

NETWORK PROCESSES AND WEB DESIGN FOR LAND REGISTRATION IN LAND ADMINISTRATION SYSTEM OF NIGERIA

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ABSTRACT. Land administration system in Nigeria includes the processes of land registration, cadastral mapping, land valuation and land inventory. Developing countries particularly Nigeria is faced with challenges of poor land administration and management. However, whatever the stage of the development of any country, technology plays very vital roles in acquiring a sound technological development in land administration. Traditional approaches to the land administration in the time past, has resulted in the delay of the processes of land titling and registration. The innovative technology brought by Geographic Information System (GIS), Land Information System (LIS) and Cadastral Information System (CIS) has been playing a leading role in the development of cadastral and land administration in Nigeria. The need to develop a web linked with the network of the processes in the land registration arises from the fact that people relationship to land has a very dynamic nature. The delay in time and process of land registration couple with the corruption in land related activities has called for the urgent intervention of all the stakeholders in land administration. In this study, an online network of the processes involved in the land registration was done having investigated the quickest way to solve the problem. A web was designed so that an applicants can check the status of their application online. A more secured cadastral plan must be submitted as one of the documents needed for the application for certificate of occupancy (C of O). The benefits of this system to all stakeholders in land administration in the study area were also discussed.

Keywords: *Land Administration, Land Registration, Sporadic Adjudication, Systematic Adjudication, Hybrid*

INTRODUCTION

One of the prime motivation for this work arise from need to manage our natural resources (the Land) to develop a formal approach that can used to address the issues arises from complex situation in Land administration and management. The ability to track the changes as it is applied to land all over the years has always been our motivation too. Also, the need to discuss land registration arises from the fact that people relationship to land has a very dynamic nature. The need to build a flexible system that will be able to handle complexity arising from land administration such as land registration, titling and management. The design required to represent the real word situation and in land registration with insert, delete and updating operations. Data acquisition, database technologies, Global Positioning System (GPS) and Global Navigation

Satellite System (GNSS) are new technologies that opened the new perspectives and solutions to this demands which must be delivered also in Land Administration Domain Model (LADM) {1}, {2}.

Title registration is defined as an abstract term used to refer to documents, records and acts that prove ownership {3}. It establishes the quality of right in real estate being conveyed from seller to buyer. Title documents may be a certificate of occupancy, a registered conveyance, or Deed of Assignment. Security of title to land is very important as it is often extremely difficult to obtain investment funds and venture capital without it {4} agreed that poor land title registration and administration is an impediment to the growth of an economy of any country. The benefits of good land title registration and administration were also enumerated by them. Land registration makes possible quick and sure procedure for creating and securing mortgages. All modern constitutions accept and foster private rights and ownership of land.

However, these benefits have been a mirage in the case of most owners in the study area. The problem of land title registration emanated from some provisions of Land Use Act of 1978, which is the law regulating the administration of land in Nigeria. Most of the provisions of the Act were affected by the land alienation and conveyance. Application for consent by the provision as mentioned above of Land Use Act has always been subject to administrative bureaucracy that leads to time delay in concluding the processing because of the web of movement of files from one office table to the other {5}. The process also leads to financial exploitation making the processing cost intensive. The process of getting a Certificate of Occupancy is expensive and time consuming despite efforts to minimize the period of production. The surveyor is involved in data acquisition and maintenance of the datasets. He is responsible for the production of the survey plan required to be attached to the legal instrument for registration of titles are not legally secured enough {6}. Furthermore, the bureaucratic procedure involves in consent processing makes it impossible to be concluded until about 3 to 5 years from the date of application. In {7}, it costs about 1.5% of property value as title registration charges and less than a day to conclude land registration in Canada, in Ghana it is about 2% of the assessed value and takes about 3 months. World Bank is of the opinion that it should not take more than 13 stages and about 82 days to get title registered in Nigeria instead of 35 stages and 3 to 5 years. This World Bank research analysis and conclusion placed Nigerian as the least favorable nation to transact property business in the sub-Sahara Africa {8}.

Having considered land acquisition, compensation and resettlement in developing economies, {9}, attributed the problem to the lack of sincerity on the side of government. In systematic land titling and registration, {10} suggested the use of modern survey equipment to carry out boundaries demarcation. It is reasonable to say that the effective land titling is a panacea for sustainable land reform in the study area. {5} discovered that the problem of sporadic land titling and registration is that the procedures involved in the entire process is too much (35 processes instead of 13 as recommended by the World Bank). {11}, {8}, {3}, {6} and other available literature wrote on the various problems emanating from sporadic and systematic land titling without no practical solution to solve them.

