

Land Registration in a Digital Environment

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SUMMARY

Developing a digital Land registration system requires re-engineering processes to enable e-submission of records and verifying the authenticity of such records. This requires changes at both technical as well as legal levels. The Government of Botswana in its drive to establish e-government services in various government departments has embarked on the computerisation of land records at the Deeds Registry. This computerisation is meant to improve the turnaround time for doing business at Deeds Registry. It can also be seen as one of the pre-cursors of achieving the goals of e-government.

Doing business in any country is greatly enhanced if most of its services are automated or can be quickly accessed. 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 computerisation of Land records at the Deeds registry which will ensure that Land information is accessible and transparent to all citizens.

This paper therefore addresses the possible challenges of e-registration of Land records and proposes a model for re-engineering the Land registration system. The system that is proposed will necessitate changes in the Law with regard to what and how land records must be submitted and what is admissible as evidence of submission.

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1. INTRODUCTION

The government of Botswana has embarked on computerisation of land records at the Deeds Registry. 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 utilise Information and Communication Technologies (ICT) more in order to provide quality service to the people of Botswana (Government of Botswana, 2011). It is the intention of the government to implement e-government services to allow citizens to access such services any time of the day. This intention can only be realised 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. Doing business in any country is greatly enhanced if most of its services are automated or can be quickly accessed. 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 computerisation of Land records at the Deeds registry which will ensure that Land information is accessible and transparent to all citizens.

This study examines the current state of computerisation at the Deeds Registry and explores how this will benefit the whole Land Administration chain. It also suggests the linkages between all the Land Administration wings required to make the computerisation meaningful and achieve its intended purpose.

2. LAND ADMINISTRATION

Land Administration as defined by United Nations (1996) is the process of determining, recording and disseminating information about ownership, value and use of land, when implementing land management policies. This includes processes of land registration, cadastre, valuation and the land inventory. Governments in their desire to improve services in Land Administration continue to introduce technology and new innovations. The Government of Botswana has since 2009 been working on the Improvement of Land Administration Processes, Capacity and Systems (LAPCAS) with the desire to improve the Land Administration system in the country. One of the components of the intended improvements is the computerisation of the Deeds Registry. This computerisation will lead to improved transaction management at the Deeds Registry and in many respects is within the ambit of the national e-government strategy which aims for a transformed government by 2016 in which government shall provide on-line transactions to citizens as well as providing on-line information access (GoB, 2011). Land Administration involves a lot of use of information which is becoming digital in nature. Williamson and Wallace (2007), state that the arrival of new technology offers new opportunities for delivering the Land Administration Systems.

Reorganisation of the land delivery system in an era of Information and Communication Technology involves aligning strategy with operation. Developments in technology determine the nature of organisation objectives and so when ICT policy is developed it must fit the ICT market (Henderson, Thomson and Venkatraman, 1992). It is normally recognised that the most important changes that take place in Land Administration systems are driven by technology. Williamson and Ting (2001) proposed a framework for re-engineering Land Administration systems as seen in Figure 1. It suggests that any conceptual system must be informed by the social system in which the Land Administration operates and is affected by the global drivers such as globalisation, urbanisation, technology and micro-economic reform. Therefore in the case of proposing the re-engineering of the Land Registration system in Botswana it is desired to look at the current system and see how the strategy of improvement fits the business and link the ICT model to the new business processes.

