestone. The following are the steps in planning a project; identify the activities in each phase and the tasks within each activity, Calculate the budget for each phase and obtain the agreement to proceed, review, record and summarize progress on activities periodically and prepare a project progress report at the end of a reporting month.⁸⁷⁵ Technological, logical and behavioral features of the system should be considered before implementation and maintenance.⁸⁷⁶

5.7 Challenges of Electronic Records Management

The challenges of electronic records management include technological obsolescence, technological dependence, increased risk of lost data and records, Risk to reliability and authenticity, increased costs, decentralization of information and the increased need for information technology specialists.⁸⁷⁷ The Sapereon system which was in use in 2005 at the Ministry of Lands prior to LIMS projects has been rendered technologically obsolete according to an ICT officer in the Department who was part of those interviewed by the Researcher.

⁸⁷⁵*Ibid.*

⁸⁷⁶Stoneburner, G. et al., "Sp 800-30. risk management guide for information technology systems." 2002.

⁸⁷⁷International Records Management Trust 2009. Website at <http://www.irmt.org/building-integrity.html>.

5.7.1 Framework of Evaluation of land registration systems

Daniel Steudler, developed a framework for evaluating land registration systems, as a means of enabling the systematic evaluation of land administration systems.⁸⁷⁸ It includes objectives, strategies, outcomes and review procedures.⁸⁷⁹ Objectives define the targets of the whole system, and need to be evaluated by investigating “historical and social aspects, the cultural heritage and political, legal and economic basis.”

Strategies are the means with which certain desired objectives are achieved and can be evaluated by exploring the setup of the institutions and organizations, and the financing structure. The outcomes refer to the end results of the project implementation and should have relevant and measurable indicators. The review procedures are the actual steps which should be taken to find out how and why the project has succeeded or failed.

5.8 Field Survey Results

This section presents findings to a field survey conducted at the Ministry of Lands with the overall objective to analyze the challenges to Electronic Conveyancing in Kenya. The survey was guided by three specific objectives including an examination of the National Land Information Management Systems implementation strategy and highlighting factors affecting its success; a review of the Legal aspects and implications of electronic conveyancing in Kenya and enabling statutes for its implementation; as well as a critical analysis of Project Management and Organization structure of NLIMS capacity to implement a complex project of electronic conveyancing in Kenya. The specific objectives informed the research questions that the survey sought to answer.

⁸⁷⁸Steudler, 2004, p70,p379

⁸⁷⁹*Ibid.*

5.8.1 Response rate in Survey on e-conveyancing in Kenya

The study achieved a response rate of 90.0% with 27 respondents reached, out of the 30 targeted. According to Mugenda and Mugenda,⁸⁸⁰ a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent.⁸⁸¹ The data contains questionnaire responses from staff directly charged with the management of title deeds and those in line of managing the implementation of NLIMS, the departmental heads and project manager within the ICT department. Follow up interviews were further conducted with Heads of Departments and other management staff to clarify emerging issues that are not captured in the Questionnaire.

5.8.2 Demographic Information

This section captures respondents' demographic information including responses by designation, respondent work experience as well as respondents' highest levels of education analyzed descriptively, by use of frequencies and percentages.

Respondents were asked to indicate their designation levels in order to further ascertain representation and diversity thereof in perspectives. To this end, four technical cadres were targeted in the present study purposively owing to their expected possession of the information of interest with respect to the variables. Table 5.1 presents the findings.

⁸⁸⁰ Mugenda A.G. and Mugenda, O.M., *Research Methods Dictionary*. 2003.

⁸⁸¹ *Ibid.*

Table 5.1: Designation

Designation	Frequency	Percent
Land registration officers	9	33.3
Land administration officers	7	25.9
ICT specialists	5	18.6
NLC Commissioners	6	22.2
Total	27	100.0

Source: Present Doctoral Candidate's Survey Data, 2016

The analysis revealed that a majority, 33.3% of the respondents were land registration officers followed by land administration officers at 25.9% while NLC Commissioners and ICT specialists recorded the least at 22.2% and 18.6% respectively. This indicates the diverse perspectives in the survey as informed by tasks and duties characteristic of the respective designations. To adequately determine challenges in electronic conveyancing in Kenya, it is imperative to factor in diverse perspective from all pertinent stakeholders in respective fields of interest.

A rich diversity in experience was thus established on pertinent matters relevant to the present study. With some level of working experience necessary in establishing the study objectives, the study found it appropriate to establish the length of service of the respondents, in years. This would ascertain that responses were informed by diverse experience owing to respondents' respective lengths of service. Table 5.2 below presents the findings.

Table 5.2: Length of Service

Length of service	Frequency	Percent
1-5 years	3	11.1
6-10 years	4	14.8
11-15 years	7	25.9
16-20 years	9	33.4
Over 20 years	4	14.8
Total	27	100.0

Source: The Present Doctoral Candidate's Survey Data, 2016

The study found that a majority of respondents, 33.4% have worked in the study area for between 16 and 20 years. This was followed by those having worked for between 11 and 15 years, as indicated by 25.9% of the respondents while 14.8% of the respondents have worked for either 6 to 10 years or over 20 years. Only 11.1% of the respondents were found to have worked in the study area for less than 5 years. The results present a rather fairly skewed distribution across the years representing the length of experience.

With a majority of respondents having worked for at least 10 years, responses can be deemed as informed by adequate experience in the study area. A rich experiential background is key in the determination of what challenges various electronic conveyancing endeavors have faced across the years in order to discern what needs to be done and or avoided, in recommending policy and actions geared at addressing the challenges.

Respondents were asked to indicate how they learnt of the National Land Information Management System (NLIMS) project in the Ministry of Land. This was meant to determine the approach by the ministry to popularize the initiative among the

stakeholders in the same. To this end, a diversity of responses was established, a majority cited memos and circulars, followed by seminars and workshops and through other persons while a considerable number learnt of the same in their respective positions in the study area, including as commissioners in the National Land Commission.

A respondent commissioner (RC1) for instance answered:

“....I learnt about the NLIMS project as a commissioner in NLC....”

An ICT specialist (RICT1) offered:

“.... I learnt of NLIMS project in the Ministry of Lands through Memo/circular....”

Another ICT specialist (RICT3) offered a different response:

“.... I learnt of NLIMS project as a member of LIMS technical working group....”

A Chief land registration officer (RT1) offered that:

“.... I learnt of the NLIMS project in the Ministry of Lands through a seminar/Workshop....”

A Principal land registration officer (RT2) offered a different response:

“.... I learnt of NLIMS project through Newspapers....”

It can be deduced from the foregoing finding that the ministry of lands employed various approaches towards creating awareness among staff and stakeholders with a view to publicize the NLIMS project. This is significant in achieving buy-in from key stakeholders in the project. The extent to which awareness is created and sensitization conducted among key people on a relatively new technology significantly determine the level of acceptance and uptake by the same.

This is in agreement with Gould *et al*⁸⁸² and Nickerson⁸⁸³ who opine that lack of user acceptance is a significant impediment to the success of new information systems. In fact, users are often unwilling to use information systems which, if used, would result in impressive performance gains. Therefore, as Davis⁸⁸⁴ puts across, user acceptance has been viewed as the pivotal factor in determining the success or failure of any information system project.

The study then sought respondent land registration and land administration officers' opinions on whether the Law in Kenya provides for electronic conveyancing (e-conveyancing), and if so, whether the same has been applied yet. In this regard, all respondent land registration and land administration officers but, Land Administration Officer (RT7) affirmed that indeed the Law in Kenya provides for e-conveyancing but it has not been applied yet.

A Chief Land Registration Officer (RT1) for instance affirmed that:

“.... Yes the Law in Kenya provides for e-conveyancing but it has not been applied yet....”

This was echoed by a Principal Land Administration Officer (RT2) arguing that:

“..... Indeed the law in Kenya provides for e-conveyancing but it has not been applied yet....”

⁸⁸²Gould, J., et al., “Awareness and Adoption of Information and Communication Technology among Secretarial Staff of Ladoke Akintola University of Technology.” Ogbomaso, Nigeria. *Social Science*, 2, 2014; pp. 57-59.

⁸⁸³ Nickerson, V., Australian undergraduates' use and ownership of emerging technologies: Implications and opportunities for creating engaging learning experiences for the next generations. *Australasian Journal of Educational Technology*, 23(2), 2012: pp. 171-186.

⁸⁸⁴ Davis, M. E., *Diffusion of Innovations* (5th ed.). In. New York: The Free Press, 2013.

The respondent added that:

“....The new land laws should be operationalized to effectively provide for e-conveyancing....”

A respondent land administration officer (RT7) however responded to the contrary, maintaining that:

“....the law in Kenya does not provide for e-conveyancing and the Land Act 2012 should be reviewed....”

The study further sought respondents’ opinions on what legal provisions should be reviewed to effectively provide for e-conveyancing in Kenya. To this end, RT1 states that:

“....the provisions of the Land Act and the Law of Contract Act that documents must be in writing and must be signed and sealed are the legal provisions that should be reviewed to effectively provide for e-conveyancing in Kenya....”

RT3 add that:

“....the legal provisions should be reviewed to effectively provide for e-conveyancing by allowing for digital contracts where work is done faster through electronic system to make it effective, accurate and faster....”

RT5 supported this assertion also proposing that:

“....legal provisions should be reviewed to effectively provide for e-conveyancing in Kenya include the Land Act 2012, Sectional Properties Act, Land Registration Act etc and other acts of parliament relating to evidence i.e. the Evidence Act....”

As such, going by a majority of the respondents, it can be deduced that whereas the law in Kenya provides for e-conveyancing, it has yet to be applied. It is imperative to have a functioning legal framework for e-conveyancing that would effectively address issues such as legal recognition of electronic/digital signature and formation of electronic contracts (affecting transactions both in public and private sector), electronic evidence,

dispute resolution civil and criminal offences, financial and banking sector law and regulation relating to electronic transfers and settlements and taxation of transfers.

A pro-active policy and regulatory framework is needed for effective e-conveyancing not only in synch with contemporary technological realities and dynamics, but also to guide the orderly development of the public sector in such a way as to ensure maximum developmental impact for the benefit of all Kenyans. The same also ought to be aligned with the New Constitutional dispensation in Kenya and Vision 2030 that seeks to transform our country into a leading information and knowledge hub of the region.

This is in agreement with Okon and Bassey, who concede that there is no doubt that the integration of ICT into the practice of law is of much benefit to the profession in Nigeria in the 21st Century.⁸⁸⁵ ICT is a remarkable tool for providing comprehensive, current and timely legal services to the citizenry. They continue that the relevance of ICT adoption and utilization in Nigerian legal system for effective and efficient service delivery is a contributory factor to sustainable development in Nigeria.

The finding is also in tandem with Attama and Owolabi, who offer that globalization driven by ICT is having a phenomenal impact on acquisition of legal, and other relevant learning, teaching and research materials in law libraries across the country.⁸⁸⁶ Through ICT, lawyers and students can have access to current court proceedings/cases and law

⁸⁸⁵Okon, E. A., & Bassey, A. B., "Availability and Utilization of Information and Communication Technology (ICT) in Nigerian Law Libraries for Sustainable Development." *H-Jolis* 2(1&2) (2014): pp. 141-152.

⁸⁸⁶Attama, R. O. & Owolabi, K.A., "Information and Communication Technology (ICT). Dynamics in Management and Governance in an emerging Democracy." *Nigerian Library Link* 6(1),2013: pp. 35-44.

reports anywhere, any time and in any form in the country. The study further sought to find out whether or not respondents would trust the use of e-conveyancing for transactions such as transfers, mortgages and leases. A majority of the respondents affirmed that they would trust of e-conveyancing for all the three transactions, that is, transfers, mortgages and leases.

Asked on the advantages of using e-conveyancing in Kenya, a majority of respondents cited Transparency, Efficiency, Accuracy and time saving. RT1 for instance stated that:

“....advantages of using e-conveyancing in Kenya would include Transparency, Efficiency, Accuracy and less time consuming as well as convenient service delivery to citizens, quick response to requests by customers and ease of access to information....”

RT2 also thinks that advantages of using e-conveyancing are Transparency, Efficiency, Accuracy and time saving; while RT6 added that the same is cheap. RT4 finds the advantages of using e-conveyancing are efficiency, time saving and faster completion of transactions.

The introduction of an electronic registration system should enhance the service delivery to customers as the total time from completing the offer to purchase to registration can be reduced. Each entity separately captures the same information in their own electronic systems. As a result, there is potential for faster registrations. Due to the electronic storing capabilities of an electronic conveyancing system, as well as the ability to send documents and images, the use of paper may be reduced or even eliminated. Banks and conveyancers could reduce the costs associated with the storage of paper documents, as the paper documents are currently necessary in court where legal disputes may arise.⁸⁸⁷

⁸⁸⁷Amadi-Echendu, et. al., "International E-Conveyancing Strategies: Lessons for South Africa." *Mediterranean Journal of Social Sciences* 5, no. 10 (2014): 237.

Electronic communication will make the entire process more transparent, as all parties that are linked to the transaction may have full sight of the progress of the application. An e-conveyancing system may enable the electronic payments of taxes and other payments related to the property transfer. Electronic notifications will inform the relevant parties of payments made or received. In addition, electronic money transfers between the buyer and seller may speed up the process.⁸⁸⁸

Accordingly, Azad and Faraj affirm that the key benefits of EC in Victoria are the removal of the inefficiencies for the current paper-based conveyancing systems,⁸⁸⁹ which include, reduced data entry and rework of paper transaction documents following lodgment refusal, reduced time to organize and attend settlement to exchange transaction documents, elimination of the need to attend and lodge transaction documents with Land Victoria, and reduced courier costs, lodgement fees and costs associated with bank cheques.

The finding agrees with Bujak et. al.,⁸⁹⁰ that using e-Conveyancing can provide clients with streamlined processes, greater transparency and improved client satisfaction. Similarly, Clark⁸⁹¹ observes that e-conveyancing is a secure, paperless, electronic, end-to-end, pre-sale to post-completion conveyancing process. It moves the procedures to

⁸⁸⁸ Amadi-Echendu, et. al., "International E-Conveyancing Strategies: Lessons for South Africa." *Mediterranean Journal of Social Sciences* 5, no. 10 (2014): 237.

⁸⁸⁹ Azad, B. and Faraj, S., 2014, "E-Government institutionalizing practices of a land registration mapping system." *Government Information Quarterly*, vol. 26, no. 1, pp. 5-14.

⁸⁹⁰ Bujak, A., et. al., *Lean management and operations in the global professional services industry. Globalization of professional services*, Springer. pp. 95-104.

⁸⁹¹ Clark, E. 2011. "E-conveyancing in Australia: An important step along the journey to E-government" [online]. *Journal of Law, Information and Science*, Vol 21, No 1, 2011, 2012.

electronic delivery via information exchange between key stakeholders, initially solicitors, lenders and the Land Registry.

Accenture Newsroom,⁸⁹² agree that when introduced, e-conveyancing can deliver a property transfer process that will be a world leader in efficiency, security and cost effectiveness. It has the capacity to streamline and modernize property transactions, delivering real and substantial benefits to a range of stakeholders including Government and consumers.