This scenario needs to be reversed; changes can be internally aggravated or externally provoked. The change can be an unexpected departure from what we know; changes can be anticipated or dramatic. Change can also be a constant action, and it is always called for when there is ineffectiveness and inefficiency in actions, systems and programmes. In all these cases, the ultimate nature of change is a movement from the current state through an evolution of a state to a

future state. It is therefore necessary to formulate and propose a better way of registering the title to Land to encourage a proper use of Land, limit the rate at which people violate Land policies and to enhance a proper transaction in Land.

The final analysis in land registration system in the study area is to introduce a framework for transparency; set service standards; improve in capacity building and in the development of a human resource policy; improve to systems and processes; secure financing, establish audits make effective use of information technology and communications; and more positive experience as well as being effective, efficient and computerization of the processes according to modern standard. Therefore, this study employed an online network of the processes involved in the land registration system having investigated the need and the necessity to create and develop a hybrid system. However, the hybrid system suitable for used for both the sporadic and systematic methods of land registration system.

In this study; Section 1 is the introduction and statement of the main problem of land registration in the study area. Section 2 relates all the efforts of the government in the study area to develop a framework of the cadastral system with a view to developing land market for the country in the land reform agenda. Section 3 is the questionnaire surveys and the analysis of the view of internal and external stake holders in land administration system on the need and improvement in cadastral system in Nigeria. Section 4 is the design and the development of land registration processes for making effective use of information technology and communications, as well efficient and computerization of the processes that are always available on the net with up to date database. Section 5 is the discussions and conclusion.

2.0 Land Reform in Nigeria: The inadequacies and failure in the implementation of Land used Act of 1978 (LUA) led to agitation for the review by many stakeholders. In a attempt to improve the land administration system in Nigeria, the Nigeria Federal government established a Presidential Technical Committee on April 2nd, 2009. To undertake the reform of all land tenure situation to address various problems emanating from Land Use Act of 1978. The reform prepared to correct this and provide registrable titles to all land owners in the country by reviewing land laws to ensure equitable use of the land assets for economic development {12}.

The land reform committee (PTC) terms of reference includes;

- Determining the individual possessory rights using the best practices and most appropriate technologies and methods to determine the process of identification, locations and registration of title holdings.
- Collaborating and providing technical assistance to State and Local Governments to undertake land cadastral nationwide.
- Ensuring that land cadastral boundaries and title holdings are demarcated in such a way that communities, hamlets, villages, village areas, towns, will be recognizable.
- Encouraging and assisting the State and the Local Governments in establishing an arbitration/adjudication mechanism for land ownership conflict resolution.
- Making recommendations for the establishment of a National Depository for Land Title Holdings and Records in all States of the Federation and the Federal Capital Territory.
- Making recommendations for the establishment of a mechanism for land valuation in both urban and rural areas in all parts of the country.

- Making any other recommendations that will ensure simplified and effective, sustainable and successful land administration system in Nigeria.

Land reform in Nigeria is a milestone in the development and implementation of Land administration system. The land reform committee (PTC) was charged with the duties of making a road map for improving the existing technical and institutional, administrative and legal framework of the cadastral system with a view to developing land market for the Federation. Furthermore, to ensure efficiency in our national land administration system, the Federal Government has established a computerization program for all lands held and allocated by Federal Government under the Federal Land Information System (FELIS). Similar computerization projects have also been established by the authorities of the Federal Capital Territory (Abuja). Also the governments of Lagos, Enugu, Abia, Benue and Ondo and other states of the federation for records of lands allocated to their territories {13}. To facilitate the harmonization of the land administration system and practices nationwide, a National Technical Development Forum (NTDF) on Land Administration was inaugurated by Government. To hasten property rights transfer, the former Federal Ministry of Environment Housing and Urban Development introduced a band of the value system for different categories of landed properties to reduce transaction time.

Consequently, the attribute of the land and building, land use, the information relating to the meaning of land and property. Legal, information relating to ownership, rights, restrictions and responsibilities that are related to Land Administration Domain Model (LADM) will be taking care. It means PTC will establish a National Depository for title holdings in all states of Nigeria, the Federal Capital Territory and create an instrument for land valuation in both urban and rural areas in Nigeria. It will serve as a data bank for multipurpose cadastral in each state and the whole country. In another word, each state in the federation will be able to communicate with each other and the federal capital since the whole country operates the same land administration system.