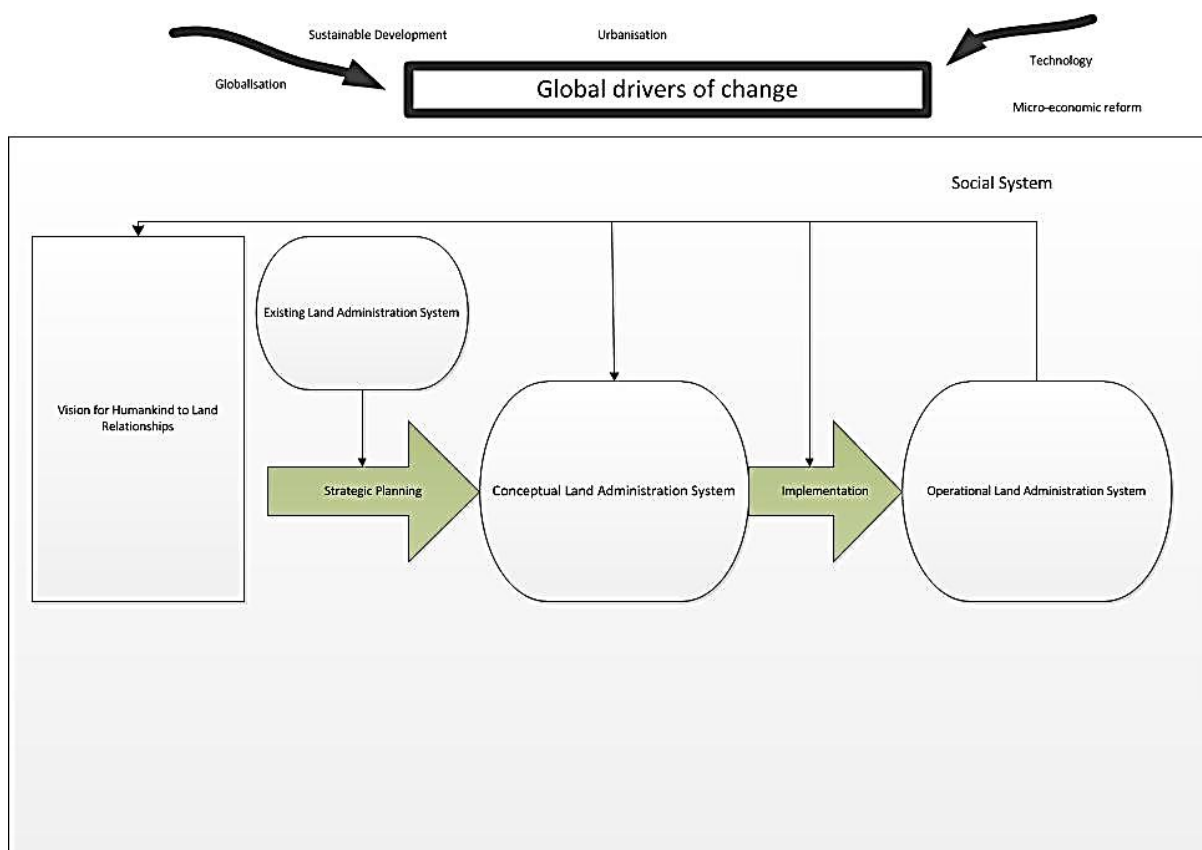


Figure 1: Framework for re-engineering Land Administration Systems (After Williamson and Ting, 2001)

Land Administration systems are envisaged to run with an infrastructure that can support data exchange and sharing. The concept of a functional infrastructure with all the necessary links in the Land Administration chain can be exemplified in figure 2. It shows the players in Land Administration in Botswana and indicates that for effective sharing of data, technical standards, which all the players should meet, need to be set in order for data exchange to occur.

Concept of a National based Spatial Data Infrastructure for Effective and sustainable Land Administration