This finding is further in agreement with Heckl and Moormann,⁸⁹³ who offer that benefits to consumers can include reduced conveyancing transaction time, reduced costs due to a leaner and quicker system, reduced fraud due to built-in security checks with State agencies and reduced errors and delays due to all stakeholders being on the one platform. According to Low , e-conveyancing can also improve the transparency of the process with greater transaction traceability; reduce risk due to reduced gaps in the process and secure transfer of funds, meet the demand for electronic service delivery with speed and efficiency, and increase consumer confidence in the process with modernization, simplification and standardization.⁸⁹⁴

Respondents were further asked to indicate the extent to which in their opinions, e-government improves their work performance targets. A myriad of answers was

⁸⁹² Accenture Newsroom., National E-Conveyancing Development Ltd (NECDL) Signs Master Agreement with Accenture to Design and Build E-Conveyance Platform. 2011.

⁸⁹³ Heckl, D. and Moormann, J., "Operational Process Management in the Financial Services Industry." Doi: 10.4018/978-1-60566-669-3.ch023. 2010.

⁸⁹⁴ Low, R, "Maintaining the integrity of the Torrens system in a Digital environment: A comparative overview of the Safeguards used Within the Electronic Land Systems in Canada, New Zealand, United Kingdom and Singapore.," *Australian Property Law Journal* 155, 2015: p. 176.

established in this regard, a majority of whom responding to the affirmative while some pointing to the minimal extent to which e-government has improve their work performance targets.

According to RT1:

“.....e-government improves my work performance targets by ease of access of information, convenient service to customers, quick response to requests, Fast delivery of services, Data Security and confidentiality and Greater accountability....”

This was reiterated by RT3 who finds that e-government improves her work performance targets and simplifies work resulting in higher production and output; RT4 who pointed out that e-government improves his work performance targets through quick delivery of service. RT5 further offered that that e-government improves her work performance through less handling of paper work thus taking less time to deal with documents, will address issue of corrupt transactions and fraudulent transactions, enhanced confidence in handling land transactions.

On the contrary however, RT2 states that e-government has not really taken root. It is yet to be used on a daily basis, but where it is being used to a good extent improves work performance targets.

The finding is in agreement with Louwman, who observes that a fully functioning national e-conveyancing system will speed up the process, reduce administrative burden, reduce cost and deliver better service to the public.⁸⁹⁵ This is also in tandem with Jurisch

⁸⁹⁵Louwman, W, “E-Conveyancing in the Netherlands.” Chief Registrar of the Land register Cadastre and Mapping Agency. 2011. Retrieved on July 21, 2016, from <http://www.landregistry.ie/uploadedfiles/conference20071/papers/s3p5.pdf>

et al, who argues that key drivers for change can be characterized into a number of different areas,⁸⁹⁶ enhanced service for customers, enhanced consumer protection, improvements in process efficiency, security and risk reduction. It also reduces fraud and money laundering risk and facilitates payment of property related charges to the state, normalizes the use of e-signatures, and modernization of the conveyancing and property related processes.

As Jenkins et al, observe, the implementation of standardization enforced by the electronic system will reduce the risk of errors occurring in the process thus eliminating delay. In particular errors in applications for registration will be reduced.⁸⁹⁷ Jenkins et al, further acknowledge that currently the main reason for delay in a standard residential conveyancing transaction is waiting for title documents from the lender.⁸⁹⁸ These inefficiencies, he argued, will be removed with the introduction of the electronic process. Use of electronic funds transfer in real time with same day value will be a considerable benefit to the consumer who currently has to wait three to five days for cheques to clear before the transaction can proceed.

Accordingly, Christiaan argues that e-conveyancing has the potential to reduce this transaction time to five working days.⁸⁹⁹ This can be done by reducing the time for transmission of paper from one location to another and often back again. Some manual

⁸⁹⁶Jurisch, M. C., et al., "An integrative model of IT-enabled business process change: Causal structures in theory, research and practice." *System Science (HICSS)*, 2012 45th Hawaii International Conference on, 4297-4306. 2012.

⁸⁹⁷Jenkins, D.P. et al., "Investigation of the Emerging Patterns of Zulu Land Tenure and the Implications for the Establishment of Effective Land Information and Administrative Systems as a Base for Development." Project Report, H.S.R.C., 2013.

⁸⁹⁸ *Ibid.*

⁸⁹⁹Christiaan, L, *A Domain Model for Land Administration*. PhD thesis. Netherlands Geodetic Commission, 2012.

processes can be removed and others replaced with electronic communication. This provides the opportunity to deliver a more efficient and effective service to all those engaged in the property market. The aim is to provide a system whereby a person could agree to buy a property on a Monday morning and be the registered owner by Friday afternoon.

Another benefit to e-customers is reduced costs. According to Williamson et al,⁹⁰⁰ the paper based process contains hidden costs such as the cost of taking up title deeds from the lender or courier costs for transporting paper documentation. Williamson et al,⁹⁰¹ add that often the consumer has difficulty distinguishing these costs from the professional fee being charged.

According to Stolk and Lemmen, e-conveyancing provides an opportunity to eliminate or reduce many of these hidden costs.⁹⁰² Consumers will also directly benefit from reduced search and registration fees as a result of the mandate to incentivize electronic delivery through reduced fees. At UN-ECE it was found that other costs will no longer apply such as the cost of reconstructing title as there will be no paper title documents that can be lost.⁹⁰³ A more efficient, streamlined conveyancing process will also reduce the costs inherent in paper processes which contain duplicate activities. Consumers would only need to provide information once for it to be accessible to all stakeholders in the system.

⁹⁰⁰Williamson, I., et. al., *Land Administration for Sustainable Development*. ESRI Press Academic, Redlands, California, 2010.

⁹⁰¹*Ibid*.

⁹⁰²Stolk P and Lemmen C., "Technical Aspects of Electronics Conveyancing." TS5 e-Government Aspects of Land, *2nd FIG Regional Conference*, Marakech, Morocco, 2013.

⁹⁰³ UN-ECE Study on Key Aspects of Land Registration and Cadastral Legislation. London, UN ECE Working Party on Land Administration, 2010.

Louwman, reports that e-conveyancing leads to improved transparency of the process. In implementing a transformation agenda there is the opportunity to improve process transparency.⁹⁰⁴ By removing delays and inefficiencies and incorporating greater transaction traceability, e-conveyancing provides the opportunity to deliver a fast, transparent and predictable conveyancing service for the benefit of consumers. The improved collaboration between stakeholders via the e-conveyancing system will also provide increased transparency to consumers.

Lemmen *et al*, maintains that e-conveyancing reduces risk. The gap between closing and registration will be compressed so that there is less potential for an intervening interest to be registered ahead of the purchasers or lenders.⁹⁰⁵ This reduces risk in the process. As the electronic signature system, which will be introduced to facilitate e-conveyancing, will be linked to the conveyancers database, consumers also have the confidence of knowing that their advisor is on the roll of solicitors and has professional indemnity insurance.

E-conveyancing helps address the demand for electronic service delivery. As Locke opines, consumers seek electronic service delivery across all areas of work and life.⁹⁰⁶ Older, traditional, paper based processes are not immune from this demand. Much communication is currently done by snail mail but this is not efficient and timely and is limited in its application. While the process continues to rely on paper title documents

⁹⁰⁴ Louwman, W., Future electronic registration of deeds in the Netherlands. Conference of Land Registrars, Dublin, FIG OICRF, 2012.

⁹⁰⁵ Lemmen, C. et al., e-Land Administration: An International Seminar in Innsbruck. TS5 - e-Land Administration and e-Government: 3rd FIG Regional Conference, Jakarta, Indonesia, 2014.

⁹⁰⁶ Locke, C., "Defining the service: e-Conveyancing." HM Land Registry, 2014.

and paper applications for registration, delay is an inevitable feature of the operation of the property market.

According to van der Molen, e-conveyancing increases consumer confidence in the process.⁹⁰⁷ Modernization, simplification, standardization and reform will improve consumer confidence and satisfaction in the conveyancing and registration process. The current process is not designed to deal with the expectations of 21st century consumers as well as the increased volume and diversity of transaction and market expectations for speed and transparency. Reform of the process will provide a platform to re-invigorate the property market by providing an improved service to buyers, sellers, state agencies and providers of finance.⁹⁰⁸

According to Meadows and Richardson, to the government, e-conveyancing will assist in delivering developmental strategies by providing a reduction in the administrative burden for citizens and businesses.⁹⁰⁹ This include implementing digital delivery of applications for registration, ensuring greater interoperability of government services, facilitating increased data sharing in relation to the property sector, providing an electronic collaboration tool to empower citizens and businesses. It will further assist on implementing business process improvements which deliver gains to all stakeholders in the conveyancing process.

⁹⁰⁷Van der Molen, P., "Six Proven Models for Change." *FIG Working Week and 125th Anniversary of FIG*, 13-17 April, Paris, OICRF, 2013.

⁹⁰⁸Murray, Peter L. "Real Estate Conveyancing in 5 European Union Member States: A Comparative Study." *August* 31 (2007): 2007.

⁹⁰⁹ Meadows J and Richardson J., Visit and Discussion on 22nd July. London, HM Land Registry, 2015.

The study also sought to find out challenges respondents faced when using electronic mode of preparation of leases. A diversity of challenges were established in this regard with a majority of respondents citing security issues, network instability, that insufficient power supply, forgeries and cyber manipulation as well as inadequate infrastructure.

RT1 for instance complained that:

“.... Key challenges faced here include security of the data and network not being stable at times....”

Similarly, according to RT3:

“.... There is insufficient power supply at times electricity disconnects and Network congestion, low voltage due to many users are the challenges....”

RT4 on the other hand complains of forgeries and cyber manipulation challenges when using electronic mode of preparation of leases while RT5 experiences lack of equipment's, delay as the record/files are manually kept and system failure. RT6 adds that merging the electronic movement to the physical movement of files because the system is partly automated is the challenge experienced when using electronic mode of lease preparation while RT7 says that he experiences power and system failure when using electronic mode of lease preparation.

E-registration could be embraced with both hands but for the fact that there are a number of challenges for its implementation. Some of these challenges include technical infrastructure consideration which would allow stakeholders including the public access the registry without compromising its security.

As Karim *et al*, have indicated the main challenge in e-registration is the problem of identifying parties to transactions and the authentication of documents.⁹¹⁰ They state that an electronic system might be more vulnerable to hackers and electronic fraud or disruption. It can be argued that these challenges are inherent in any electronic system but it does not stop people transacting on e.g. the stock market. In Botswana, another challenge is with respect to the legal framework which in its current form does not allow the submission of e-documents.

The finding agrees with Molen and Wubbewho found that for the vast majority of citizens,⁹¹¹ the purchase of a property for residential purposes represents the single most significant financial transaction that they will undertake as individuals during their lifetime. While many of the transactions conducted are relatively straightforward, the overall process is perceived as being complex, inefficient and costly, due in to the quantity of documentation required, the diversity of sources from which the information must be obtained and the number of stakeholders routinely involved.

Asked on whether in their opinions e-conveyancing will reduce cases of fraudulent transactions on land in Kenya, all the respondent land registration and administration officers responded in the affirmative:

⁹¹⁰Karim, N. S. A., et. al., "Electronic Land Administration System in Malaysia: A Proposed Review from ICT and Legal Perspectives." *Paper presented at the International Symposium in Information Technology (ITSim)*, 2010 Kuala Lumpur, 2010.

⁹¹¹Molen, P. V. D. & Wubbe, M., "e-Government and e-Land Administration as an Example: The Netherlands." *Paper presented at the 6th FIG Regional Conference, San Jose, Costa Rica. 12-15 November, 2014.*

As RT1 puts it:

“....e-conveyancing will reduce cases of fraudulent transactions on land in Kenya. Because gradually there will be need for linkages with other departments of registration for example the registrar of persons and Kenya Revenue Authority for verification of PIN certificate and other personal details....”

RT2 agrees that e-conveyancing will reduce cases of fraudulent transactions on land in Kenya, because it would be difficult to introduce parallel or duplicate records while RT3 also thinks e-conveyancing will reduce cases of fraudulent transactions on land in Kenya. According to RT4, e-conveyancing will to a limited extent reduce cases of fraudulent transactions on land in Kenya.

RT5 asserted that:

“....e-conveyancing will reduce cases of fraudulent transactions on land in Kenya....”

RT6 agreed that:

“....e-conveyancing will absolutely reduce cases of fraudulent transactions on land in Kenya....”

Equally positive, RT7 provided that in his opinion:

“....e-conveyancing will reduce cases of fraudulent transactions on land in Kenya....”

The electronic systems used to conduct commercial transactions are changing rapidly, and considerable effort is being put into ensuring the security of digital transmissions which represent monetary value. The opportunities for fraud are, however, substantial. The solution to electronic fraud will ultimately involve the adoption of a range of strategies both technological and strategic in which close cooperation will exist between

all those involved in providing and using systems. This includes telecommunications carriers and service providers, financial institutions, corporations, and individual users.

Protecting and educating the targets of fraud is a crucial part of the prevention equation. It involves imparting knowledge and information that will permit the identification of problems immediately they arise as well as a mechanism for keeping new information flowing, at both an individual and organizational level. This goes hand in hand with a fraud control policy. Limiting opportunities by making the crime more difficult to commit brings in the other side of the prevention equation, fraud control policies, computer usage monitoring, policing anomalies, corporate governance and professional regulatory procedures. The technologies of crime prevention are also of fundamental importance here.

This agrees with Hammond, who provides that use of secure and efficient electronic funds transfer leads to reduced fraud.⁹¹² As loan funds are held in a central secure repository the opportunity for fraud is reduced. This will remove the risk of such funds being dealt with dishonestly. Low, adds that purchasers and lenders can be sure that the funds will be correctly applied to the purchase and charge of the agreed property while vendors will have the security of knowing that their mortgage will be paid off immediately on closing of the transaction.⁹¹³

⁹¹²Hammond, C., "The abolition of the duplicate certificate of title and its potential effect on fraudulent claims over Torrens land." 8 *Australian Journal of Property Law* 115, 2011.

⁹¹³ Low, R., "Opportunities for fraud in the proposed Australian National Electronic Conveyancing System: Fact or Fiction?" *Murdoch University Electronic Journal of Law* 13 (2), 2013:pp 225-253.

Matthew, observed that the risks of identity-related fraud associated with electronic conveyancing are great.⁹¹⁴ Stating that the most sophisticated security systems that protect data as they are transmitted electronically across telephone lines or via satellites are of little protection if someone simply adopts a false identity, perpetrates a fraud and then is unable to be located by the police. As asserted by Geoff, risks might arise with the use of external contractors.⁹¹⁵ As one moves toward the implementation of on-line conveyancing, they will need to rely heavily on contractors to develop, install and monitor new systems. Those individuals will have a detailed knowledge of the new systems and how to manipulate them. As such they may be subject to temptations to act illegally, particularly if disputes develop during the period of the contract.

Low, observes that most fraud in the twenty- first century is sophisticated in planning and execution and as such, fraud prevention also needs to be sophisticated.⁹¹⁶ Some aspects of fraud prevention may involve us in taking basic measures to protect ourselves, such as by using the security measures that modern computing technologies have to offer in a sensible and thoughtful way. Other target hardening measures may require elaborate and complex planning in order to thwart the efforts of fraudsters fully trained in the operation and management of electronic business systems.