3.0 The Questionnaire Survey: A questionnaire survey was undertaken to appraise the collective perceptions of personnel from various government Authorities and Ministry of lands and Urban Development in Nigeria. The questions are concerned about land administration, physical and urban planning, Land Surveyors in the states offices and the Federal Capital Development Authority (FCDA), Surveyors Council of Nigeria (SURCON).

Questions were asked from the respondents about their knowledge on the automated land registrations that involved the use of computer and internet particularly for the processes of land registration. The views of the respondents were sought on the current problem associated with Nigerian land registration system and how it can be improved. The answers obtained from the questionnaire were used to evaluate the relevance and importance of these issues from the view point of different stakeholders. Also in the evaluation of their views, recommendations and questions, changes if necessary those that needed in the land administration system that will facilitate good land law and cadastral system. The respondents selected were based on their experience in the area of lands and land administration, cadastral system and physical planning who were directly or indirectly involved in the land management and ownership properties. In this sense, questionnaires were distributed out to the six geo-political zones of the federation and the federal capital, Abuja. The questionnaires were distributed within the governmental intuitions and the Ministries concerned with land and land administration system as an internal and external users.

Table 1: Table of Geo-Political Zones

S/No	Geo-political Zone	Name of city used
1	South West Zone (S/W)	Akure (Ondo State)
2	South East Zone (S/E)	Enugu (Enugu State)
3	North Central Zone (N/C)	Ilorin (Kwara State)
4	North West Zone (N/W)	Sokoto (Sokoto State)
5	North East Zone (N/E)	Bauchi (Bauchi State)
6	South South Zone (S/S)	Portharcourt (River)
7.	Abuja (FCDA)	Abuja (FCT)

The questionnaire consists of two sections, section A is general questions aimed at gathering information about the establishment and ministries. Section B, aimed at collecting information and the views of the respondents concerning land registration and other better option if available. The questionnaires that were distributed within the six geo-political zones and the Federal Capital Abuja (83.9%) were returned, (77.7%) were valid for use.

All the respondents agreed (100%) that there can be improvement in the cadastral plan used for the purpose of land registration. It can be made more secured by making some attributes to appear together with the cadastral plans. The table below shows the statistical evaluation of the method preferred by respondents in all the six geo-political zones for their land registration.

Table 2: The statistical evaluation of the method preferred in each Zone.

S/No	Zones	Sporadic		Both		Systematic		Valid	%
		Yes	%	Yes	%	Yes	%		
1	(S/W)	2	2%	14	10.8%	3	3%	19	14.6%
2	(S/E)	3	3%	13	10.1%	1	1%	17	13.1%
3	(N/C)	1	1%	14	11.5%	2	2%	18	14.5%
4	(N/W)	1	1%	08	6.6%	3	3%	13	09.2%
5	(N/E)	2	2%	10	8.0%	2	2%	14	10.8%
6	(S/S)	1	1%	15	11.5%	1	1%	15	11.5%
7	(FCDA)	0	0%	5	4.0%	0	0%	5	4.0%
	Total/%	10	9.9%	79	78.2%	12	11.9%	101	77.7%