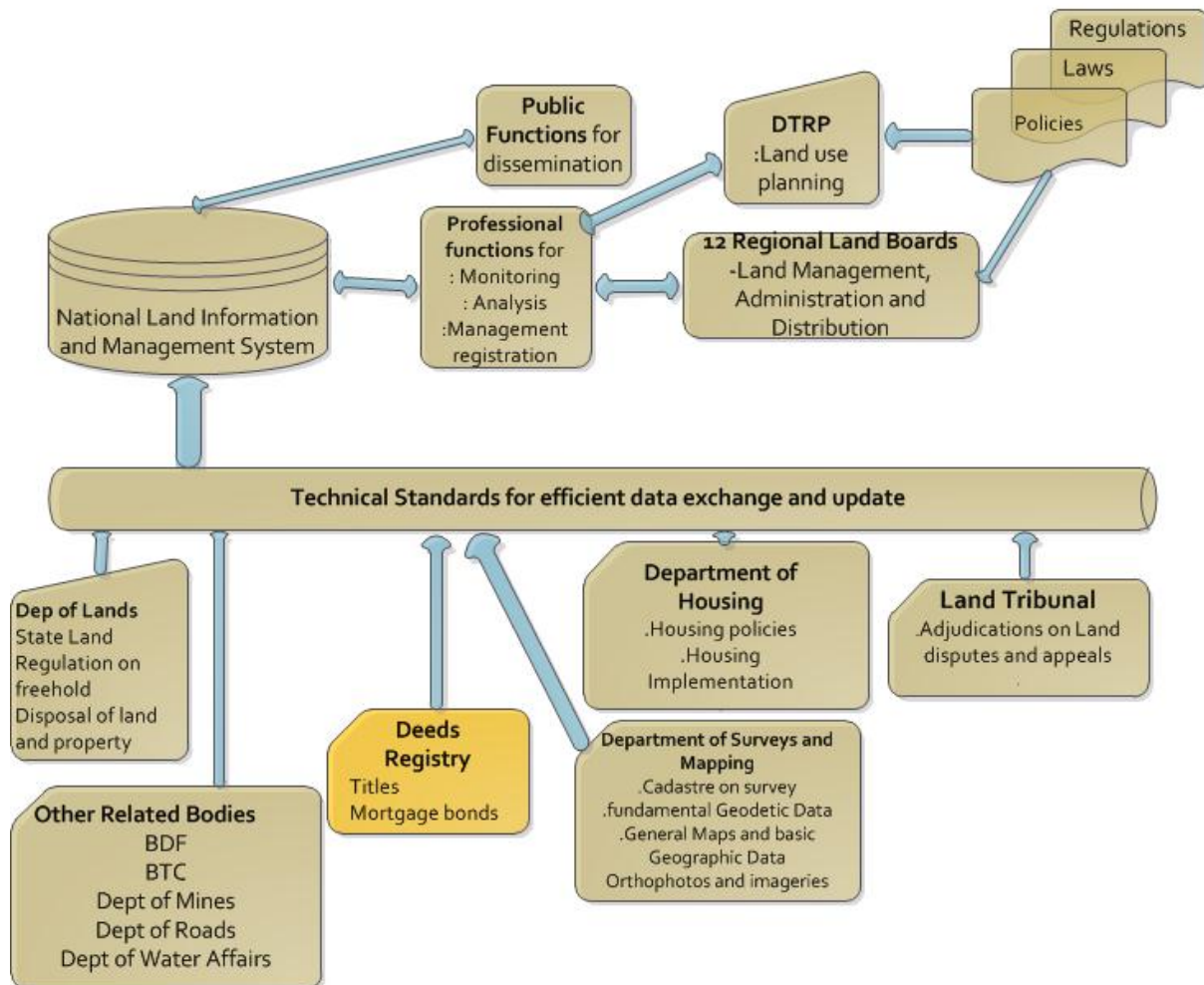


Figure 2: Concept of a National SDI

3. LAND REGISTRATION SYSTEMS

Land registration systems are meant to provide the means for recognising formalised property rights, and for regulating the character and transfer of these rights (Dale and McLaughlin, 1999). There are different types of Land registration systems namely, private conveyancing, registration of deeds and registration of titles. According to Dale and McLaughlin, 1999, in a private conveyancing system, land transactions are handled by private arrangement while in Deeds registration system a public repository is provided for registering documents associated with property transactions. Nichols(1993) states that a deeds registration system has the following core principles:

1. **Security**- registration of a document in a public office provides some measure of security against loss, destruction, or fraud
2. **Evidence**- registered documents can be used as evidence in support of a claim to a property interest

3. **Notice and priority**-registration of a document gives public notice that a property transaction has occurred and with exceptions, the time of registration provides a priority claim.

Botswana operates a Deeds registration system. This system as stipulated in the Deeds and Registry Act provides for the functions of the Registrar of Deeds. The main function of a Registrar is to register and preserve deeds for future use. The Deeds registry in Botswana was established in 1967 although Deeds were earlier registered at Mafikeng (South Africa) since 1899. Deeds on State and Freehold Land are registered through the use of conveyancers (who are Legal Practitioners) according to the Deeds Registry Act Section 16. 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. This might require some form of computerisation of paper records. A look at 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 (see Figure 3). 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.