According to Low, managers also need to take personal responsibility for dealing with fraud and for reporting it to the authorities.⁹¹⁷ This will not only help to inculcate an

⁹¹⁴ Matthew Bransgrove., "Mortgage Law: What can solicitors do to reduce mortgage fraud?" *New South Wales Law Society Journal*, November 2014: p.52.

⁹¹⁵ Geoff D., "Warning on Counterfeit Certificates of Title." President, *Law Society of New South Wales* 10 January 2007.

⁹¹⁶ Low, R., "Opportunities for fraud in the proposed Australian National Electronic Conveyancing System: Fact or Fiction? *Murdoch University Electronic Journal of Law* 13 (2) 2006:pp 225-253.

⁹¹⁷ Ibid.

environment of honesty and openness within an organization, but will enhance deterrent effects for other staff and enable the public generally to understand new areas of risk and security weaknesses. Bransgrove, notes that sweeping fraud under the carpet by dismissing untrustworthy employees, compounds the problem and creates an atmosphere of complacency within organizations.⁹¹⁸ At every available opportunity, a culture of compliance needs to be reinforced.

In the end, as pointed out by O'Connor, fraud prevention and control require the concerted efforts of individuals working both within the public and private sectors who make use of the most up-to-date and effective fraud control technologies.⁹¹⁹ When all else fails, an efficient legal system must also exist to detect, investigate, adjudicate, and sanction those who seek to obtain funds dishonestly.

Lemmen et. al., concedes that the challenge for the years to come lies in understanding how new forms of fraud are perpetrated and ensuring that those charged with preventing and dealing with fraud have adequate resources to do their work.⁹²⁰ Although the systems being introduced to facilitate electronic land transactions will entail efficiencies, they will also create new opportunities for crime. As in most areas of crime control, it is better to allocate resources in preventing crime than in seeking to deal with the consequences after the problem has arisen.

⁹¹⁸ Bransgrove, M., "Indefeasibility of Mortgage Title and Exceptions to It: A Paper presented for The Continuing Professional Education Department of the College of Law, November 2013.

⁹¹⁹ O'Connor, P., "Double Indemnity: Title Insurance and the Torrens System" (QUT Law & Justice Journal) Vol 3 No 1 2013.

⁹²⁰ Lemmen, C., et al., "e-Land Administration." *An International Seminar in Innsbruck. TS5 – e-Land Administration and e-Government: 3rd FIG Regional Conference, Jakarta, Indonesia.* 2014.

Sandberg, identified two main types of legal issues.⁹²¹ First, putting a signature onto a contractual document has clear legal consequences. This can obviously pose problems for electronic documents and signatures, and there may also be requirements before a document may be used in evidence. Secondly, a third party could steal private key information to fraudulently sign documents.

With regards to the first point, there are three main strategies hackers may use to steal client information: the certification or encryption algorithm is defective, allowing fraudsters to impersonate the signer. A fraudster is able to substitute his or her own version of encryption software known as Trojan horse attack. The private key of a CA or trader is compromised.⁹²² If stored onto hard-disk, it should be protected by a password, but since this password must be memorable, it will usually be the weakest link in security.⁹²³

Fraud within the conveyancing and mortgage industries is becoming an increasingly serious issue for conveyancers in all jurisdictions in Australia. Although conveyancing processes and procedures may differ from State to State, any system of conveyancing that is based upon the registration of title and mortgage documents is inherently susceptible to fraud. Recent national statistics indicate that 21% of all serious fraud offences committed in Australia and New Zealand involve mortgage fraud.⁹²⁴

⁹²¹Sandberg H., "Real Estate E- Conveyancing: Vision And Risks." *Information and Communication Technology Law* 101, 2010.

⁹²²*Ibid.*

⁹²³Roberts, W, et. al., "Transparent Emergency Data Destruction." In *International Conference on Information Warfare and Security*, Academic Conferences International Limited, 2010: p. 271.

⁹²⁴Crundwell, R., et. al., "From Parchments to Passwords: A History of the Land Titles Office of New South Wales" Hale & Iremonger, 2015.

There has also been a dramatic increase in the use of false and forged documentation and fictitious identities in carrying out mortgage fraud against lenders.⁹²⁵ This rise in fraud in the mortgage industry has important implications for conveyancers, particularly in circumstances where the conveyancer is unwittingly involved in a fraudulent transaction. Recent cases in Queensland and New South Wales involving forged signatures on mortgage documents highlight the need for conveyancers acting for borrowers to take special care to identify their client and also to examine the authenticity of title and mortgage documentation involved in the transaction.⁹²⁶

Literature further reveals that the risks, the data and processes of e-conveyancing would be exposed to can be grouped under the following five categories: Integrity⁹²⁷ where the e-conveyancing service must ensure the integrity of data and messages against accidental or deliberate malicious alteration from the point at which they are sent by the originator to the point at which they are received. Integrity of the service must be demonstrable such that any changes to any data or message between the sender and the recipient can be identified.

The e-conveyancing service must be capable of identifying and authenticating the buyers' and sellers' conveyancers (there may be several users on each side,), each party's lender(s), other Government departments with interfaces to the service, individual conveyancers, Land Registry staff and anyone else authorized to have

⁹²⁵ Phillip Cornford, The Sydney Morning Herald "Gold Bars just a whisker from crooks' grasp, 22 July 2011.

⁹²⁶ Des Mooney., General Manager, Land and Property Information NSW, Circular No. 2013/55, "Counterfeit Certificates of Title", March 2013.

⁹²⁷ Pariyar, M. P., e-Government Initiatives in Nepal: Challenges and Opportunities. Paper presented at the 1st international conference on Theory and practice of electronic governance, Macao, China., Macao, China, 10-13 December, 2012.

access to the service.⁹²⁸ The service must ensure the integrity, authentication and non-repudiation of data and information exchanged, after any agreed alterations between the parties. No party using any part of the e-Conveyancing service must be able to deny that they had sent or received any document(s), message(s) or data that had been sent or received.⁹²⁹

A comprehensive audit trail of all activities that take place within the e-conveyancing service are required.⁹³⁰ The e-conveyancing service must provide assurances that privacy is maintained in the documents, data, messages and information exchanged via the component services between users and any ancillary parties such as lenders and clients.⁹³¹ It must be capable of ensuring that unauthorized persons cannot read a document even if they gain access to it.

In view of the common knowledge that land reform has been taking place since the Constitution of Kenya 2010 came into force, the study sought respondents' opinions on whether or not these reforms have addressed National Land Information Management System (NLIMS). All the respondent land registration and administration officers responded in the affirmative.

⁹²⁸Paul, T. J., "Beyond Section 508: The Spectrum of Legal Requirements for Accessible e-Government Web Sites in the United States." *Journal of Government Information*, 30 (4), 2014: pp. 518-533.

⁹²⁹Royce, W. W., "Managing the Development of Large Software Systems: Concepts and Techniques." *Paper presented at the Proceedings of the 9th International Conference on Software Engineering, IEEE Computer Society Press, Monterey, California, United States*, 2 April, 2012: pp. 328-338.

⁹³⁰West, D. M., "e-government and the Transformation of Service Delivery and Citizen Attitudes." *Public Administration Review*, 64(1), 2014: pp. 15-27.

⁹³¹Voon, J. & Chae, M., "Varying Criticality of Key Success Factors of National e-Strategy Along the Status of Economic Development of Nations." *Government Information Quarterly*, 26(1), 2013: pp. 25-34.

The National Land Commission Act provides for the establishment of a nationwide National Land Information Management System (NLIMS), at both national and county levels of government to help streamline operations and management of land in the country. This system is expected to guarantee security of land rights and support transparent and cost effective administration of land. It will also support provision of access to (land) information as a fundamental right of every citizen.⁹³²

There is need therefore, to develop guidelines to support all the efforts towards integration of systems so that the resultant systems can integrate and thereby reduce or eliminate duplication of efforts and help support cooperation and collaboration in the management of land resources, and reduce unnecessary expenditure. The National Land Policy (NLP) specifies the establishment of guidelines on land information for governing land matters.⁹³³

The study probed to determine what challenges face the implementation of NLIMS projects. It emerged to this end that a number of challenges indeed face the implementation of NLIMS projects such as inadequate personnel, poor infrastructure including Network and Power supply, lack of political goodwill, lack of funds, as well as lack of proper coordination and cooperation.

RT1 for instance observed that:

“....on the challenges facing implementation of NLIMS projects views are lack of trained personnel in information management by electronic means, Network is not stable and experience more down times, insufficient computer equipment such as scanners and computers and Power supply in some areas is irregular....”

⁹³² Constitution of Kenya 2010. art. 35, art. 60 (1) (b), art. 60 (1) (d).

⁹³³ National Land Policy (NLP) in section 163 (c).

RT2 views lack of resources specifically funds and lack of political goodwill as the challenges facing implementation of NLIMS projects, which as supported by RT3 who argued that other lack of sufficient financial support, training of staff, and resistance to change from the staff.

Further, RT5 cited:

“....lack of adequate funds, lack of equipment, lack of enough personnel (as the officers are few and thus delays), system failure, manual records which are old thus making scanning difficult and slow, missing and lost documents and lack of skilled personnel....”

While RT6 cited:

“....insufficient funding, fear of the unknown, lack of proper coordination, no cooperation, operation in silos and lack of data standardization”

The programme has a major ICT component. So, the successful development and operation of new and modified ICT-based systems and services is at the heart of the achievement of the vision. It is also important to ensure that all such technical solutions envisaged will be viable and will be successfully developed, implemented and operated.

So, it is imperative to ensure that the land Registry in consultation with the stakeholders and other external bodies manage or facilitate the preparation of specification, design, development and implementation of all new and modified ICT-based systems and services; and that programme authority for all technical issues in the programme are established and made operational. It is also necessary to ensure that the ICT systems and services involved will include those developed especially for e-conveyancing and those currently in use which will require modification; and to ensure that systems and services which are within Land Registry, under the control of Land registry itself, external

contractors and service providers of Land Registry/Kadaster and systems which are within stakeholder organisations are included for design, development and implementation.

It is key to also ensure that all such systems and services are integrated into a coherent technical structure that will support the objectives of the programme and also ensure that all such systems and services are subjected to the technical requirements and constraints laid down by the programme.

Respondents were further asked to cite what statutory provisions should in their opinions be put in place to enable NLIMS project achieve its objectives. Various perspectives were given in this regard including that NLIMS should be provided for in the land laws clearly stating whose role it is to digitize; that Cybercrime legislation should be put in place to enable NLIMS project in Kenya; that Land Registration Act, The Land Act and the Survey Act are the statutes that ought to be reviewed to enable NLIMS project achieve its objectives; and that an NLIMS Act should be put in place to enable e-conveyancing in Kenya.

It is important to ensure that the land transactions done through e-Conveyancing system are legally acceptable. So, ensure that all the statutory rules, which will be required in order to permit the lawful operation of an electronic conveyancing system, are in place at the appropriate time; and ensure that the system, as it is developed, is legally fit for purpose. The opportunity of bringing in massive changes like introduction of e-Conveyancing should be effectively utilized for the cleaning up of the overall system for the common benefit of the society.

To this end, the National Land Commission did in January 2016 hold a validation workshop with a view to validate the Standards and Guidelines meant to help in a number of ways: first, they will help in realizing seamless integration of all applications and components that are being developed to support land administration and management functions by various entities.

Secondly, they will define a uniform and generally understood lingua on NLIMS, helping in demystifying the whole business of NLIMS and thus allowing Kenyans in general understand this system and what the stakeholders in the sector conduct their business.

Thirdly, with this improved understanding, it will be easier from a developer's perspective to develop applications for the land sectors, which will in turn feed into the Government strategy of enhancing ease of conducting business in the country, given the primary role that land plays in the production of goods and services.”

Therefore, the adoption of standards and guidelines for NLIMS will help each institution; stakeholder and interested party develop components that at the end of the day will be supportive of an integrated National Land Information Management System, and to an extent the Kenya National Spatial Data Infrastructure (KNSDI) aspiration.

The National Land Policy specifies the establishment of guidelines on land information for governing land matters. These national guidelines on land information (standards, security, dissemination, pricing) as envisaged in the policy have not yet been developed.⁹³⁴

⁹³⁴ National Land Policy (NLP) Section 163 (c).

As West points out e-conveyancing assists in implementing Public Service Reforms.⁹³⁵

This will be done by delivering a new and innovative service-delivery channel between government and business. E-conveyancing can also improve information sharing across the public service, reduce transaction costs, rationalize ICT infrastructure relating to property ownership and transfer, streamline administrative operations, enhance government property asset management, eliminate duplication through business process improvements and implement a shared service model within the property sector.

The study further sought respondents' suggestions on the NLIMS implementation strategy. A number of suggestions were made to this end including that other stakeholders should be co-opted for example department of registration of persons and Kenya Revenue Authority for verification of personal details; creation of stable Database to ensure security and safety of information; limitation of access of information to a few persons so that only a few authorized persons are allowed to make key alterations; adequate training of all persons involved with implementation of the project; increase in budgetary allocation by the Government for purchase of necessary equipment and adequate internet back-up.

RT2 suggested that:

“....NLIMS implementation strategy should entrench NLIMS in law..... There is need for a clear roadmap on how and who should do it, give a timeframe on completion date and thereafter regular update of all land transactions in the system....”

⁹³⁵ West, D. M., “e-Government and the Transformation of Service Delivery and Citizen Attitudes.” *Public Administration Review*, 64(1), 2014: pp.15-27.

According to RT3:

“....Though there might be some resistance to NLIMS, implementation is vital....”

RT4 suggests that:

“....improving on transparency and accuracy would enable NLIMS implementation....”

RT6 suggested:

“....integration and cooperation of all key players, both of private and public sector in the NLIMS implementation strategy....”

In this regard, the National Land Commission⁹³⁶ with a view to validate the standards and guidelines for the development of the NLIMS. The theme of the event was Embracing Stakeholders’ participation for an NLIMS that serves Kenyans.

In his key note speech, The National Land Commission Chairman, Prof Swazuri, focused on elaborating what the Commission has interpreted to be its role in transforming the land sector, through the implementation, management and maintenance of a Land Information Management System (LIMS) at both national and county levels of Government.

He indicated that the purpose of NLIMS from a theoretical standpoint is a system that comprises of subsystems that would support all processes usually encountered in land administration and management including but not limited to guaranteeing land tenure rights, documenting responsibilities, restrictions and risks, valuation and taxation,

⁹³⁶ National Land Commission organized a two day workshop from 27th – 28th January 2016.

property registration and land use regulation in relation to a particular parcel of land (plot). He also indicated that this system should be able to plug in to the 'One source of Truth' initiative being spearheaded by the Information and Communication Technology Authority (ICTA) on behalf of the national government.

It is important to ensure that stakeholders in e-Conveyancing co-operate on its introduction and operation, and that all formal and informal relationships are managed successfully. So, ensure that the relationships between Land Registry and other bodies are managed through Network Access Agreements, Licenses, Service Agreements and other formal instruments.

There is need to also ensure that the Land Registry, in its role as manager of the programme, maintain contact with stakeholders to their involvement, ensure that all the stakeholders have been clearly explained and "bought in" to the vision of e-Conveyancing; as well as to ensure that they continue to co-operate in its implementation and in the achievement of all the necessary business change.

It is also imperative to ensure that the stakeholders are informed regularly of all developments and given opportunities to input their requirements and concerns to Land Registry; and that a structured relationship is managed with external bodies to involve them as necessary in decisions on the design, development, and operation of the new services.