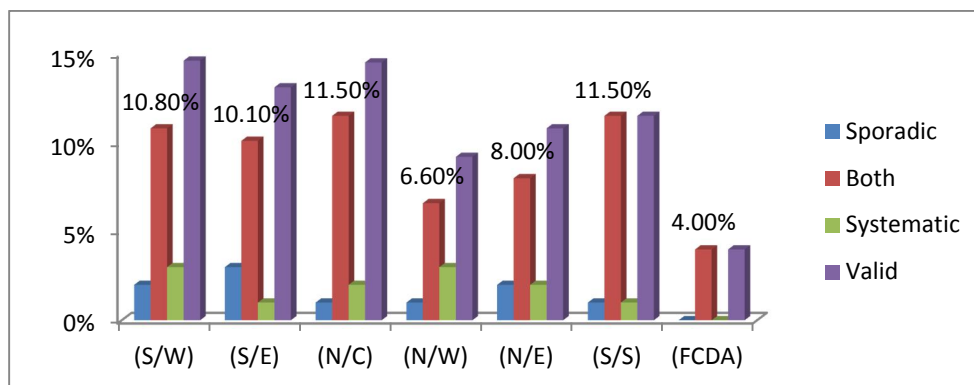


Figure1: Histogram of the method of land registration preferred in each Zone

Table 3: The statistical evaluation of the method to be adopted

1	Sporadic	9.9%
2	Systematic	11.9%
3	Both	78.2%

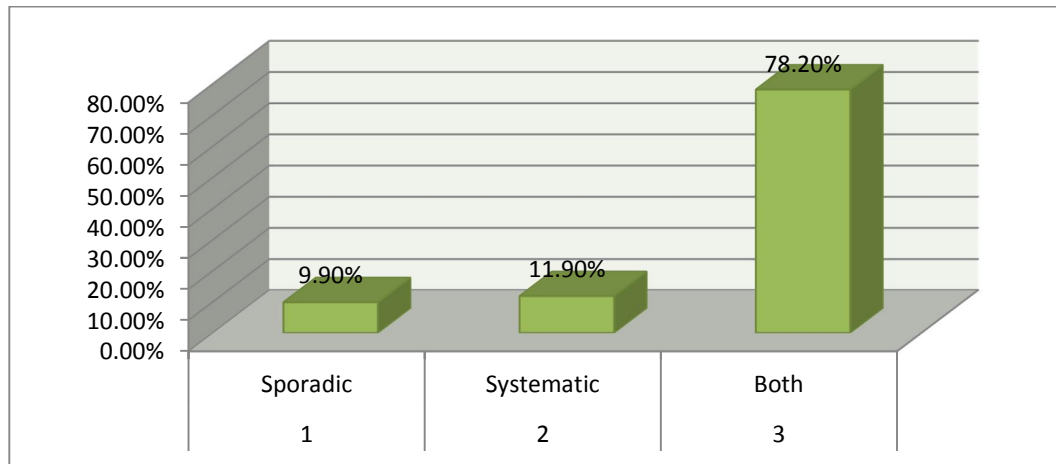


Figure 2: Histogram of the method of land registration to be adopted.

The results from the above table shows that 9.9% of the respondents prefer sporadic land registration, 78.2% prefer both sporadic and systematic land registration while 11.9% prefer systematic. (Meaning; land owner to decide on the best one). 62.9% are familiar with online delivery of cadastral and land registration information system but 37.1% were not use to it. The data from the questionnaires were expressed as percentages to make the findings more meaningful.

4.0 Land Registration Processes and Web Designed: Land is a natural resource that is most effectively used and exchanged when the rights to land are registered. Designing a land registration system requires a comprehensive explanation of why land registration is necessary {14}. In designing a land registration system, the most difficult issue is timing-at what point in the development process should one focus on establishing a formal land registration system. Most experts would agree with me that some type of land registration system is a necessary element of a developed market economy for individual as well as a nation. In handling the issues of when or whether to establish a land registration system, all the stakeholders should understand the pre and post conditions for a land registration system, its advantages and disadvantages of such a system. The possible sources of opposition to a new or improved land registration system should also be considered. Land registration is a systems by which matters concerning ownership and all or other rights (RRR) right, restriction and responsibility in land can be recorded with a government agency and department to provide evidence of title to facilitate transactions and to prevent unlawful disposal of lands. The information recorded and the protection provided will vary by jurisdiction. It is synonymous to land titling in which private individuals and families are given a formal right for land which they have earlier occupied informally or used on the basis of customary land tenure. This provides formal titles and increases security of tenure, supports development of markets in land, and allows better access to credit by using land titles as collateral.