ICTs all over the world have been touted to be a panacea of improving service delivery because it is supposedly given that with advances in technology there are general improvements in the way things are done. However others such as Bekkers and Homburg (2007) have debunked the myth of a better government due to ICT because of issues of interoperability and technical standards and inability to redefine working routines and develop new ICT-based products. They also question the effect of technological progress in organisation and argue, based on their research, that the effects are limited and context dependent because the introduction of ICT in public administration is a social intervention in a policy and organisational network, which influences the position, interests, values, and (information) domains of the actors involved. It therefore is important that in advocating for use of ICTs in land registration caution should also be given to ensure that inorganisational frameworks and infrastructure are put in place.

3.1 Land Registration Process

The Land registration is a five day process at the Deeds Registry that can be summed up into the following steps:

- Lodgement and 1st examination
- 2nd examination – general exam and compliance with law.
- Registration – numbering, entries into registers and endorsement
- Execution – check if registration is done properly and sign deeds
- Sealing and dispersion of deeds (floating copies) other filed (deed)

This process is said to normally take a minimum five days to complete, although practitioners claim that the process is much longer than claimed.

As stated earlier there are a number of key players and documents required to execute a deed and sign it off. The process and some identified key players are shown in Figure 3.

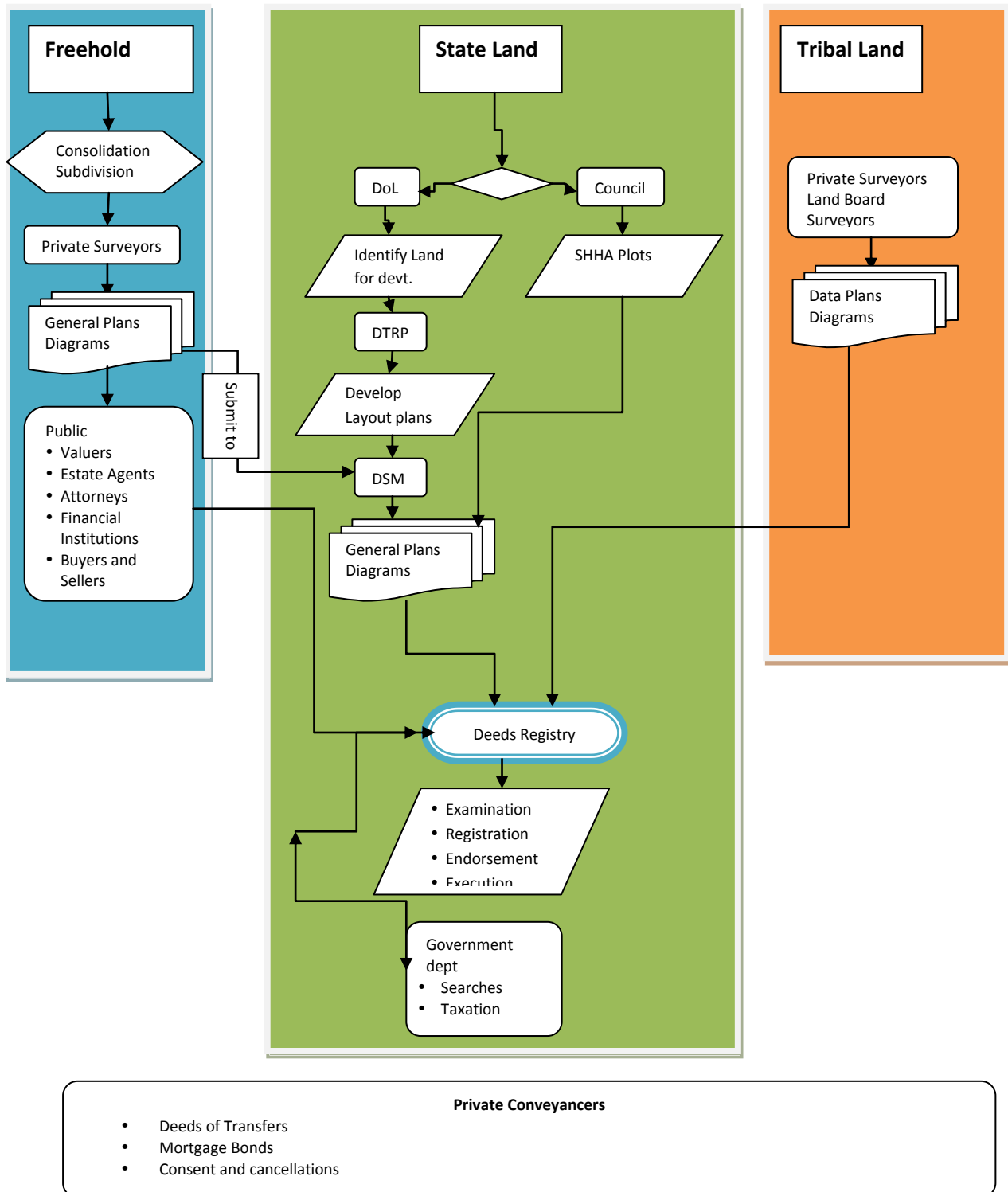


Figure 3: Land registration processes and stakeholders

The general workflow process for a conveyancer to submit and get up an examined and approved deed is shown in the figure 4 below

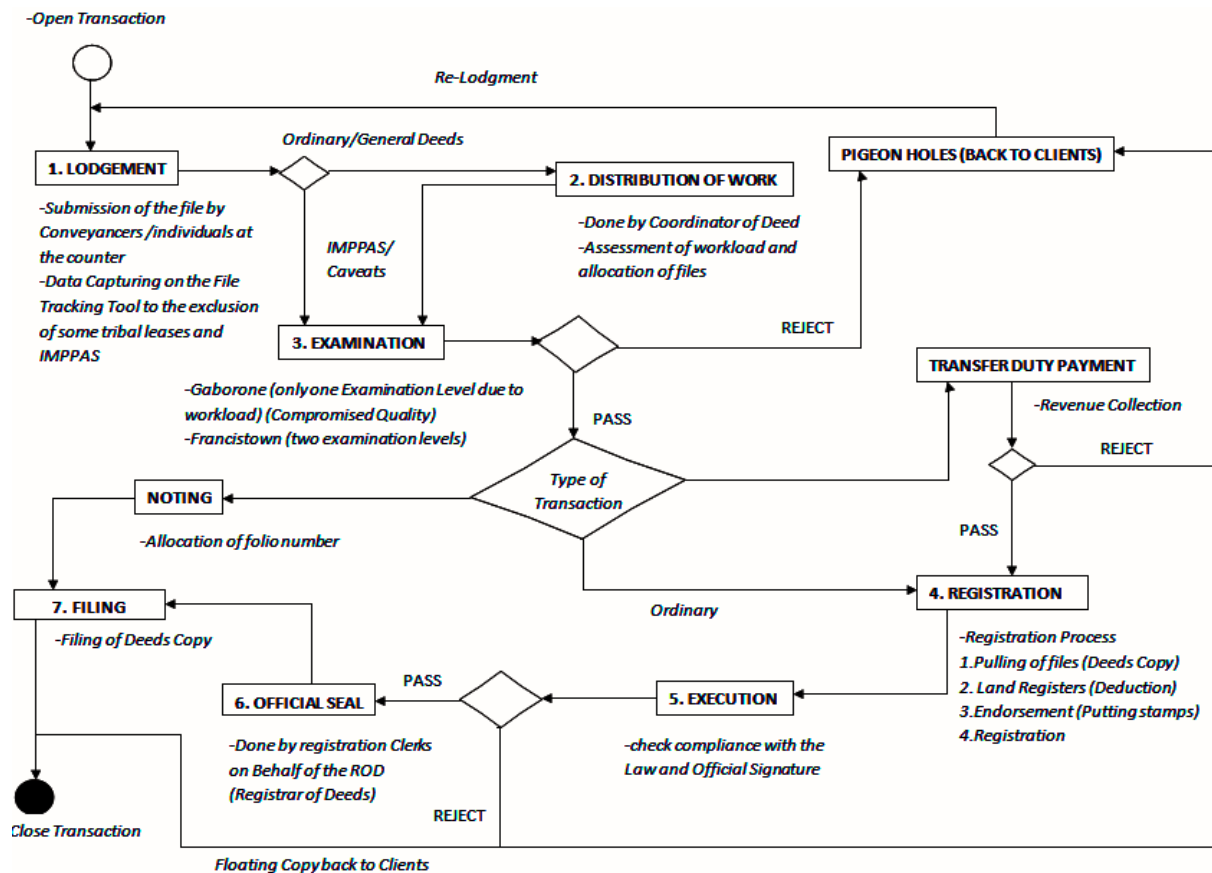


Figure 4: Work flow for deeds submission

3.1.1 Documents required

In terms of what documents to submit the Deeds Registry Act and its regulations is very prescriptive. For instance Regulations 3 and 4 prescribe the paper and ink to be used for the documents to be submitted. Regulations in the Land Survey Act CAP33:01 i.e. regulation 24 and regulation 55 prescribe the nature, form and size of the diagrams and general plans respectively including the ink that is to be used. The regulations will naturally have a bearing on the possible submission of electronic documents and will require to be changed in order to meet the digital submission conditions.