Further, there is need to ensure that the relationships with professional bodies enable Land Registry to meet its legal obligations; and ensure that the necessary external

services and facilities like service from IT industry are available as required for the design, development and operations of the new services.

The foregoing finding agrees with a myriad of suggestions for successful e-conveyancing in literature. These are as follows: Government Sponsorship:⁹³⁷ Active involvement of the Government, both from a regulatory (ensuring that there is a legal basis in place to support electronic documents) and ownership of the project from a national perspective, are critical to the project's success. There are further dependencies on a large number of public sector organizations to support the delivery of a national e-conveyancing system.

Once a national e-conveyancing system is in place, there needs to be a transitioning from the antiquated paper based system to the new national e-conveyancing system.⁹³⁸ It is not tenable to expect lenders to support dual processes (a manual paper based system and a new electronic e-conveyancing system). Running a dual system is not feasible hence there must be a time bound mandatory transition to use of the national e-conveyancing system.

All of the necessary documentation required for good marketable title will need to be accessible on line or be available in an electronic format.⁹³⁹ This will require investment and process changes in stakeholder organizations.

⁹³⁷Zang, T.-M., et. al., "The Boundaries of Information Sharing and Integration: A Case Study of Taiwan e-Government." *Government Information Quarterly*, 29, Supplement 1(0), S51-S60, 2012.

⁹³⁸Zakareya, E., & Zahir, I., "e-government Adoption: Architecture and Barriers." *Business Process Management Journal*, 11(5), 2015: pp. 589-611.

⁹³⁹Zevenbergen, J. A., et. al., "Cadastral Information : More than Base Data." *Paper presented at the Core spatial data : NCG seminar on the occasion of the 25th year jubilee of Mathias J.P.M. Lemmens* TU Delft, 2013.

Certification of Title,⁹⁴⁰ Lenders are concerned about any proposals to remove Certificates of Title and any revision in the definitions of what constitutes good marketable title must be carefully addressed. It is important that all parties to the transaction are protected and that there are no unintended risks or consequences for any party arising from the introduction of the national e-conveyancing system. A well designed inclusive system can mitigate risk for all parties.

There are cost implications for all parties both public and private sector in preparing their own organizations for integration into a new national e-conveyancing system.⁹⁴¹ Financial institutions should be prepared to make the required investment subject to reaching agreement on a structure and a timeframe for rolling out a fully functioning national e-conveyancing system. They are agreeable to making a proportionate contribution along with all other stakeholders towards the cost of implementing a national e-conveyancing system subject to involvement of all stakeholders in preparing and agreeing the allocation of costs.

Lenders believe that the ICT systems underpinning the e-conveyancing should be procured by way of public procurement led and owned by Government.⁹⁴² This provides a greater guarantee of the integrity and regulation of the system, i.e. the process, the system itself, the funds involved and the legal framework. All of the

⁹⁴⁰Thomas, P., "Bhoomi, Gyan Ganga, e-Governance and the Right to Information: ICTs and Development in India." *Telematics and Informatics*, 26(1), 2009: pp.20-31.

⁹⁴¹Thapa, D., "The Role of ICT Actors and Networks in Development: The Case Study of a Wireless Project in Nepal." *Electronic Journal on Information Systems in Developing Countries*, 49(1), 2011: pp.1-16.

⁹⁴²Dangol, Susheel. *E-government Based Land Information System Architecture: A Case of Nepal*. University of Twente Faculty of Geo-Information and Earth Observation (ITC), 2012.

parties to the system, public and private sector, should be involved from the outset to ensure a joined up approach to the design, development and integration of the system.

In Australia, as reported by Reddick,⁹⁴³ from 2004 stakeholder consultation strategies have ranged from awareness raising to direct engagement with identified stakeholders to increase understanding of National Electronic Conveyancing. Specific strategies and tools include meetings, workshops, face-to-face briefings, newsletters, surveys and publication of issues papers⁴¹.

This has enabled policy makers in Australia to gain an understanding of the practicalities of National Electronic Conveyancing and its impact on government and industry as well as identifying potential compliance risks and other issues. The findings from stakeholder consultations and responses to issues papers provided input into a number of reports which has fed into the development of the development of National Electronic Conveyancing. A series of stakeholder consultation meetings reported by Papadomichelaki and Mentzas,⁹⁴⁴ sought comments regarding key differences in regulation of practitioners and conveyancing practice among jurisdictions, identification of current conveyancing processes in jurisdictions and future electronic conveyancing process. The current paper based conveyancing practices were compared in all jurisdictions (except Tasmania and ACT) and a list of key issues and challenges for an effective legal framework for National Electronic Conveyancing.

⁹⁴³Reddick, C. G. & Turner, M., "Channel Choice and Public Service Delivery in Canada: Comparing e-Government to Traditional Service Delivery." *Government Information Quarterly*, 29(1), 2012: pp. 1-11.

⁹⁴⁴Papadomichelaki, X. & Mentzas, G., "e-GovQual: A Multiple-item Scale for assessing e-Government Service Quality." *Government Information Quarterly*, 29(1), 2012: pp. 98-10.

The second consultation request sought comment on the draft statement of purpose and performance objectives for the National Electronic Conveyancing legal framework; and revised and expanded list of key issues and challenges of defining a legal framework for National Electronic Conveyancing.

The third consultation report focused on legal relationships which an ELNO has with government and other electronic conveyancing stakeholders. Comments were sought on: the statement of purpose and performance objects for the legal framework which was modified following comments on the Second Consultation Package; a top-down analysis of how the legal framework should operate through National Electronic Conveyancing enabling legislation; intergovernmental agreements and development of model rules and conditions which are to be imposed on ELNOs by each jurisdiction and supplemented by permitted jurisdictional requirements; and a framework-level description of the subject matter of the participation rules for the National Electronic Conveyancing legal framework.

The fourth consultation request focused on a range of issues relating to liability and compensation in the National Electronic Conveyancing program. Comments were sought on the: updated performance objectives for the risk management framework and the performance objectives relating to liability for the legal framework; liability positions of various electronic conveyancing stakeholders; general insurance issues; and attribution rule to work through fraud scenarios examining the liability of subscribers and certifiers for misuse of private keys to create digital signatures and misdirection of settlement monies were provided.

Separate to the consultation requests, a number of briefings as part of the wider stakeholder consultation program were conducted with the following stakeholders: Land Registry representatives; bank lender representatives; national project team members; State project team; liability insurers' representatives; and regulators of conveyancers and lawyers.⁹⁴⁵ As a result of the extensive consultation with stakeholders during development of the Report, stakeholder views were incorporated into the Report. The acceptability of the legal framework to National Electronic Conveyancing stakeholders has been tested throughout its stakeholder program.

In turn the legal framework for National Electronic Conveyancing that is implemented by the Electronic Conveyancing National Law is based largely on the Report and subsequent consultation. Areas where stakeholder views were adopted include, the specifics of the implementation of the participation agreement and participation rules. Specific implementation of the rules identified in the report has been directly attributable to stakeholder consultation undertaken throughout the project.

Two views were put concerning the obligations of parties to each other in a workspace. It was considered that the benefit of those obligations should be extended to Clients of the Subscribers but only to the Subscribers and Clients represented in the relevant workspace. Stakeholder feedback generally agreed with this proposed limitation.⁹⁴⁶ The diverse and often competing interests of stakeholders also led to conflicting views in some circumstances resulting in some views not being adopted.

⁹⁴⁵ *Ibid.*

⁹⁴⁶ *Ibid.*

Examples of this are: it was raised in stakeholder consultations whether there was a need for the establishment of a first resort separate compensation fund for Clients and registered proprietors who suffer losses in National Electronic Conveyancing. While several stakeholders supported a first resort compensation fund in principle others doubted it would work in practice. A strong attribution rule was proposed for digital signatures defining very limited circumstances where a subscriber could repudiate such a signature.

As Ivan et al, reported in Australia, by engaging proactively with stakeholders, both through the Australian Registrars' National Electronic Conveyancing Council (ARNECC)-initiated consultations and through consultations organized by others.⁹⁴⁷ ARNECC aims to achieve the best possible outcome for National Electronic Conveyancing by obtaining feedback on the potential impact of the proposed regulatory mechanisms that are applicable to National Electronic Conveyancing; benefiting from the expertise of stakeholders, notably in identifying and analyzing issues relating to the proposed regulatory mechanisms; providing opportunities for alternative approaches to any identified issues regarding the proposed regulatory mechanisms to be considered; and promoting understanding of the work of ARNECC and its role.

Further, the present doctoral candidate asked respondents to rate the various automation processes of the Ministry of Land in Kenya, on a scale of 1-5: where 1 =

⁹⁴⁷Ivan, G., et. al., "Towards e-Land Administration in Hungary." *Paper presented at the Facing the challenges - Building the Capacity, FIG Congress, 2010. Sydney, Australia, 11-16 April, 2010: 2011.*

Poor; 2 = Fair; 3 = Good; 4 = Very useful; and 5 = Excellent. Table 5.3 presents the findings.

Table 5.3: Descriptive Statistics for automation processes of the Ministry of Land in Kenya

Automation process	Mean	Std. Dev
Land Leases Production	3.754	.7460
Registration of Transfers/Charges at the Nairobi Registry	3.342	.7602
Settlement Fund Trustees/Billing System	3.851	.7538
Sapereon System (Scanned Titles)	3.332	.7826
LRCC Scanned Titles	3.816	.8974
D3 Registration System (Central Registry)	3.723	.8888
Composite Mean	3.636	

Source: Present Doctoral Candidate's Survey Data, 2016

At a composite mean of 3.636, it can be deduced that a majority of respondents rated most of the automation processes of the Ministry of Land in Kenya as either good or very useful. It follows then, from the finding, that overall, e-conveyancing has so far been adequate in among others including land leases production, registration of transfers or charges, billing, scanning as well as registration system.

Respondents were asked to indicate whether the NLIMS project has adequate budgetary provision, to which all respondent land registration and administration officers dissented all asserting that the NLIMS project does not have adequate budgetary provision.

Finally, respondents were asked to indicate whether the NLIMS project implementation have sufficient support by the National Government. Mixed responses were noted in this regard, with some respondents affirming, some dissenting while other indicating that the NLIMS project to some extent has support from the National Government though not sufficient.

RT1 offered that:

“...NLIMS project implementation does not have sufficient support by the National Government...”

This was supported by RT2. RT3 however responded in the affirmative, arguing that:

“...the NLIMS project has sufficient support by the National Government...”

This view was supported by both RT4 and RT5.

In a question administered to commissioners and directors of national land commission and administrators in the Ministry of Land, Housing and Urban Development and NLIMS Project Management, respondents were asked to indicate whether in their assessment, the National Land Information Management System (NLIMS) project has achieved the intended purpose.

All respondent administrators in the Ministry of Land, Housing and Urban Development, including a Land Administration Officer (RA1), an Economist (RA2), a Senior Assistant Commissioner of Lands (RA3) and a Senior Deputy Secretary (RA4) dissented arguing that the NLIMS project has not achieved the intended purpose.

According to RA1:

“...Failure of NLIMS is caused by lack of proper financing, capacity building and training of staff as well as large number of documents are not scanned...”

RA2 reiterated inadequate funding as what contributed to failure of NLIMS while RA3 said that:

“...all the staff members have not been involved in the implementation of NLIMS and this contributed its failure...”

RA4 noted that:

“....lack of inclusiveness and integration of all the key technical departments and lack of training on change management as well as basic ICT skills to all staff contributes to failure of NLIMS....”

Citing apathy, lack of goodwill and commitment on the part of the Ministry of Lands, shortage of funds and financial resources, resistance to change and low uptake of technology as contributing factors to failure of NLIMS, two commissioners, RC1 and RC3 hold that the NLIMS project has not achieved the intended purpose. A director at NLC (RC2) had the same view that the NLIMS project has not achieved the intended purpose. According to RC2, the GIS based component has not been done and the attribute data is yet to be verified and this is what has contributed to the failure of NLIMS.

As the NLIMS Reference Document⁹⁴⁸ points out, the overall objective of developing and implementation of the National Land Information Management System (NLIMS) is to establish quality Land management and administration system that facilitates efficient and effective service delivery in-line with the, the provisions of the Kenya Constitution-2010, Vision 2030 and the National Land Policy.

Further, the specific objectives include the following: establish the NLIMS institutional framework, develop and implement an integrated GIS based NLIMS, Safeguard and digitize existing land paper records in registries Country-wide, Establish a modern geodetic reference framework-KENREF, Develop and implement an online platform to

⁹⁴⁸NLIMS Reference Document: A Report on the Automation of all the Ministry's Land Records - A Reference Document towards the establishment of a GIS-based National Land Information Management System (NLIMS), August 2008.

facilitate access to land information, Undertake Capacity building for a sustainable NLIMS and Develop a monitoring and evaluation system for NLIMS.

Secondary sources reveal that the Ministry has so far registered good progress as a result of joint efforts between the Project on Improving Land Administration in Kenya (PILAK) through an implementation structure that has nine(9) components: Safeguarding Land Paper Records, Developing Business and IT Architecture, Modernizing the Geodetic Framework, Parcel Identification Reform, Develop Land Rent Collection system, Systematic Conversion to RLA Titles, Develop other Land Administration Systems, Public Awareness' and Capacity building.⁹⁴⁹

The study sought to find out what challenges face the implementation of National Land Information Management Systems in Kenya. To this end, RA1 reiterated the lack of proper financing, capacity building and training of staff as well as large number of documents are not scanned while RA2 cited inadequate funding and resistance to change by staff.

RA3 on the other hand found that unclear objectives of what to start with, most officers not being involved and consulted, records which are not clear and need to know what is to be captured (format and design of data), are the challenges facing the implementation of NLIMS in Kenya while RA4 said that the process is ICT Staff led rather than land technical staff led especially GIS experts, lack of consistency and clear roadmap and

⁹⁴⁹Project on Improving Land Administration in Kenya (PILAK) 2009 – 2012 under the Institutional Cooperation between Ministry of Lands, Kenya and Lantmateriet, Sweden, January 2010.

Leadership and resource allocation were the challenges facing implementation of NLIMS in Kenya.

Respondent administrators in the Ministry of Land, Housing and Urban Development and NLIMS Project Management were further asked to indicate whether there had been stakeholder consultation on user requirements for NLIMS or e-conveyancing. A majority of respondents, except RA3 affirmed that stakeholder consultation on user requirements had taken place.

Respondents were further asked to indicate the extent to which e-government improved their work performance, to which a majority affirmed that e-government had greatly improved their work performance to a great extent, some pointing out that it is now easier to work and give services faster to citizens. RA4 was however of the opinion that there is minimal improvement in relation to land services.

Respondent administrators in the Ministry of Land, Housing and Urban Development and NLIMS Project Management were then asked to make suggestions on the NLIMS implementation strategy.

RA2 suggested partnership with private sector on NLIMS implementation strategy while

RA3 suggested that:

“...NLIMS implementation strategy should involve all officers, each stage should involve staff in the section concerned, and Records should be verified and cleaned before digitization...”

RA4 on the other hand suggested:

“.....change management training and basic computer training and literacy eg ICDL, more involvement of the technical staff, the process ought to be headed by the survey department with relevant technical competency, and allocation of adequate resources and strict timelines would be strategies to achieve the NLIMS implementation....”