CONCEPTUAL FRAME WORK

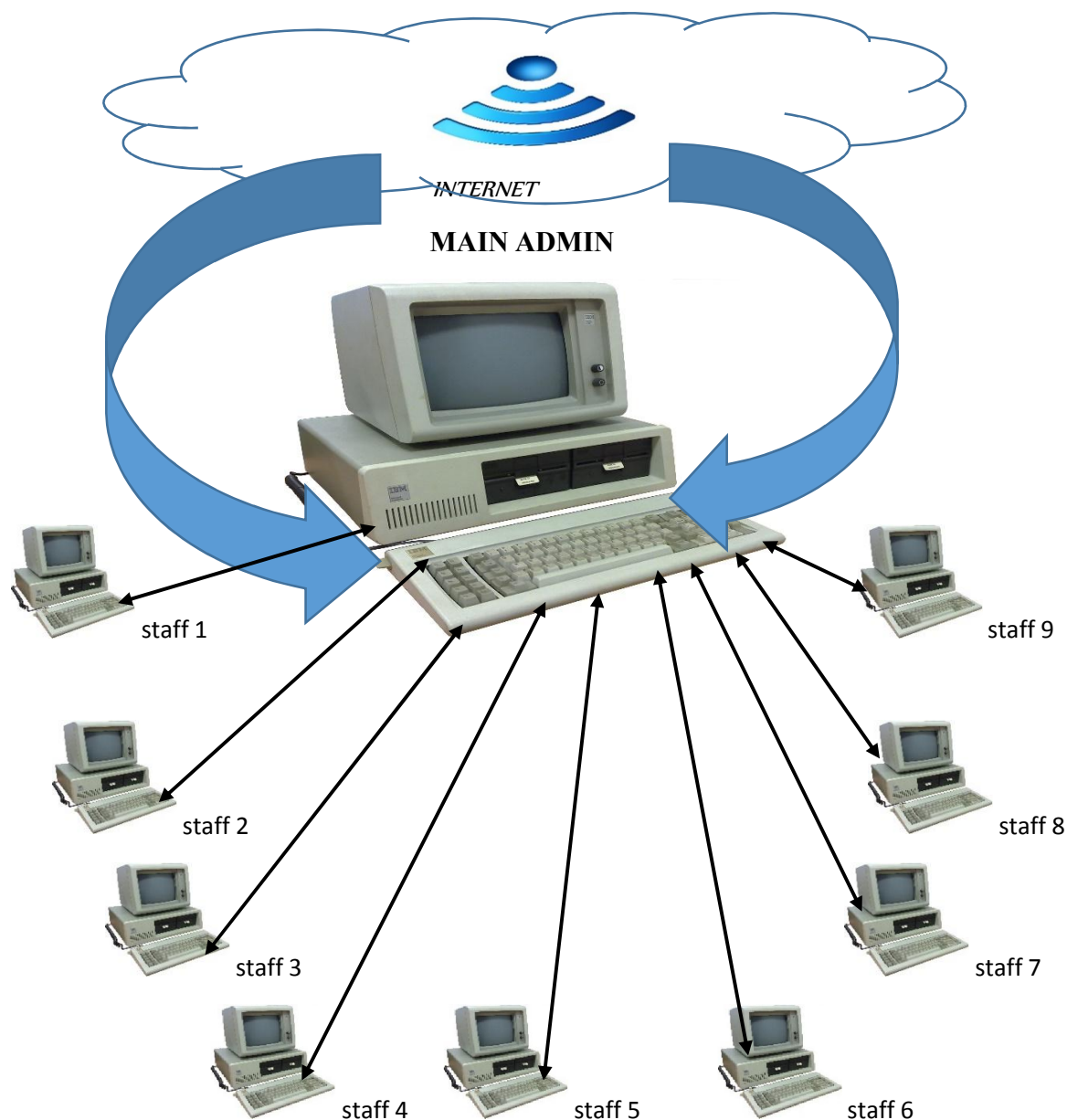


Figure: 3 Frame work for hybrid process in Land Registration in Nigeria

4.1 Hybrid System

Hybrid system is a system of land registration developed for transparency and set service standards; improve in capacity building and in the development of a human resource policy. It is an improved to systems and processes, secure financing, establish audits and make effective use of information technology and communications. It is more positive experience as well as being effective, efficient and computerization of the processes according to modern standard in line with word bank recommendations. The processes and stages involved are shown in the table 4 below.

Table 4: Processes and stages of Land registration recommended

Stages	Processes
1	The Scheme Officer processes the application for the Certificate of Occupancy (C of O), signs off on the file and forwards the files to Executive Secretary Land Use Allocation Committee (ES LUAC) - 5 Days
2	ES LUAC approves processing and signs letter of allocation. ES LUAC signs off on the file and sends the file to the Senior Special Assistant (SSA) to His Excellency, Lands (SSA Lands) - 5 Days
3	The Surveyor General provides Scheme Officer with digitized survey – 5 Days
4	The SSA, Lands vets the entire file and sends it with a covering memo to the Permanent Secretary (PS) Lands Bureau (PS Lands) - 3 Days
5	The PS, Lands signs off on the memo and sends the file to His Excellency - 3 Days
6	His Excellency approves file and electronically signs the C of O – 3 Days
7	Upon approval and signing of the C of O by His Excellency, He signs off and sends it to the Deputy Registrar for further processing - 2 Days
8	The Deputy Registrar processes the file further, signs off and sends it to Registrar of Titles for final registration - 2 Days
9	The Registrar of Titles registers the C of O, signs off and request for printing of C of O and signed it for collection- 2 Days

The whole processes are designed to be completed in 30 days in line with word bank recommendation {15}, {16}.

The documents that needed to be attached with the application is uploaded on the net for processing of C of O in the study. The documents are varies from state to state but in all cases the documents must include the following as shown in the table 5 below.