4. COMPUTERISATION OF DEEDS REGISTRATION

With the developments in ICTs various jurisdictions around the world have or are immigrating to e-registration systems. Whitman (1999) states that there was more evidence and moves towards digitalisation and electronic preservation of records the world over. It is now recognised that while legacy documents need to be preserved in digital environments, we are now witnessing documents that are born digital. Do these documents need to be converted to paper in order for them to be admitted into a registry, especially that they shall be

digitalised again? 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 computerisation of the Deeds records. According to LAPCAS Project Team(2012) over one hundred eighty thousand deeds were captured in the Gaborone office. These deeds included Deeds of Transfers, Bonds and Diagrams. It should be noted that preservation of digital records will also have its challenges such as obsolescence of technology, continuous migration and deterioration of digital material among other issues (Wamukoya, J. and Mutula, S. M. ,2005). However apart from preservation, computerisation of records would suggest that we want to develop systems that would allow us to transact electronically. This means that consideration should then be given to e-conveyancing and e-registration. Sandberg (2010) argues that e-conveyancing enhances the accessibility of the general public to land registration and may have a fundamental impact on the efficiency of land transactions. A number of countries have implemented e-registration and these include South Africa, UK, Canada and Australia. The UK promulgated the Land Registration Act of 2002 which allowed for registration of transactions that are capable of being effected electronically; United States also passed the a Uniform Real Property Electronic Recording Act in 2004 which allows electronic documents and electronic signatures to be admissible for land registration and conveyancing.

4.1.1 Challenges of e-registration

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 Sandberg(2010) has indicated the main challenge in e-registration is the problem of identifying parties to transactions and the authentication of documents. He states 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.

4.1.2 Examples of addressing the challenges

Considering that Botswana's system is similar to the South African system the authors were able to analyse the South African registration system and noted 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. The system is able to automatically receive draft e-deeds submitted by an authenticated conveyancer, validate them (i.e. check whether there are encumbrances, and check against the electronic database at Deeds), and compare property description with the Surveyor General's database. It then sends the validated draft deed to the examiners for examination who make notes electronically; 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. Bramate and Jones (2006) have discussed various methods of recording documents to be used for registration to include semi-automated methods using scanned images of documents, to use of XML and finally to the use of XHTML which allows for data to be automatically checked, accepted or rejected and also allows for electronic signatures. The use of XHTML in e-registration in USA is said to be used mainly by mortgage insurance companies and loan services and has not fully permeated to general use owing to fears of security breaches. The authors also have in 2010 visited Lantmäteriet offices in Sweden which have developed a fully computerized land registration system. The Swedish property register has legal validity and is guaranteed by the state. All stakeholders such as banks, local authorities, tax authorities including the public can have access to the property register. Other methods invented to help address the challenges of security include the use of biometric signatures in which conveyancers and notaries can sign in through biometric signatures. The jury is still out in terms of how the biometric identification can be fully used for the purpose of e-registration. The requirement that all pages in a deed should be initialed for instance creates challenges in terms of ensuring that documents are really authenticated and agreed upon by all parties to an agreement.

5. MODEL FOR BOTSWANA E-LAND REGISTRATION

The examples cited in section 4.1.2 show that e-land registration is possible and security can be enhanced by technology. How can we then adapt anyone system to the Botswana Land registration system? Figures 2 and 3 shows the stakeholders involved in the Land Administration system that might need access into an electronic deeds registration system. 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 which registers births, deaths and national identities. 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. The proposed model for Botswana is shown in Figure 5 below.