The Constitution of Kenya 2010 created the National Land Commission (NLC) and it has the statutory mandate to put in place a National Land Information Management System (e-conveyancing). In this light, respondent commissioners and directors of national land commission were asked to indicate whether or not NLC achieved its mandate of implementing NLIMS or e-conveyancing.

RC1 affirmed that NLC had achieved its mandate of implementing NLIMS, explaining that NLC started the NLIMS project in 2015 notwithstanding very minimal funding and a pilot launch done on 31st May 2016. RC2 was of the contrary opinion, arguing that NLC has not achieved its mandate of implementing NLIMS.

Because of funding-NLC has not been given enough funding to establish the system; and that governance – spatial data and attribute information has not been fully surrendered by the Ministry of Lands. RC3 agreed with RC1 that NLC has achieved its mandate of implementing NLIMS/e-conveyancing, explaining that NLC being a young institution has embarked on the process.

There have been many land reforms since the Constitution of Kenya 2010 came into force on 27/8/2010. In light of this, respondents were asked to indicate whether these reforms have addressed NLIMS, to which all respondent commissioners and directors affirmed.

RC1 was of the opinion that:

“...Land reforms have addressed NLIMS because the NLC has been given a statutory mandate to develop and maintain a National Land Information Management System both at the National and County levels NLC Act Section 5 (2) (d)...”

RC2 notes that:

“....the legal framework for land administration and legislation is in place. The Constitution also directed for harmonization of all the land laws....”

RC3 further affirmed that:

“....the land reforms have addressed NLIMS, by having a provision in the law for NLIMS to be developed, managed by the NLC. Operationalizing the same is the next hurdle but feels that NLC is on course....”

Asked to suggest solutions to mitigate the challenges faced during e-conveyancing/NLIMS implementation various suggestions were raised including that there is need for collaboration, consultation and cooperation in Data and information sharing from the various records (Registry, Survey, Land Administration, Planning, Adjudication and Settlement and NLC); adequate provision of funds to actualize NLIMS and e-conveyancing to; and that education and advocacy on the need of NLIMS and e-conveyancing to the general public, policy makers and politicians in order to get goodwill across the divide.

RC2 suggests that:

“....to mitigate the challenges faced during e-conveyancing/NLIMS implementation the big issue is about Governance. All institutions concerned with Land Administration and Management should participate in the development of the NLIMS. Also funding should be sufficient. Development of the NLIMS ought to be done progressively. Project approach should be reviewed....”

RC3 on the other hand suggested that:

“....e-education and awareness, financial resource provision and political goodwill are the solutions to the challenges faced during NLIMS implementation....”

Respondent ICT officers were asked to indicate the extent to which e-government improved their work performance. It was established that e-government has improved a

majority of respondent ICT officers' work performance by among others, providing working tools and facilitation and an office to work from; and making it convenient and easier by automating the running systems and providing a one-stop shop at Huduma Centers and e-citizen.

RICT3 offered that:

“....e-government improves her work performance to a great extent as many services are on-line. She informed the researcher that e-citizen platform for web based services which will integrate land services to link and currently official search forms have been uploaded which clients of the ministry can now access online, among other government services that are on the national e-citizen platform....”

Respondents were further asked to indicate whether the ICT Department in the Ministry of Land, have enough human resource to implement e-conveyancing; design and develop required software for e-Conveyancing; and to offer sufficient support to users of ICT in the Ministry of Land to which mixed results responses are reported.

RICT1 affirmed that:

“....the department has enough human resource to implement e-conveyancing; design and develop required software for e-conveyancing; offer sufficient support to users of ICT in the Ministry of Lands; and that the department has enough capacity for continuous maintenance of hardware and software in the Ministry....”

RICT2 dissented arguing that:

“....the ICT department in the Ministry of Lands does not have enough human resource to implement e-conveyancing, because the ICT department is currently facing staff shortage, and that the department is understaffed and does not have enough capacity to design and develop the required software for e-conveyancing; but has enough capacity to offer sufficient support to users in the Ministry; and human resource capacity for continuous maintenance of hardware and software....”

RICT3 on the other hand stated that:

“....there is a shortage of human resource in the Department of ICT to implement e-conveyancing; some expertise is required to design and develop the software for e-conveyancing; there is insufficient support to users of ICT in the Ministry of Lands; and that the department does not have enough capacity for continuous maintenance of hardware and software....”

RICT 4 added that:

“....the ICT Department has enough human resource to implement e-conveyancing; has capacity to design and develop required software for e-conveyancing; has capacity to offer support to users of ICT in the Ministry and for continuous maintenance of hardware and software in the Ministry of Lands....”

Respondents were further asked to indicate whether the Ministry of Land have the required hardware for e-conveyancing, to which all respondent ICT officers affirmed. Asked to suggest solutions to mitigate the financial, human resource, and other challenges to NLIMS implementation, a range of suggestions were made including the allocation of enough funds for NLIMS, doing good benchmarking and best practices; administration, participation and appreciation of officers; as well as contracting or outsourcing of system developers and engagement of users on system development process.

RICT2 proposed that:

“....increasing the number of qualified staff in the ICT Department, Training and Benchmarking with other countries where NLIMS has been implemented are the solutions to mitigate the financial, human resource and other challenges to NLIMS implementation....”

RICT3 suggested that:

“....more funds are required to ensure implementation of NLIMS, and Change Management to counteract the user resistance....”

RICT4 proposed that:

“....the government should allocate enough funds for the ICT Projects....”

Government need to have the necessary technologies adopted to provide the services considering the needs of citizens. Technology and IT infrastructures used to set up the e-Government system plays role in adoption of the system by the citizens: the user friendliness is meant here. If it is not user friendly then the users will not use the system. If the internet is very slow and citizens need to wait for a long time to get information then this obviously gives negative impact on the Perceived Usefulness (PU) and the Perceived Ease of Use (PEOU) and go for traditional system.⁹⁵⁰

Total coverage of telecommunication lines, digital database of all public data and national spatial data were identified as the most essential technical issues in e-Government.⁹⁵¹ e-Tanah, the web based LIS of Malaysia is a good example of technological development. Malaysia had different software for different applications in land administration.

As Cavvara, reports, a computerized land registration system was developed to automate registration system,⁹⁵² and a computerized land revenue system was developed to automate the collection process of land revenue and e-consent was to support the flow of applications and consents from different authority levels Those applications were not able

⁹⁵⁰ Lin, F., et. al., “Assessing Citizen Adoption of e-Government Initiatives in Gambia: A Validation of the Technology Acceptance Model in Information Systems Success.” *Government Information Quarterly*, 28(2), 2011: pp. 271-279.

⁹⁵¹ Ossko, A., “Cadastre, Land Administration Systems and e-Government.” *Paper presented at the Strategic Integration of Surveying Services, FIG Working Week 2007*. Hong Kong, May 13-17, 2007.

⁹⁵² Cavarra, D. D., *Architecture of Global Governance: A Case Study of e-Government in Jordan*: Lambert Academic Publishing AG & Co KG., 2010.

to share common information for interrelated tasks thus producing redundancy in data and process along with number of other disadvantages.

e-Tanah provides links and integration of all land administration processes.⁹⁵³ Further detail, Ossko, also addresses the necessity of clouding digital signature, e-document and e-conveyancing and necessary legal changes to include them to support e-Government.⁹⁵⁴ Obviously, e-Government does not mean only the government service delivery by computer but all other supporting processes should also in a computer based system. Ossko did not talk about an e-payment system which is another necessary process in e-Government.

As Hof, observed, the e-conveyancing services should be built in such a way that the users are able to access the service from any site through standard web browsers.⁹⁵⁵ Users are not required to purchase special software to use the service; and the component parts of the e-Conveyancing service are capable of interfacing with a range of other IT services already known and used by stakeholders. Godse, adds that access to the Central e-Conveyancing Service should be limited to users under the terms of Network Access Agreements worked out in consultation with all the stake holders.⁹⁵⁶

⁹⁵³ Molen, P. V. D., et. al., *A Standardized Land Administration Domain Model As Part Of The (spatial) Information Infrastructure. Creating Spatial Information Infrastructures*,: CRC Press, 2008: pp. 129-150.

⁹⁵⁴ Lambrinoudakis, C., et. al., "Security Requirements for e-Government Services: A Methodological Approach for Developing a Common PKI-based Security Policy." *Computer Communications*, 26 (16), 2003: pp. 1873-1883.

⁹⁵⁵ Hof, S. v. d. The Status of e-Government in the Netherlands, *Electronic Journal of Comparative Law*, 11(1), 2007: pp.1-18.

⁹⁵⁶ Godse, V. & Garg, A., From e-Government to e-Governance. 2007. Last visited http://www.csi-sigegov.org/1/2_313.pdf on 25th April, 2011.

The e-conveyancing service must have a facility to establish a common functionality for defined roles and establish user profiles for example, a more limited access for users involved only in preparing conveyancing documents and a higher level of access for those users needing to authenticate documents and conduct conveyancing business. User access to the e-Conveyancing service has to be managed and monitored. This should include monitoring both functions and data to which access is allowed or restricted. Users must be able to access all relevant data.⁹⁵⁷ To facilitate the routine activities of the users each transaction done through the e-Conveyancing Services should be allocated a unique identifier; users must be able to create and amend an electronic contract by using either their own document creation software or the facility available in the central service.⁹⁵⁸

Accordingly, Kim, argued that a mechanism for signaling agreement to any changes, either before, or after signing, was required.⁹⁵⁹ There should be some form of document management system in order to enable parties to be sure that they are reviewing the latest version of the contract, highlighting the most recent changes; and an audit trail enabling changes to contract data to be tracked and parties making amendments to be identified.

Minnli, proposes that the e-Conveyancing service should make optimum use of XML (extensible Markup Language) and XML schemas to enable the extraction of relevant

⁹⁵⁷ Molen, P. v. d. & Lemmen, C. H. J., Strategies for Renewal of Information Systems and Information Technology for Land Registry and Cadastre : Editorial.

Paper presented at the Strategies for Renewal of Information Systems and Information Technology for Land Registry and Cadastre : Proceedings of a Symposium Held by FIG Commission 7 and 8, ITC, Enschede, The Netherlands, May 9, 2003. 2003.

⁹⁵⁸ Ibid.

⁹⁵⁹ Kim, H. B., et. al., "The Current Status and Development Direction of Korea Land Information System (KLIS)." *Paper presented at the Tenth International Conference for Spatial Data Infrastructure, St. Augustine, Trinidad, 25-29 February, 2008, 2008.*

information in the digitally signed contract.⁹⁶⁰ As it is electronically transmitted between the buyer's and seller's conveyancers and should be used to build the National Register. The agreed XML schemas should be openly available for any interested parties and should be formally published.

As Kalantari, asserts, the e-conveyancing Service must be capable of generating a 'National Register' showing the proposed new edition of the register, should the transaction proceeds to completion with registration.⁹⁶¹ It should indicate those entries to be cancelled from the existing edition of the register and the new entries to be made, as far as, can be ascertained from the data provided. It should identify for cancellation all the register entries relating to the seller(s) including any legal charge(s) any other ephemeral register entries such as cautions and statutory charges.

In order to create the new register it is mandatory to supply certain data in conveyancing documents. This should be identified using XML schemas. Mandatory data include the title number, property description and full names of buyer(s) and seller(s). This is the information required to build the Notional Register.⁹⁶²

According to Kalantari, as the contract is made available by the seller's conveyancer to the buyer's conveyancer through the e-Conveyancing service registration data have to be

⁹⁶⁰Minli, J., et. al., "Research of Information System Technology Architecture." *Paper presented at the 2nd International Conference on Industrial and Information Systems (IIS)*, 2010.

⁹⁶¹Kalantari, M., et. al., "Towards e-Land Administration: Australian Online Land Information Services." *Paper presented at the SSC 2005 Spatial Intelligence, Innovation and Praxis: The National Biennial Conference of the Spatial Science Institute, Melbourne, Australia, September, 2005.*

⁹⁶²Klischewski, R., "Architectures for Tinkering? Contextual Strategies towards Interoperability in e-Government." *Journal of Theoretical and Applied Electronic Commerce Research*, 6(1), 2011: pp.26-42.

identified and validated against the existing register to confirm that mandatory data required in e-documents have been supplied.⁹⁶³ The validation of that data against information held on the register of title and the validation instructions should be sent to the originators of missing or erroneous data, giving details of validation issues for resolution.

All data and information committed to the Central e-Conveyancing Service relating to transactions is to be held by the service throughout the life of the transaction. All information should remain confidential between the parties to the transaction, except where it interacts with the register of title.⁹⁶⁴ This will provide both an audit trail of any changes to the data used to build the National Register and also enable the Land Registry to assist with any enquiries at that stage. After completion with registration, data and information on e-Conveyancing transactions should be archived and should be available only to Land Registry.

The Central e-Conveyancing Service must be able to generate messages for users in certain circumstances.⁹⁶⁵ These include first, validation instructions together with the reasons, second, notification of the draft documents, messages to and from the Electronic Fund Transfer service, third, notification that completion with registration has been effected among others.

⁹⁶³*Ibid.*

⁹⁶⁴Layne, K. & Lee, J. W., "Developing Fully Functional e-Government: A Four Stage Model." *Government Information Quarterly*, 18(2), 2011: pp. 122-136.

⁹⁶⁵Paul, T. J., Beyond Section 508: The Spectrum of Legal Requirements for Accessible e-Government Web Sites in the United States. *Journal of Government Information*, 30(4), 2014: pp. 518-533.

The e-Conveyancing service must facilitate immediate withdrawal from a transaction from all parts of the service. When contracts are exchanged the Central e-Conveyancing Service should note the existence of the contract (using the XML data extracted from it) on the register of title.⁹⁶⁶ Rombach and Steffens point out that at exchange, after the contract is noted, the conveyancer acting for the buyer should have the option to freeze the register pursuant to the contract for sale.⁹⁶⁷ The register should be frozen for a specified priority period, or until completion date, whichever is the sooner. The facilities for users to withdraw the freezing of a title upon the mutual agreement of both sides are also needed.

Respondent customers (RCC) were asked to indicate whether e-conveyancing process is effective in Kenya, to which mixed findings were established. Whereas RCC3 and RCC7 affirmed that e-conveyancing is effective in Kenya, RCC1, RCC2, RCC4, RCC5, RCC6 and RCC8 dissented.

Asked what challenges the respondents experienced when undertaking transactions in the Ministry of Land, a variety of challenges were established including first, delay in service delivery and second, missing file while undertaking transactions in the Ministry of Lands; third that officers were out of duty attending workshop thus causing delay; and fourth, corruption while transacting with the Ministry.

Respondents were further asked to indicate whether they have ever undertaken a transaction on land through electronic means for example, official search, to which only

⁹⁶⁶ *Ibid.*

⁹⁶⁷ Rombach, D. & Steffens, P., *e-Government: Springer Handbook of Automation*: Springer Berlin Heidelberg, 2014.

RCC3 and RCC8 affirmed. Whereas the former found the search is very efficient, the latter found it frustrating.