Table 5: Document to be attached with the application

S/NO	DOCUMENTS
1	Cadastral plan
2	Formal letter to LUAC
3	Passport photograph
4	Evidence of form payment
5	Land payment receipt
6	Application form/information form
7	Evidence of Tax payment

Form1

Personal Information

Other Names : OYETAYO Surname : BABALOLA

Phone No : 2348069165005 Gender : Male Female

Plot No : 6 NOK : BABALOLA MUYIWA

Plot Area : 1056 msq

Address : AJETUMOBI IWALEWA FAMILY LAYOUT
OFF AULE ROAD
AULE GRA, AKURE
ONDO STATE.

Land Information

Surveyor name : BABALOLA S O

Date : 5/ 3/2016

Owner Survey

Submit

Figure 4: Hybrid Cadastral Plan Interface

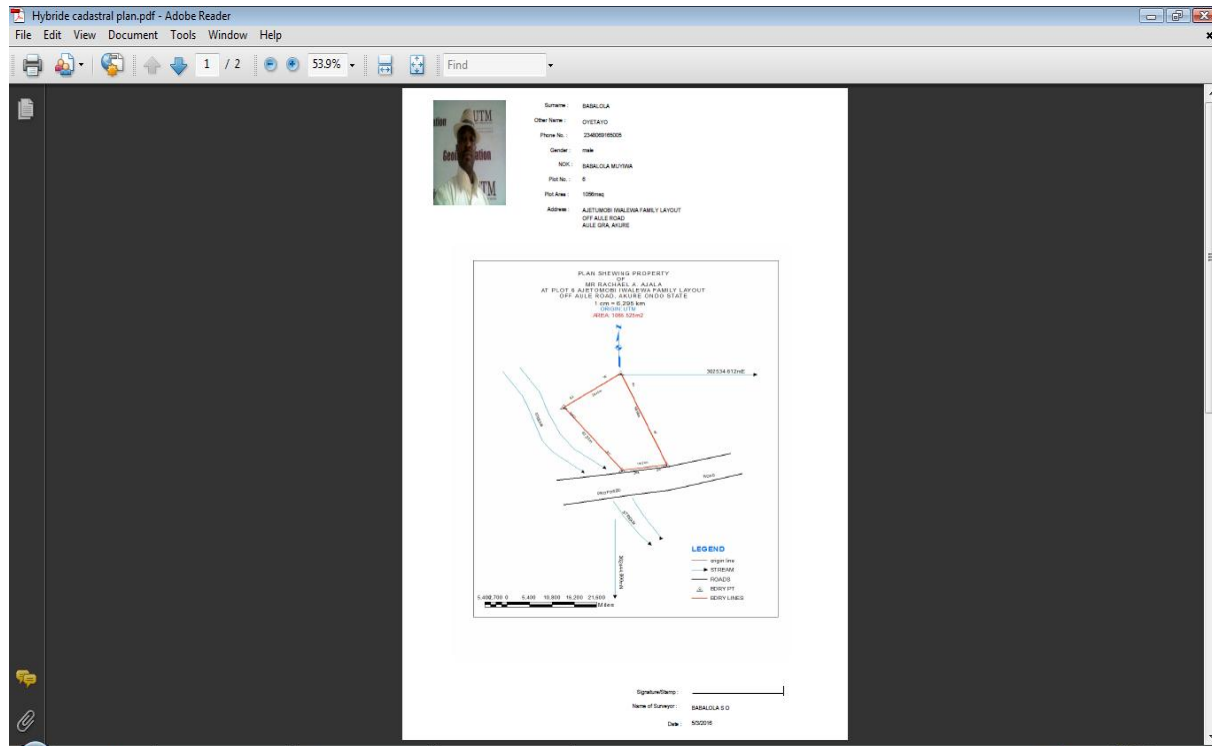


Figure 5: Hybrid Cadastral Plan

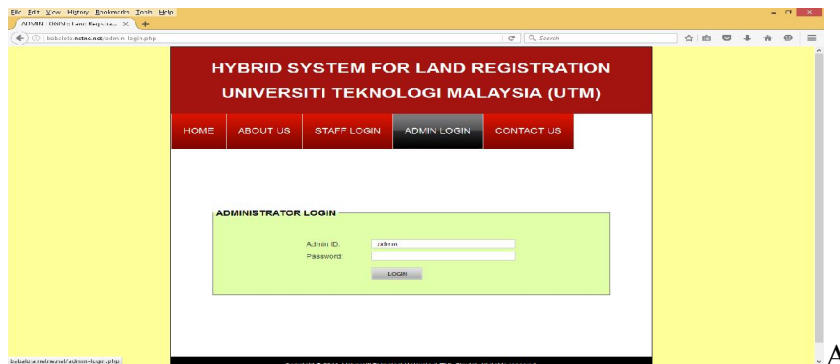
4.2 Systematic and Sporadic Land Registration (Land Adjudication)