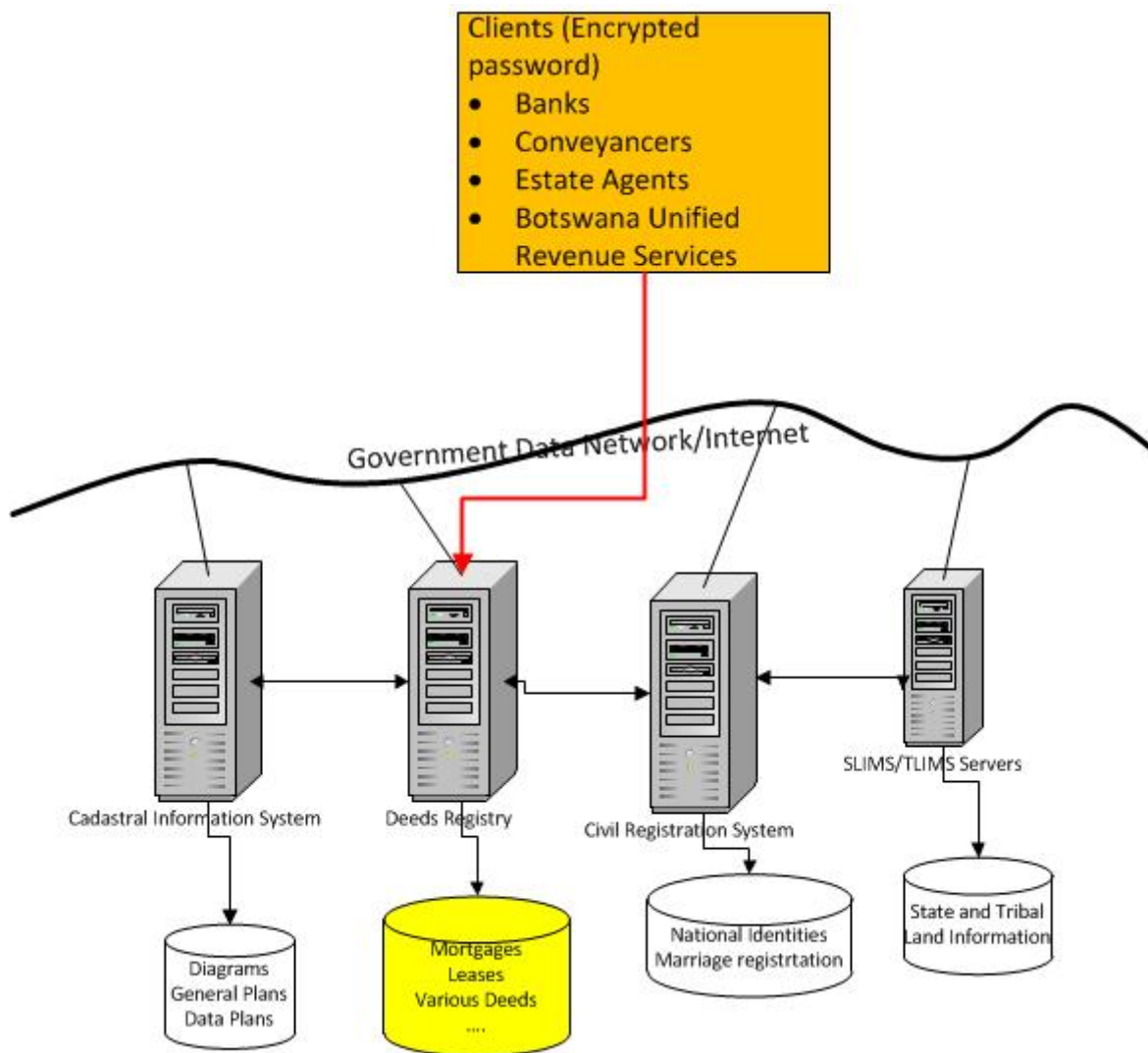


Figure 5: E-deeds registration model

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. Technical solutions are available to ensure that security concerns are addressed and also that documents that are placed in the system are authenticated.

Possible technical solutions could have the following work flow shown in Figure 6. This process will ensure that all electronic submissions are done by registered e-conveyancers who submit through a password protected system. This system as proposed in Figure 5 should be linked to cadastral information system so that diagrams and general plans can be accessed and checked automatically.