As Subedi offers, effective accredited training methods and materials are required to ensure that all users can confidently conduct their businesses in the e-Conveyancing environment.⁹⁶⁸ According to Tuladhar, effective user support is an important element of the new e-Conveyancing service.⁹⁶⁹ Assistance should include provision of a telephone and online helpdesk facility which should enable users to report technical incidents and receive help and support in diagnosing problems. Tuladhar, adds that e-conveyancing service must be capable of handling high volumes and periods of peak activity.⁹⁷⁰ Routine maintenance and upgrades have to be achieved while the service is live, but have to be scheduled at such a time as to minimize any disruption to the service. The disaster recovery tests should be run regularly to ensure business continuity.

Wang, asserts that a disaster recovery plan for the e-Conveyancing service should be developed to ensure that the level of service specified in Network Access Agreements with users can be sustained in the event of the plan being activated.⁹⁷¹ According to West, the e-Conveyancing service should take advantage of advances in technology and maintain a progressive programme of improvement and development.⁹⁷² The e-

⁹⁶⁸Subedi, G. P., "Designing a User Oriented Business Process for Land Registration: A Case Study of Nepal." ITC, Enschede. 2012.

⁹⁶⁹Tuladhar, A. M., "Reengineering Cadastre and Land Registration Systems and Business Opportunities." *Paper presented at the FIG working week and 125th anniversary: Still on the Frontline, Paris, 13-17 April, 2007*, 2013.

⁹⁷⁰*Ibid.*

⁹⁷¹Wang, J. F., "e-Government Security Management: Key Factors and Countermeasure." *Paper presented at the Fifth International Conference on Information Assurance and Security, 2009. IAS '09, 18-20 August, 2009*, 2013.

⁹⁷²West, D. M., "e-Government and the Transformation of Service Delivery and Citizen Attitudes." *Public Administration Review*, 64(1), 2014: pp. 15-27

Conveyancing service must be able to adapt to accommodate changes arising from service review.

In his key note speech entitled *Embracing Stakeholders' participation for an NLIMS that serves Kenyans*, with regards to what Kenyans expect from this system, Prof Swazuri stated that they will expect that technology will be leveraged with a clear impact on the efficiency with which they are served when they visit various agencies charged with land matters.⁹⁷³

This means that this system will have to help reduce bureaucracy and by extension, corruption through the streamlining and putting in place appropriate processes and procedures removing need to have direct payments at the public agency premises. Secondly, there is expectation that some services will be accessible from the comfort of the citizens' homes and offices without having to visit the public agencies through use of the online and mobile platforms.

For purposes of fee payments, online and mobile payment platforms will be used and such payments will reflect in the system. Finally and importantly they expect that land transactions will be secure, transparent and straightforward and that once completed will reflect the correct status of a parcel in the system and on the ground.

This will help avoid some of the issues that are usually encountered that have facilitated anomalies e.g. where easements have been granted and affected owners compensated, but

⁹⁷³ Swazuri M. A., *Embracing Stakeholders' participation for an NLIMS that serves Kenyans*. Chairman National Land Commission. Kenya 2016.

this is not be reflected in the respective departments and units allowing the lands office to allow further transactions in unmodified parcels, with the extremity being cases of double allocations.

Respondents were also asked to indicate whether they have access to computers or the Internet for transacting with the Ministry of Land, while RCC1, RCC3, RCC4 and RCC8, RCC2, RCC5, RCC 6 and RCC7 do not have access to computers or the internet. The study also sought to find out whether respondents have difficulties while transacting with the Ministry of Land, to which a majority affirmed.

Respondents were asked to respond to a range of questions based on their experiences. These included whether or not they were satisfied with the current Ministry of Land, Housing and Urban Development services; awareness of the e-conveyancing services of the Ministry of Land, Housing and Urban Development; whether they believe using e-conveyancing would facilitate land transactions in the Ministry of Land; make suggestions on the e-conveyancing or the National Land Information Management System (NLIMS) in the Ministry of Land in Kenya.

Mixed responses were established: RCC 1 is not satisfied with the current services of the Ministry; is not aware of the e-conveyancing services of the Ministry; and believes using e-conveyancing would facilitate land transactions in the Ministry.

RCC2 on the other hand is not satisfied with the current services of the Ministry; is not aware of the e-conveyancing services of the Ministry of Lands; and believes using e-conveyancing will facilitate services at the Ministry; and suggests that NLIMS should be

accessible and convenient, at a click of a button, from the comfort of the office, the customer should be able to conduct e-conveyancing.

RCC3 is not satisfied with the current services of the Ministry of Lands; is aware of the e-conveyancing services of the Ministry; believes using e-conveyancing will facilitate land transactions; and suggested that more land parcel files and correspondence files should be digitized, services like valuation, Rent clearances should be offered online.

RCC4 is not satisfied with the current services of the Ministry of Lands; is aware of the e-conveyancing services of the Ministry of Lands; believes using e-conveyancing would facilitate land transactions; and concurs that NLIMS is the way forward and effort should be made to ensure all information is availed on NLIMS for easier land transactions.

RCC5 is not satisfied with the current services of the Ministry of Lands; is not aware of the e-conveyancing services of the Ministry of Lands; believes using e-conveyancing would facilitate land transactions; and proposed that NLIMS should be effective and should cater for all clients' needs.

RCC6 is satisfied with the current services of the Ministry of Lands; is not aware of the e-conveyancing services of the Ministry of Lands; believes using e-conveyancing would facilitate land transactions; and had not heard of NLIMS so had no suggestions.

RCC7 is not satisfied with the current services of the Ministry of Lands; is aware of the e-conveyancing services of the Ministry; also believes using e-conveyancing would

facilitate land transactions; and observed that NLIMS has made work easier, It enables fast track on land information and enabled proper storage and easy retrieval of land data.

RCC8 is not satisfied with the current services of the Ministry of Lands; is not aware of the e-conveyancing service of the Ministry; does not believe using e-conveyancing will facilitate land transactions; observed that as long as registration of interest remain analogue or only; partially digital e-conveyancing will remain ineffective. The registration and primary data of transfer of interest must be fully digitalized for e-conveyancing to be fully effective.

5.9 Conclusion

In the view of the respondents interviewed implementation of e-conveyancing in Kenya will lead to effective and efficient service delivery, reducing delay and costs in conveyancing processes.

The NLIMS implementation strategy set by the Directorate of NLIMS is sound and if properly executed will achieve its mandate. The Institutional framework as discussed in this Chapter, and the capacity of NLIMS implementation by the Cabinet Secretary in consultation with the National Land Commission Directorate of NLIMS has sufficient human resource and skills.

The legal mandates of the National Land Commission and the Ministry of Lands and physical planning remain a challenge to implementation of NLIMS. The opinion of the Supreme Court on the mandates of the two institutions charged with management and administration of land in Kenya notwithstanding.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Summary

The overall objective of the study was to analyze the challenges to electronic conveyancing in Kenya. The study was guided by the following three specific objectives;

First, to review the legal aspects and implications of electronic conveyancing in Kenya and enabling statutes for its implementation. Second, to examine Kenya's National Land Information Management Systems (NLIMS) implementation strategy and highlight factors affecting its success, considered other jurisdictions that successfully undertook e-conveyancing. And third, to critically analyze and propose recommendations to Project Management and Organization structure of NLIMS capacity to implement a complex project of electronic conveyancing in Kenya.

The study examined the NLIMS implementation strategy and in chapter 2 highlighted critical success factors for e-government projects. It was revealed that for e-business and e-government projects to succeed the implementation managers have to observe the system development cycle.

Chapter 3, considered and compared best practices in international legal framework for e-conveyancing and jurisdictions such as Australia, New Zealand, the United Kingdom and United States of America. It was evident that New Zealand has a complete e-conveyancing system.

Chapter 4, analyzed the legal aspects and implications of e-conveyancing. I found that the statutory requirements for e-land records and land information management systems that is e-conveyancing are encumbered by other legal provisions. The Law of Contract in Kenya require contracts over land to be in writing, with hand written signatures and attestation by authorized practitioners.⁹⁷⁴

Chapters 5, considered project management and organization structure of the Ministry of Lands and Physical Planning and the National Land Commission, as well as research findings on the field work.

6.2 Summary of Findings

The research was guided by three research questions as follows:-

The first research question was, whether there are any legal aspects and safeguards necessary to facilitate implementation of electronic conveyancing in Kenya. In the study it was evident that there are several provisions to support the electronic conveyancing in Kenya. These include the requirement by the Land Registration Act No. 3 Laws of Kenya wherein Section 9 and 10 require the Chief Land Registrar to avail information in electronic files and electronic means. The National Land Commission Act No. 5 of 2012 Section 5 (2)(d) which required the Commission to develop and maintain an effective land information management system at national and county levels. The NLC is required to identify, prepare and keep all data base on public land which shall be georeferenced and authenticated by the statutory body responsible for Survey.⁹⁷⁵

⁹⁷⁴ Law of Contract Act, Cap 23 Laws of Kenya.

⁹⁷⁵ The National Land Commission Act No. 5 of 2012. Section 5 (2) (d)

The Land Laws Amendment Act of 2016 require that the National Land Information Management System be implemented by the Cabinet Secretary. County Government Act, mandates the County Planning Unit to be responsible for ensuring the collection, collation, storage and updating of data and information for planning process and ensure the establishment of a GIS based data base system.⁹⁷⁶ The GIS based data system will easily link to e-conveyancing because data will be accessible electronically by all users of geographic information across the county.

Kenya Information and Communication Amendment Act,⁹⁷⁷ recognize electronic transactions in Kenya, including digital signatures with the exception of execution of a will, negotiable instruments and documents of title to land.⁹⁷⁸ The exclusion of electronic conveyancing from the sphere of electronic transactions by the KICA means therefore that NLIMS attempts to automate land transactions may not be possible.

The Law of Contracts Act,⁹⁷⁹ does not support electronic signatures. This is a major limitation of e-conveyancing. The Land Registration Act and the Land Act also require handwritten signatures which ought to be attested in the disposal of land. The laws enacted recently are contradictory in regard to electronic data or digitization and lack coherence.

⁹⁷⁶County Government Act, 2012, Laws of Kenya Section 105(1).

⁹⁷⁷Kenya Information and Communication Act, Section 83.

⁹⁷⁸Kenya Information and Communication Act, Section 83B.

⁹⁷⁹Law of Contract Act Cap 23 Laws of Kenya.

I found that despite there being many provisions in the law that support e-conveyancing their application is complicated by the express exclusion from the law of e-land transactions, for instance the Law of Contract Act.⁹⁸⁰

In the legal framework for the country on electronic contracts there is an express exemption of documents of transfer of interests in land and immovable property from the ambit of e-contracts. This renders efforts to convert manual paper based processes to digital format nugatory as the systems will run parallel resulting in duplication of activities and collection of excess data in both analogue and digital mediums.

The second research question was, what are the major challenges facing implementation of electronic conveyancing in Kenya?

It was evident from the research that, there was lack of stakeholder involvement. For instance, technical officers of the Ministry of Lands and Physical Planning were not involved in the design and implementation of NLIMS. This contributed to its failure. The technical staff felt that the process was led by ICT staff especially GIS experts rather than land technical staff, therefore there was lack of project ownership.

A majority of the respondents interviewed cited shortage of funds and financial resources. The data capture and design of the project require substantial financing due to the volume of records to be scanned and digitized at the Ministry of Lands headquarters together with District Land Registries country wide. Lack of inclusiveness and

⁹⁸⁰Law of Contract Act Cap 23, Laws of Kenya.

integration of all the key technical departments and other Stakeholders such as Kenya Revenue Authority or the Department of Registration of Persons were not co-opted in the NLIMS development and implementation.

There was resistance to change and low uptake of technology which contributed to failure of NLIMS implementation. Users of land information mostly did not welcome the idea of interacting with the digital data, as most officers prefer to touch and feel the paper title.

I established that there was lack of training on change management as well as basic ICT skills to all staff which greatly contributed to failure of NLIMS. Resistance of staff to change from manual paper based systems to adapt ICT, and fear of the unknown.

Project Management and Organization was inadequate as a result of unclear objectives of what to start with, lack of consistency and clear roadmap. The timelines set to complete the projects were unrealistic having not considered the amount of documents to be digitized, thus the project consultants did not complete the digitization. As discussed in Chapter 5, there were several attempts to digitize all land records by different consultants. The consultants undertaking digitization are not land administration experts and therefore are not able to identify forgeries in the documents when scanning for weeding out of the system. Interoperability of the systems with the previous data captured by other consultants was not possible due to technological dynamics.

Respondents also pointed out that internet services were inefficient leading to frequent downtime, which demoralized the users. There was a problem of power blackouts as the

number of users surpassed the supply leading to overload. The database was not fully secured and therefore hacking of the system and illegal access to the information and deletion of information by unauthorized users was possible. This led to compromising of the integrity, credibility and reliability of the e-land information.

An interview with ICT officers at the Ministry of Lands, revealed the following six challenges; First, there was conflict of interest and vested interest in the procurement and development process for digital systems. Second, in capacity building where benchmarking tours and trips are undertaken by top management who are not necessarily involved in project design or implementation. Third, there was weak institutional framework that was necessary to successfully carry out a project of NLIMS magnitude. Fourth, there was lack of technical knowhow by officers engaged in the project development and implementation, software development capacity was lacking from within the organization. Fifth, was poor coordination with technical officers in the Ministry of Lands and Sixth was the lack of cooperation with stakeholders and officers.

In the research the following six challenges in implementation of e-conveyancing were identified.⁹⁸¹ The first was lack of stakeholder involvement, second was lack of training for users, third was insufficient technological skills, fourth was poor project management, fifth was inadequate financial support from Government and sixth conflict of interest and poor security for the systems.

⁹⁸¹ Birundu G.S., (former Deputy Chief Land Registrar) Advocate, interview on 23rd May 2013.

I noted that for instance an officer who had been in service for more than 15 years did not have any computer skill or the computer hardware in his office. As a senior officer in conveyancing and land law he ought to have been involved in the process and sensitized to own the process. It was also noted that it is easier to track an online forgery than it is to track a manual alteration or forgery of records. He opined that the project should involve more responsible officers to manage the data capture and records kept in the strong room and digital data storage.

The law was found to be a challenge to implementation of e-conveyancing and NLIMS because the statutes exempt transactions on land from being conducted electronically for instance the Law of Contract Act Cap 23 Section 3(3). Sectional Properties Act provides for sectional plans to be presented for registration in paper form. The other laws enacted for instance the KICA expressly exempt the land transactions from the ambit of electronic contracts and therefore a hinderance to e-conveyancing.

According to the responses by ICT officers in the Ministry of Lands and Physical Planning the challenges they experience include the following: Most projects are donor funded there is lack of transfer of skills and therefore sustainability is difficult. Project management is wanting as there was inadequate capacity within the ICT unit.

ICT officers also stated that inadequate funds, lack of proper change management and negative attitude of staff towards electronic conveyancing system in the Ministry of Lands affects the implementation of NLIMS project. The officers observed conflict of interest in the NLIMS projects and vested interest negatively affected the project management.

The legal framework for e-conveyancing is not properly defined as well as internet security and information security to protect from cybercrime.

The challenges to reform noted included, delays in the implementation of enacted legislation, perceived loss of power and privilege by key institutions; institutional rivalry likely to derail the process, competition among land actors, lack of or poor understanding of land reforms/laws, inadequate sensitization on the rights and responsibilities of the state organs, lack of a clear legislative roadmap; this includes review of existing legal framework; formulation and promulgation of numerous subsidiary legislation and administrative measures required under the new Acts, lack of comprehensive implementation framework including well defined monitoring and review mechanisms.⁹⁸²

I found that other challenges to implementation of e-conveyancing include conflict of interest and sabotage. Corruption was reported as a major hinderance to digitization of land records, Fraud, delay in implementing the enacted statutes resulted in failure to implement projects and programmes designed by various NLIMS teams over the years.