Table 6: Differences between Systematic and Sporadic Land Registration

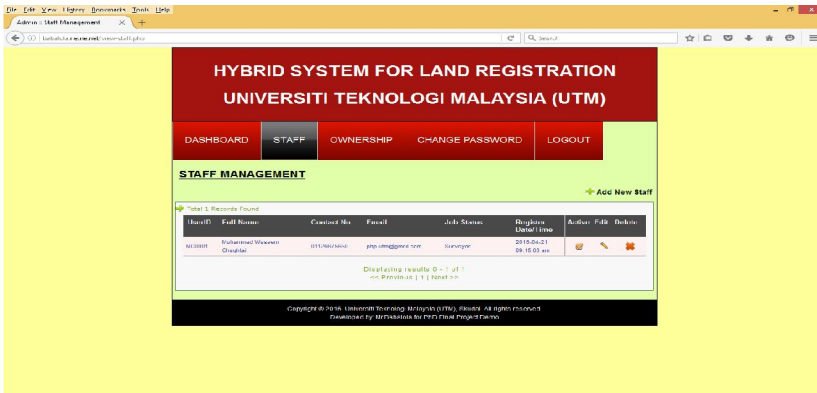
Systematic Adjudication	Sporadic Adjudication
1. Systematic adjudication is a government-initiated process of adjudicating land rights on a whole of municipality basis, progressing boundary by boundary and aiming to register all untitled land in the locality. Activities are undertaken by a Systematic Adjudication Team which works within the community from an office known as the field base camp. The Systematic Adjudication Team undertakes the collection of evidence from applicants, cultivators, neighbors and officials in order to determine the validity of a claim for the issue of a patent.	1. Sporadic adjudication is a client-initiated application for adjudication of one parcel of land. Here a potential applicant gathered the evidences in support of a claim of ownership of the parcel and presents it to the Department for assessment. The Department carries out office and field-based reviews and either accepts or rejects the application.
2. In systematic adjudication, the application for a free patent is initiated by the Department (the government)	2. Whereas in sporadic adjudication the applicant initiates the application (the individual)
3. Systematic adjudication seeks to title all untitled land in a Systematic Adjudication Area,	3. Sporadic adjudication will proceed parcel by parcel according to the location and demands of applicants.
4. Systematic adjudication is undertaken from a systematic adjudication field office so that field staffs are accessible to members of the community and applications for public land may be filed there.	4. In sporadic adjudication, applications are lodged in the office in the locality of the land in the application which has jurisdiction over the land subject of the application
5. Systematic adjudication is preceded by an extensive community mobilization process to ensure transparency and to identify disputes and counter-claims.	5. Sporadic adjudication has no accompanying community mobilization program.
6. In systematic adjudication, members of the community assist in defining land parcels and identifying appropriate applicants by providing corroborative evidence in support of applications.	6. In Sporadic adjudication, does not need any member of the community to assist in defining land parcels and identifying appropriate applicants.
7. In systematic adjudication, if the land is not surveyed, a cadastral survey is organized by the Department (the government).	7. In Sporadic adjudication, the individual applicant arranged for the survey from the registered Surveyor or the Department and shoulders the expenses for the survey.
8. In systematic adjudication, the Systematic Adjudication Team helps the applicant to organize and compile evidence.	8. Whereas in sporadic adjudication thus responsibility rests on the applicant.

5.0 Results and Discussion

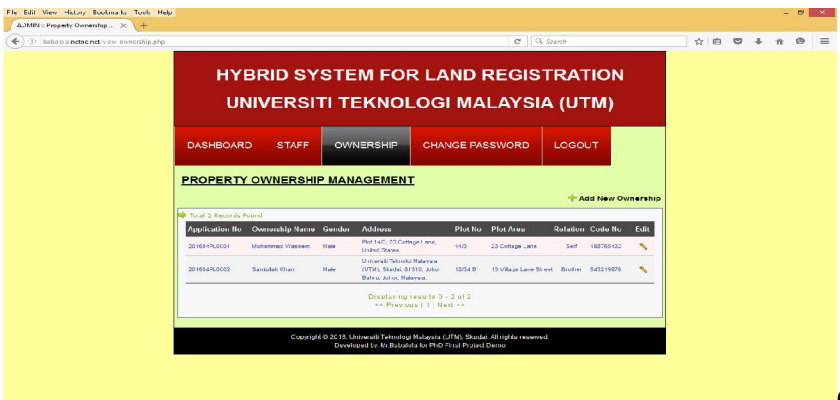
Figure 6A, below indicate the login for admin where records are created for the staffs and the ownership. There are 6 records created for the staffs while 8 are created for ownership as shown in figure 6B and 6C respectively. The most important field in the records of the ownership is the application number. It is designed to be automatically generated with the database. The application number is to be used by the applicant to check the status of their application online as the work is progressing.