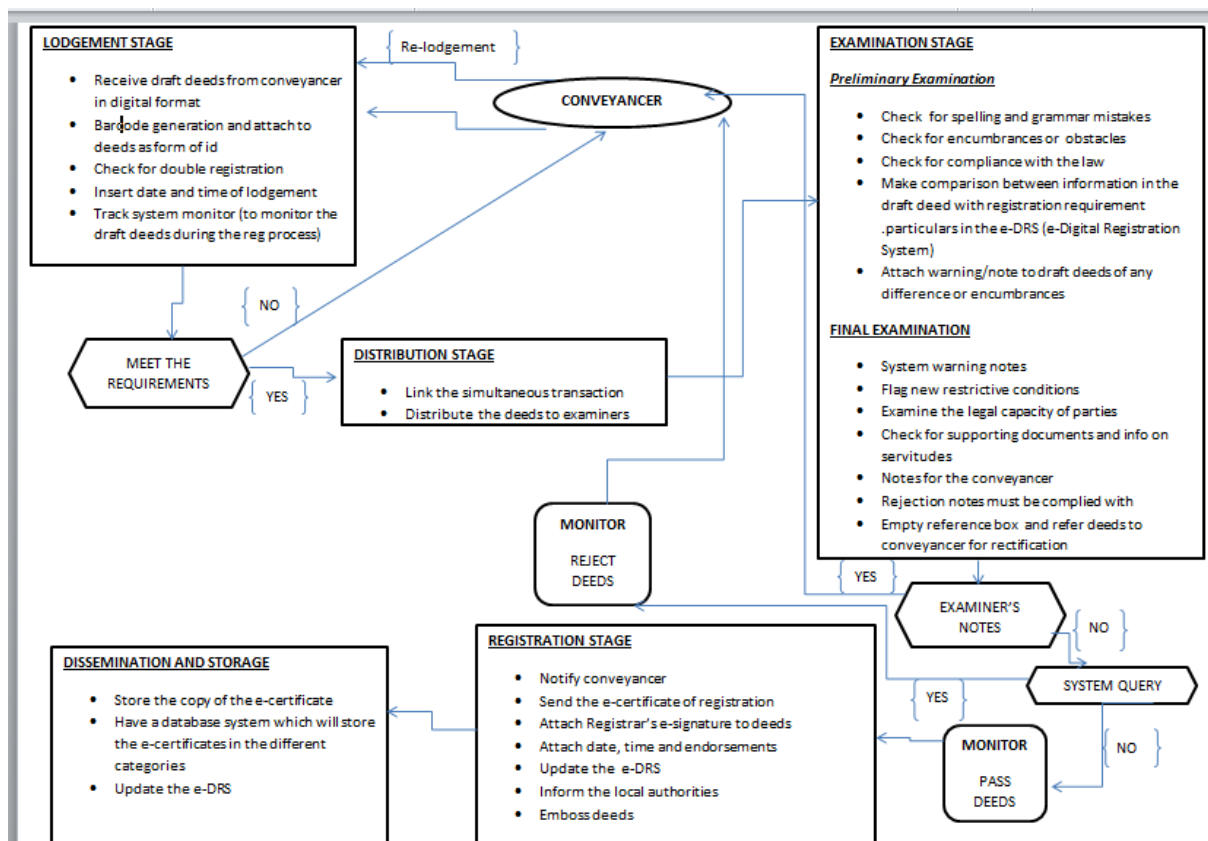


Figure 6: Proposed digital work flow

6. CONCLUSION

The paper has shown that government's the world over are now striving to develop e-services and buzz words such as e-government are bandied around often. To actualize such kind of services in the land registration system will require developing interoperability standards for government departments that will allow the sharing of data which could be used in the services such as e-deeds registration. The government also has to look at all the legislation related to the submission and retrieval of documents related to the deeds registration process to allow e-submission of documents. The authors believe that this is achievable as shown from examples elsewhere.

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BIOGRAPHICAL NOTES

Emmanuel Tembo graduated from University of Zambia in 1987 with BEng(Land Surveying) and worked for Lusaka City Council as the City Surveyor until 1991 when he proceeded for MSc(Geodetic Engineering) at the Royal Institute of Technology in Stockholm. In 1993 he joined the University of Zambia as a lecturer and in 2000 joined University of Botswana where he lectures in GIS/Photogrammetry and Land Management

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