The Third research question was, whether the Project Management and Organization Structure of NLIMS possess the requisite skills and capacity to implement electronic conveyancing in Kenya.

⁹⁸² Kamotho Waiganja, Constitution and New Land Acts, Commission for the implementation of the Constitution. 2012/13.

Some of the respondents noted that Governance issues were affecting the NLIMS implementation. Most respondents cited apathy and lack of goodwill and commitment on the part of the Ministry of Lands as contributing factors to failure of NLIMS.

The National Land Commission which had the mandate to implement the NLIMS, was not custodian of the records to be digitized. Thus NLC did not have ability to gain access to the land records for digitization. The NLIMS team involved GIS and ICT personnel who did not possess the technical knowledge of land administration required for the exercise to be successful.

A majority of the respondents stated that there was lack of trained personnel in information management, resistance to change by staff and lack of cooperation hindering project implementation.

There was lack of coordination at different levels in making effective use of technology. This resulted in duplication by each department implementing its own ICT projects without due regard to compatibility within government. Therefore disjointed efforts result in failure to launch NLIMS.

Respondents said that the NLIMS Directorate of NLC had not involved key stakeholders in implementing the strategy, and reported lack of cooperation of all key players both of private and public sector. However, many respondents interviewed were of the view that the land reforms in Kenya have addressed the National Land Information Management System and specifically the National Land Commission Act No. 5 of 2012 Section 2 (d) mandated NLC to develop and maintain a NLIMS both at the National and County

levels. Commissioners of National Land Commission interviewed said that they were on course of achieving their stated mandate as the NLIMS pilot was launched on 31st May, 2016. Another respondent was optimistic that the NLC has capacity to develop and maintain the NLIMS.

Initially the National Land Commission was charged with the role of implementing and maintaining an effective and efficient land information system in Kenya.⁹⁸³ Later in the amendment of the Land Laws Acts 2016, the function of NLIMS was transferred to the Cabinet Secretary Ministry of Lands.⁹⁸⁴ The NLIMS is an ambitious project with a budget estimate of Kenya Shillings four (4) billion, whose projects are to be undertaken in phases and considering that the Land sector is a major contributor to the revenue collection in the country through land rent collection and stamp duty as well as other processing fees.⁹⁸⁵

Wayumba, in his analysis of Cadastral System in Kenya found that there was lack of backup system for emergency recovery, lack of comprehensive computerization as most land records are held in analogue form.⁹⁸⁶ The land transactions and registration systems are bureaucratic in nature. He also noted that there was slow adoption of modern ICT technology and no customer participation in the process.

⁹⁸³National Land Commission Act No. 5 of 2012.

⁹⁸⁴Land Laws (Amendment) Act No. 2016(Omnibus Bill 2015).

⁹⁸⁵Kuria, D. et al., "Developing a National Land Information Management System-The Kenyan Strategy." *World Bank Conference on Land and Poverty 2016*. Washington D.C. March 14-18, 2016.

⁹⁸⁶Wayumba G.O., *An evaluation of the Cadastral System in Kenya and a Strategy for its Modernization*, PhD Thesis, University of Nairobi, 2013.

An interview with Mutiso, revealed that accuracy of data capture is low, staff are not tech savvy, training is inadequate, wrong data capture for identification and therefore not able to pick the record thus retrieval is difficult.⁹⁸⁷ Mutiso stated that roles and responsibilities were not properly defined, in case of clarification staff still referred to manual records and thus time wasting, there was need for quality assurance.

Kwaya in his exploratory research on NLIMS found that inspite of the high fit and viability, the performance of the system was hampered by organizational culture and organizational structure.⁹⁸⁸ He found that the Ministry has an organizational culture that does not support the effective use of NLIMS. This situation was created by lack of commitment of staff to duty and frequent staff changes in the concerned department.⁹⁸⁹

Makoro, in his study found that to date the system has not been fully implemented.⁹⁹⁰ His study showed that most people had not been trained on how to use the system in their daily operations, there was lack of enough funds to manage the system, a regular transfer and redeployment of staff and lack of cooperation between the records management officers and ICT Officers. He found that an NLIMS policy to govern the users of the system, would result in improved revenue generation, land rent collection, less land

⁹⁸⁷Eric Mutiso CCNA, CISCO, BSc. Computer Science & Technology, on 22nd May 2013 on challenges of electronic government.

⁹⁸⁸Kwaya T., *Big Data in Land Records Management in Kenya: A fit and Viability Analysis*. University of KwaZulu-Natal, South Africa. 2014. Uden L. et al. (Eds) KMO 2014, LNBIP 185, pp 15-24, ©Springer International Publishing Switzerland 2014.

⁹⁸⁹ Kwaya T., *ibid*.

⁹⁹⁰Makoro, Dennis., "Use of Land Management Information System (NLIMS) A case study of Ministry of Land, Housing and Urban Development,."Nairobi. Technical University of Kenya ©2002-2012. <http://hdl.handle.net/123456789/1202,2015-5-30>,accessed on 24th May 2016.

conflicts and boundary disputes leading to transparency and accountability, better investment climate and more secure land tenure.⁹⁹¹

The Directorate of NLIMS with a staff capacity of thirteen members in different disciplines offer a promise for an efficient land information management system. This team working together with officers from the Ministry of Lands and Physical Planning and consultants of the project currently on site, have digitized thirteen county land registries. Official searches can now be obtained online through the e-citizen portal for properties registered in Nairobi County, as other county registries digitized are yet to be launched.

Spatial data infrastructure is necessary to avail accurate, up-to-date and complete data, which is often sourced from many government agencies.⁹⁹² It is necessary and has already been well developed and utilized in many developed countries.

I argue that the project management and organization of NLIMS does not have sufficient skills and capacity to implement electronic conveyancing. There appears to be lack of technical expertise, inadequate supervision by government, insufficient funding and supportive policy. It requires multi stakeholder participation and multi-disciplinary involvement to succeed in implementation of electronic conveyancing systems.

⁹⁹¹Makoro, Dennis., "Use of Land Management Information System (NLIMS) A case study of Ministry of Land, Housing and Urban Development." Nairobi. Technical University of Kenya ©2002-2012 <http://hdl.handle.net/123456789/1202>, 2015-5-30, accessed on 24th May 2016

⁹⁹²Sutanta Heri, *Spatial Planning Support System for an Integrated Approach to Disaster Risk Reduction*. PhD thesis, University of Melbourne, Victoria, Australia, 2012: p. 22.

6.3 Conclusion on Implementation of E-Conveyancing in Kenya

Kenya has through the National Land Commission (NLC) developed an implementation plan that is being followed in operationalizing the National Land Information Management System (NLIMS). The NLIMS is anticipated to be the platform or bedrock for e-conveyancing in Kenya. This is an ambitious project that will have far reaching impact with regard to enhancing service delivery at the Ministry of Lands and Physical Planning, the National Land Commission, the County Governments and the National Government. This solution will also streamline revenue collection on land, assist in addressing historical injustices and land related disputes and apply information technology in addressing land issues.

The strategy of implementation set out by the NLIMS Directorate has great promise and is optimistic geared towards quicker implementation of the NLIMS in Kenya. The few customers who have interacted with electronic document management system (EDMS) at the Nairobi Registry have expressed satisfaction with the e-search services and thus the system needs to be rolled over to other County Land Registries across the country.

The major challenges which were common and popular to all respondents was financial and budgetary allocation for the project, capacity of skilled staff to implement ICT projects and involvement of all stakeholders. There is a legitimate public expectation that the change to a comprehensive ICT based system such as e-conveyancing for dealings with land will produce clear and demonstrable benefits to the society. But all over the world the e-conveyancing is in its infancy. There is considerable difference in the institutional framework within which these countries operate and approaches they adopt.

Therefore, there is a need to involve and consult all the stakeholders and other professional bodies, as a first step towards the implementation of e-Conveyancing, to firm up the idea about the model to be built, which meet their needs and aspirations. The result of such exhaustive consultations should form the basis for the legislative reforms, the preparation of the conceptual models and determination of what services would deliver the earliest benefit to stakeholders, and framing their implementation plan and the prioritization of delivery of services to maximize the benefit to the customers.

The adoption of electronic transactions on property would propel the real estate sub-sector to new heights. Currently, purchasing of property is conducted manually involving tedious paperwork even as the world becomes a global village. For instance, the legal process of buying land or a home entails performing manual personal or official searches at the Ministry of Lands. Furthermore, lawyers for the buyers and sellers exchange written documents such as sale agreements on paper. As the Ministry of Lands continues with its grand plan to computerize record keeping countrywide, the real estate sub-sector could benefit a lot. With the developments in information technology, players in the sub-sector should warm up to electronic conveyancing.

The adoption of the National Land Policy (NLP) is a good starting point to revolutionize property transactions. For starters, the policy stipulates that the Government shall computerize land records and facilitate access to information on land. It further states that Government should modernize the infrastructural apparatus for delivery of land through information technology linked systems. The policy envisages the creation of a Land Information Management Systems (LIMS).

Electronic transactions enable an effective system following a complete and accurate register. It is possible to investigate title to land or genuine owners of property online with minimum additional enquiries and inspections.

For most jurisdictions the laws relating to property transfer are extremely complicated, and so it is not a simple matter to convert paper-based systems built up over several centuries to straightforward electronic processes. The Land Registration Act and Rules relate to paper documents, 'true copies' on paper, and analogue procedures, the Land Registration Act did not approve the usage of Digital Signature and digital execution and transfer of deeds in land transactions.

In Kenya the Land Registration Act and Land Act have been amended with legislative provisions to enable the implementation of e-conveyancing. The envisaged realization of e-conveyancing therefore requires a platform in the form of the NLIMS to effectively undertake online land transactions.

The use of digital signatures and electronic signatures though tried and tested in various jurisdictions will take quite a while to be accepted in Kenya for transactions dealing with land. The law in Kenya as examined herein emphatically state that all deeds and transfers of land have to be handwritten, signed and witnessed. This is also coupled with the emotive nature of land and land rights for Kenyans. Unless a secure and legally acceptable, technologically feasible and easily adaptable alternative for the present signature system is found, the probability of implementation of e-signatures, digital signatures and e-conveyancing as envisaged may be difficult.

6.4 Recommendations on Achieving E-Conveyancing in Kenya

In Kenya some of the legal safeguards necessary to facilitate implementation of e-conveyancing is the amendments of various statutes on land such as the Land Act No. 6 of 2012, Land Registration Act No. 3 of 2012 and enactment of a Land Information Management System Bill. Others are the Survey Act, Law of Contracts Act, a Cybercrime Legislation and Sectional Properties Act. Additional regulations and policy on the proposed include enactment of National Land Information Management System Act (NLIMS) is required. Generally, all the statutes that touch on conveyancing in Kenya should be amended to accommodate the use of digital data and electronic contracts in e-conveyancing.

There is need for concerted effort for the Law Reform for Legal provisions and amendments to the Law of Contract Act, Land Act, and Land Registration Act to enable electronic transactions and e-conveyancing through digital and electronic signatures.

The development and enactment of a Cybercrime Law in Kenya and legal provisions for cyber security to safeguard online land transactions. Introduction of e-land registers across the country. Roll out the EDMS system for all county and District Land Registries to enlarge the efficiency of online land searches to users across the country.

Realizing the challenges of having a mammoth implementation of the magnitude this National Land Information Management System (NLIMS) is bound to be, a phased approach is needed towards its implementation, informed by the budgetary allocations, the growth rate of the human resource capacity, and the reality that this work needs to be spread across several years for there to be any realistic results.

The land officers and ICT officers should partner in the projects of NLIMS. The already digitized and scanned data should continuously be updated and therefore a Team dedicated to Data Capture and Scanning should be retained to keep information up to date on the digital platforms. There should be a reference to use the already digitized information or data to avoid duplication of efforts.

Given the fact that a number of entities are interested in having some sort of version of NLIMS to enhance their service delivery, various collaboration activities ought to be engaged in. These include collaborations with research institutions, County Governments and stakeholders.

The outputs of these collaborations should be adapted standards for implementing NLIMS according to best practices and using both Commercial and Open Source Software customized for the needs of Kenyans, developing standards and guidelines that will help ensure that disparate LIMS implementations across the country are able to talk to one another and are better able to serve Kenyans. This integrated NLIMS when fully implemented will serve as a reference resource in Land Information Management in the region and beyond.

Introducing e-conveyancing system in any country is a highly complex process which, call for very thorough preparation in order to ensure the successful phased introduction of the new services, wholehearted participation of stakeholders and the legal obligations are met throughout the programme. This can be achieved only if, all the stakeholders have a common understanding about the system being built, the functions each services in the

system performs, the order in which each of these services would be introduced among others.

To carry all these stakeholders together, all through the developmental and implementation process of e-conveyancing, it is to be ensured that they develop confidence in this e-conveyancing programme and gain by participating in the process. In formal interactions with conveyancers, it was noted there was a reluctance to adopt e-search as most lawyers insist on a signed and sealed official search thus a communication strategy to inform conveyancers on the developments of the NLIMS will be necessary.

This explains the importance of having a well thought out business strategy in the development and implementation of e-conveyancing. A set of general business strategy recommendations for the successful design, development and implementation should include analysis of the current system, modular and incremental approach and information to all stakeholders on the benefits to be reaped from the new system.

The Ministry of Lands and Physical Planning is a large organizations, with large number of employees employed on jobs using labor-intensive tools and methodology. There is need during this period of change over to the e-conveyancing for the management to exercise utmost restraint and compassion towards the employees. Some employees would be weighed down by the fear of losing the job, pressure to upgrade or acquire new skills, fear of getting disrupted from the existing place of work, fear of fresh and younger employees without sufficient knowledge and experience joining the organization and bossing over them.

This is also fear of the unknown factors which may occur or not to the work environment, thus the chances of losing their traditional significance. The success of the programme depends considerably on how the management is able to cope with this difficult transition. This requires retraining of staff and constant change management seminars to assure the staff of their importance in participating on the project.

It is also imperative to ensure that the new e-conveyancing systems and processes inter-operate smoothly with business operations and services carried out by all the stakeholders outside the direct control of the project. It is important to ensure the effective phased introduction of e-conveyancing, and the successful reengineering of all relevant business processes within Land Registry and in the wider conveyancing community. Thus ensure that the Land Registry and all stakeholder organizations are assisted and guided to manage successfully the changes in their organizational culture, organizational capability, business structure, and operations so that they can easily integrate themselves with the new e-conveyancing system.

Security is one of the key requirements for all the stages of the conveyancing and registration processes, including the associated electronic funds transfer service. This includes physical, logical and procedural security measures, as well as the security of e-documents or data. Data stored by the component services have to be protected against loss, corruption and access by unauthorized personnel. The e-conveyancing service must gain the confidence of users by strict adherence to an appropriate level of security. It must be capable of achieving security accreditation through the production of, and demonstrable adherence to, an appropriate accreditation document set that details the risks and countermeasures to be taken.