A



B



C

Figure 6: Login A for Admin to create records for B, Staff and C, ownership

Login for Staffs to Check uploaded documents and make comments. Meanwhile, the staffs have been notified on his phone and email once the documents has been uploaded or submitted to him by the main admin.

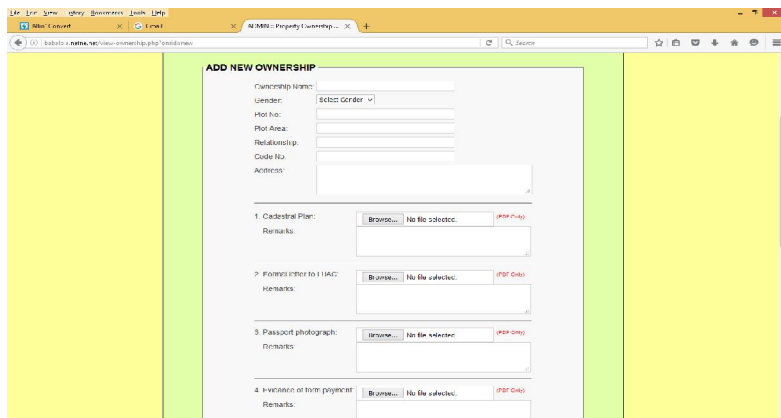
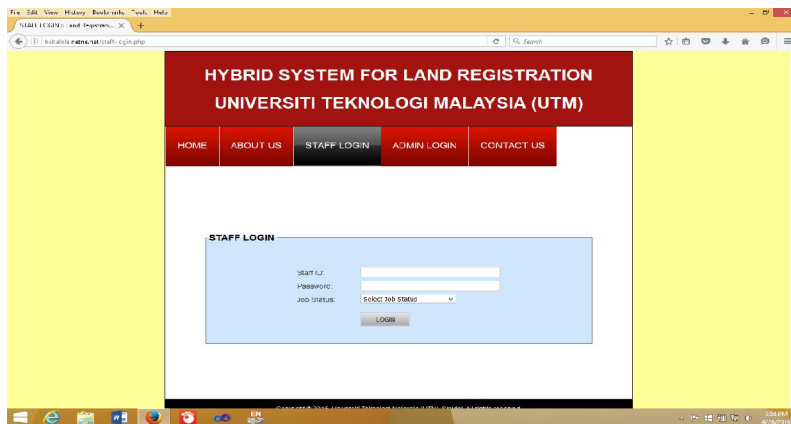


Figure 7: Login for Staffs

Having checked all the documents and make the necessary recommendations, staff 1 submit back to the Admin to make sure that the right thing has been done by staff 1. Staff 2 also received the uploaded documents and make the necessary comments and submit back to the Admin, these continue till the last staff where an applicant will be signed for the copy of C of O. On the system, green light indicate the process is ongoing, red indicator indicates the work over stayed or it is not done by the staff concerned within the limit of time while yellow indicator in the system means, the work has been done and it has passed to the next stage.

However, the applicants has the opportunity to check for the status of the application anywhere in the world by login through the ownership page using the application number automatically generated by the system. The database was designed to keep the records over the years for the validity of 99 years of the C of O when it may be renewed.

CONCLUSION

The land that is not registered is unacceptable as evidence or as a proof of ownership and transfer of an interest. It does not have any economic value, although, there are a number of problems that are associated with the difficulty arising from land adjudication, registration and titling. Land Use Act of 1978 has been the source of major impediment to it. This study tried to encourage land title registration interest by providing modern technologies that are faster and acceptable with low rate and minimum delay. The merit of the hybrid cadastral plan produced in this study cannot be over emphasized because it provides security of ownership right on the survey plan produced for land registration processing. Also, the study has added an improvement to Cadastral survey mapping, and land registration practices in Nigerian Cadastre System.

Consequently, the next study will be on how the whole processes involved in land registration will be computerized in line with World Bank recommendation for the adoption of Land Administration Domain Model (LADM) in the study area.

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