The viability of NLIMS can be enhanced by improving ICT infrastructure, training of staff and users of the system, streamlining land management processes, introducing performance contracts for staff working in the lands department and restructuring the department so as to reduce bureaucracies.

Institutional strengthening and capacity building, protection of intellectual property rights to encourage the development of systems and software for land information management by internal technical staff who have capacity, knowledge and experience in both ICT and land administration and survey.

There is need for increased stakeholder consultations and involvement in the system development processes for National Land Information Management System. The increase in budgetary allocation by Parliament and need to seek donor support and increase capacity of technical staff involved in the project.

Electronic registration must streamline the system without compromising its integrity. To achieve this, it will be necessary for conveyancers to assume greater obligations and responsibilities when performing their legal, management and financial functions and duties.

In an effort to improve the ease of doing business in Kenya the government should propose radical changes that involve the digitization of land processes and reduce the requirement for production of paper trails. This includes the inordinate delay caused in property transfers by the requirement that consent to transfer or charge, stamp duty

receipts and municipal clearance certificates have to be lodged. These documents should therefore be furnished electronically.

6.5 Concluding Statement on E-conveyancing in Kenya and Future Research Areas

The study of electronic conveyancing and its legal implications in Kenya is in its infancy. Therefore future research in this area is recommended. The implementation of electronic conveyancing has not taken effect yet although the Ministry of Lands and Physical Planning through NLIMS has captured data into digital format as well as scanning of land records being undertaken in the Correspondence Files Registries, Central Registry and 13 District Land Registries.

There is a requirement to undertake research on the response to use of e-citizen in conducting searches online, as well as the use of Digital Title documents as opposed to paper format title deeds. The researcher has invited the Conveyancing Committee of the Law Society of Kenya to form a sub-committee to formulate regulations on the use of electronic conveyancing in Kenya anchored in law.

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APPENDICES

Appendix I: Questionnaire

Research Title : Challenges to Electronic Conveyancing in Kenya: Case Study Ministry of Land

Doctoral Candidate: Zubeda Yussuf Mucheke

Email address: muchekezy@gmail.com

Supervisors: Dr Damas D. Ndumbaro (Open University of Tanzania) &
Professor Ben Sihanya, JSD (Stanford) (University of Nairobi Law School).

INTRODUCTION

Dear Sir/Madam,

Thank you for accepting to participate in this interview. I am a PhD (Doctoral) Candidate at the Open University of Tanzania pursuing a Doctor of Philosophy in Law. In fulfillment of my PhD requirements I am conducting a study on **Challenges to Electronic Conveyancing in Kenya: Case Study Ministry of Land.**

This questionnaire is administered as part of my study on the Challenges to Electronic Conveyancing in Kenya: Case Study of Ministry of Land. My key objectives are in four part. First to find out what legal and institutional framework are in place, Second to establish whether the legal framework makes provision to enable electronic conveyancing in Kenya, Third, to identify the challenges facing implementation of National Land Information Management System(NLIMS), Fourth to make recommendations on the way forward.

Please note that any information you give will be treated with utmost confidentiality and at no instance will it be used for any purpose other than for this thesis. Your identity will be concealed. Your response will be recorded in the questionnaire.

The interview is intended to take approximately 20 minutes. If you have any questions please feel free to contact me.

Questionnaire to be filled by Land Registrars & Land Administration Officers

Name (optional):.....

PLEASE TICK OR FILL IN APPROPRIATELY

1. What is your current designation.....
2. What is your work experience? 1-5 years () 6 – 15 years () 16 – 25 years ()
Over 26 years ()
3. How did you learn of National Land Information Management System (NLIMS) project in the Ministry of Land?
 - a) Newspapers
 - b) Electronic media (Specific)
 - c) Seminar/Workshop,
 - c) Memo/circular
 - d) Other persons(Society)
 - e) Other (Please specify)_____
4. Does the Law in Kenya provide for electronic conveyancing (e-conveyancing)?

Yes () No ()

a) If yes, has it been applied yet?

Yes ()

No ()

b) What legal provisions should be reviewed to effectively provide for e-conveyancing in Kenya?

5. Would you trust the use of e-conveyancing for transactions such as the following?

Transfers Yes () No ()

Mortgages Yes () No ()

Leases Yes () No ()

6. What are the advantages of using e-conveyancing in Kenya?

Transparency ()

Efficiency ()

Accuracy ()

Less time consuming ()

Other (explain) _____

7. To what extent does e-government improve your work performance targets?

8. What are the challenges you experience when using electronic mode of preparation of leases?

9. Do you think e-conveyancing will reduce cases of fraudulent transactions on land in Kenya?

Yes () No ()

Explain your answer _____

10. Land reform has been taking place since the Constitution of Kenya 2010 came into force. Have these reforms addressed National Land Information Management System (NLIMS)?

Yes ()

No ()

11. In your view, what are the challenges facing implementation of NLIMS projects?

12. What statutory provisions should be put in place to enable NLIMS project achieve its Objectives?

13. What are your suggestions on the NLIMS implementation strategy?

14. On a scale of 1-5, how would you rate the following automation processes of the Ministry of Land in Kenya?

1.Poor 2. Fair 3.Good 4.Very useful 5. Excellent

- | | | | | | |
|---|----|----|----|----|----|
| i. Land Leases production? | 1. | 2. | 3. | 4. | 5. |
| ii. Registration of Transfers/charges at the
Nairobi District Registry)? | 1. | 2. | 3. | 4. | 5. |
| iii. Settlement Fund Trustees/Billing System? | 1. | 2. | 3. | 4. | 5. |
| iv. Sapereon System (Scanned Titles)? | 1. | 2. | 3. | 4. | 5. |
| v. LRCC Scanned Titles? | 1. | 2. | 3. | 4. | 5. |
| vi. D3 registration system (Central Registry)? | 1. | 2. | 3. | 4. | 5. |

15. Does the NLIMS project have adequate budgetary provision?

Yes () No ()

16. Does the NLIMS project implementation have sufficient support by the National Government?

Yes () No ()

Thank you for taking time to complete this questionnaire.

Research Title : Challenges to Electronic Conveyancing in Kenya: Case Study Ministry of Land

Doctoral Candidate: Zubeda Yussuf Mucheke

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be concealed. Your response will be recorded in the questionnaire.

The interview is intended to take approximately 20 minutes. If you have any questions please feel free to contact me.

Questionnaire to be filled by Administrators of Ministry of Land, Housing and Urban Development and NLIMS Project Management.

PLEASE TICK OR FILL IN APPROPRIATELY

1. What is your current designation.....
2. What is your work experience? 1-5 years () 6 – 15 years () 16 – 25 years ()
Over 26 years ()
3. How did you learn of National Land Information Management System (NLIMS) project in the Ministry of Land?
 - d) Newspapers
 - e) Electronic media (Specific)
 - f) Seminar/Workshop,
 - c) Memo/circular
 - d) Other persons(Society)
 - e) Other (Please specify)_____
4. In your assessment has the National Land Information Management System (NLIMS) project achieved the intended purpose?

Yes () No ()

a) If the answer above is negative, what do you think contributes to the failure of NLIMS?

5. What are the challenges facing the implementation of National Land Information Management Systems in Kenya?

6. Has there been stakeholder consultation on user requirements for NLIMS or e-conveyancing?

7. To what extent does e-government improve your work performance?

8. What is your suggestion on the NLIMS implementation strategy?

9. On a scale of 1-5, How would you rate the following automation processes of the Ministry of Lands in Kenya?

1.Poor 2. Fair 3.Good 4.Very useful 5. Excellent

- | | | | | | | |
|------|--|----|----|----|----|----|
| i. | File Tracking System (Correspondence Files)? | 1. | 2. | 3. | 4. | 5. |
| ii. | Settlement Fund Trustees/Billing System? | 1. | 2. | 3. | 4. | 5. |
| iii. | File Tracking System SFT? | 1. | 2. | 3. | 4. | 5. |
| iv. | Sapereon System (Scanned Titles)? | 1. | 2. | 3. | 4. | 5. |
| v. | LRCC Scanned Titles? | 1. | 2. | 3. | 4. | 5. |
| vi. | D3 registration system (Central Registry)? | 1. | 2. | 3. | 4. | 5. |

Thank you for taking time to complete this questionnaire.

Research Title : Challenges to Electronic Conveyancing in Kenya: Case Study Ministry of Land

Doctoral Candidate: Zubeda Yussuf Mucheke

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Please note that any information you give will be treated with utmost confidentiality and at no instance will it be used for any purpose other than for this thesis. Your identity will

be concealed. Your response will be recorded in the questionnaire.

The interview is intended to take approximately 20 minutes. If you have any questions please feel free to contact me.

Questionnaire to be filled by Customers of the Ministry of Land, Housing and Urban Development.

PLEASE TICK OR FILL IN APPROPRIATELY

1. What is your name (Optional)
2. Gender: Male ☐ Female ☐
3. What is your age bracket?
21-30 () 31- 40 () 41- 50 () Above 50 ()
4. What is your highest level of education?
Certificate () Diploma () Degree () Masters Degree () PhD ()
5. Do you think the e-conveyancing process is effective in Kenya?
Yes () No ()
6. What challenges have you experienced when undertaking transactions in the Ministry of Land?
Delay in service delivery ()
Missing file ()
Other(explain).....
.....
.....

7. Have you ever undertaken a transaction on land through electronic means e.g official search?

Yes () No ()

If yes, how did it go. _____

8. Do you have access to computers or the Internet for transacting with the Ministry of Land?

Yes () No ()

9. Do you have difficulties while transacting with the Ministry of Land?

Yes () No ()

10. Answer the questions based on your experience by ticking on the box.

- i. Are you satisfied with the current Ministry of Land, Housing and Urban Development services? Y ☐ N ☐
- ii. Are you aware of the e-conveyancing services of the Ministry of Land, Housing and Urban Development? Yes ☐ No ☐
- iii. Do you believe using e-conveyancing would facilitate land transactions in the Ministry of Land? ☐ ☐
- iv. What are your suggestions on the e-conveyancing or the National Land Information Management System (NLIMS) in the Ministry of Land in Kenya?

Thank you for taking time to complete this questionnaire.

Research Title : Challenges to Electronic Conveyancing in Kenya: Case Study
Ministry of Land

Doctoral Candidate: Zubeda Yussuf Mucheke

Email address: muchekezy@gmail.com

Supervisors: Dr Damas D. Ndumbaro (Open University of Tanzania) &
Professor Ben Sihanya, JSD (Stanford) (University of Nairobi Law School).

INTRODUCTION

Dear Sir/Madam,

Thank you for accepting to participate in this interview. I am a PhD (Doctoral) Candidate at the Open University of Tanzania pursuing a Doctor of Philosophy in Law. In fulfillment of my PhD requirements I am conducting a study on **Challenges to Electronic Conveyancing in Kenya: Case Study Ministry of Land.**

This questionnaire is administered as part of my study on the Challenges to Electronic Conveyancing in Kenya: Case Study of Ministry of Land. My key objectives are in four part. First to find out what legal and institutional framework are in place, Second to establish whether the legal framework makes provision to enable electronic conveyancing in Kenya, Third, to identify the challenges facing implementation of National Land Information Management System(NLIMS), Fourth to make recommendations on the way forward.

Please note that any information you give will be treated with utmost confidentiality and at no instance will it be used for any purpose other than for this thesis. Your identity will be concealed. Your response will be recorded in the questionnaire.

The interview is intended to take approximately 20 minutes. If you have any questions please feel free to contact me.

Questionnaire to be filled by ICT Department at the Ministry of Land, Housing and Urban Development.

PLEASE TICK OR FILL IN APPROPRIATELY

1. What is your current designation.....
2. What is your work experience? 1-5 years () 6 – 15 years () 16 – 25 years ()
Over 26 years ()
3. How did you learn of National Land Information Management System (NLIMS) project in the Ministry of Land?
 - g) Newspapers
 - h) Electronic media (Specific)
 - i) Seminar/Workshop,
 - c) Memo/circular
 - d) Other persons(Society)
 - e) Other (Please specify)_____
4. To what extent does e-government improve your work performance?

5. Does the ICT Department in the Ministry of Land, have enough human resource to:-

a) implement e-conveyancing?

Yes () No ()

Please explain _____

b) To design and develop required software for e-Conveyancing?

Yes () No ()

Please explain _____

c) To offer sufficient support to users of ICT in the Ministry of Land?

Yes () No ()

d) For continuous maintenance of hardware and software in the

Ministry of Land?

Yes () No ()

6. Does the Ministry of Land have the required hardware for e-conveyancing?

Yes () No ()

7. What solutions do you suggest to mitigate the financial, human resource, and other challenges to NLIMS implementation?

8. On a scale of 1-5, how would you rate the following automation processes of the Ministry of Land in Kenya?

1.Poor 2. Fair 3.Good 4.Very useful 5. Excellent

(i) File Tracking System (Correspondence Files)?	1.	2.	3.	4.	5.
(ii) File Tracking System SFT?	1.	2.	3.	4.	5.
(iii) Valuation Database	1.	2.	3.	4.	5.
(iv) Sapereon System (Scanned Titles)	1.	2.	3.	4.	5.
(v) LRCC Scanned Titles	1.	2.	3.	4.	5.

Thank you for taking time to complete this questionnaire

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Please note that any information you give will be treated with utmost confidentiality and at no instance will it be used for any purpose other than for this thesis. Your identity will be concealed. Your response will be recorded in the questionnaire.

The interview is intended to take approximately 20 minutes. If you have any questions please feel free to contact me.

Questionnaire to be filled by Commissioners and Directors of the National Land Commission

PLEASE TICK OR FILL IN APPROPRIATELY

1. What is your current designation.....
2. What is your work experience?
1-5 years () 6 – 15 years () 16 – 25 years () Over 26 years ()
3. How did you learn of National Land Information Management System (NLIMS) project in the Ministry of Land?
a) Newspapers
b) Electronic media (Specific)
d) Seminar/Workshop,
e) Memo/circular
f) Other persons(Society)
g) Other (Please specify)_____
4. In your assessment has the National Land Information Management System (NLIMS) project achieved the intended purpose?
Yes () No ()
a) If the answer is negative, what contributes to the failure of National Land Information Management System (NLIMS)?

5. The Constitution of Kenya 2010 created the National Land Commission (NLC) and it has the statutory mandate to put in place a National Land Information Management System (e-conveyancing). Has NLC achieved its mandate of implementing NLIMS or e-conveyancing?

Yes () No ()

Please explain _____

6. There have been many land reforms since the Constitution of Kenya 2010 came into force on 27/8/2010. Have these reforms addressed NLIMS?

7. What solutions do you suggest to mitigate the challenges faced during e-conveyancing/NLIMS implementation?

8. How would you rate the following automation processes of the Ministry of Land in Kenya. On a scale of 1-5?

	1.Poor	2. Fair	3.Good	4.Very useful	5. Excellent
(i) Land Rent Demand and Payment?	1	2.	3	4.	5
(ii) Land Leases production?	1.	2.	3.	4.	5.
(iii) File Tracking System (Correspondence Files)?	1.	2.	3.	4.	5.
(iv) Settlement Fund Trustees/Billing System?	1.	2.	3.	4.	5.
(v) File Tracking System SFT?	1.	2.	3.	4.	5.
(vi) Valuation Database	1.	2.	3.	4.	5.

Thank you for taking time to complete this questionnaire