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Space-Enhanced Systematic Land Titling and Registration: A Stride at Resuscitating Nigeria's 'Dead Capital'

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ABSTRACT
Since the commencement of land registration in Nigeria, less than 3% of land, mainly in urban areas had been registered. This is partly due to the prevalent sporadic method. Sporadic procedure of obtaining title is associated with many problems which include time and cost. This study examined space-enhanced systematic land titling and registration (SLTR) approach in Ondo State, Nigeria towards easing the titling logjam in the State. Questionnaire and Oral interview were used to elicit information from landowners and heads of departments of two government agencies. The study purposively sampled 1002 landowners and 4 heads of departments. Data derived were analysed using descriptive statistical methods. Analysis showed that systematic method was more efficient than the sporadic in terms of cost (10:1) and time (6:1). The study concluded that space-enhanced SLTR method is efficient in terms of time and cost and also effective at unlocking the 'dead capital' of the State.

Keywords: Land registration, Titling, Efficiency, Dead capital, Cadastre

1. INTRODUCTION

In Nigeria, agriculture and mining used to be the predominant occupations and major sources of revenue prior to the era of oil boom in 1970. Nigeria economy has thrived on mineral resources like tin in Plateau, coal in Enugu, cocoa and kolanut exportation in south western part of the country. Since the discovery of crude oil, attention of government and individuals had shifted from these sources towards oil revenue (Ikelegbe, 2006). Not until of recent when the revenue from oil is no longer able to sustain the teeming population that it dawned on the government to diversify the economy. Interestingly, the country has a vast landmass of 923,768 square kilometres (NBS, 2012) and individuals have substantial amount of properties in terms of landownership, however, the paradox of this fact is that many are living in penury due to inability to obtain title documents which can thereafter be used as collateral in obtaining loan and other financial aids (Meinzen-Dick, 2009; Eleh, 2017) Considering all of these challenges and opportunities, the government aimed at exploring other sources of revenue generation. One major step towards realizing this goal is by empowering the citizenry through formal titling and land registration.

Access to land appears to be increasingly difficult due to population increase and various conditions attached to the processing of certificate of ownership. Without a certificate of ownership, financial institutions will not be able to give financial assistance to individuals or corporate bodies, though they are the rightful owners. In order to arrest this situation, government intervened through sporadic method of obtaining title.

Despite the sporadic method of titling which had been in operation in Nigeria since 1883, not more than 3 per cent of the land in the whole country mainly in urban areas has been registered in 130 years of its commencement (PTCLR, 2013); the remaining 97% is locked up as a 'dead capital' (Atilola, 2010a, 2010b). In an attempt to unlock the potentials of the 97% of land resource through titling and registration, the Land Reform Agenda was initiated by the Federal Government of Nigeria and the Presidential Technical Committee on Land Reform (PTCLR) was inaugurated to implement the agenda.

One of the strategies adopted by the Committee in actualizing its Terms of Reference is by employing Systematic Land Titling and Registration (SLTR) method. SLTR is a method of bringing all parcels of land in a defined area/jurisdiction into the formal system of land registration through a single process of public education, adjudication of titles, surveying or other means of identifying the parcels, creating unique parcel numbers and issuing titles/certificates. By this approach, the boundaries of parcels of land in a given area and the possessory rights of individuals, families or corporate bodies are determined in the presence of all adjacent land holders of such parcels of land.

The concept of 'space-enhanced' is added to systematic land titling in order to enhance the speed at which formalization of land title is done while accuracy is also ensured. This is achieved by making use of orthoimage. An orthoimage is useful in land administration because of the uniform scale achieved after rectification; it enables land record of a large area of land or conglomeration of parcels to be kept and analysed. Orthoimage is taken to the field to support field survey and boundary identification. Handheld Global Positioning System (GPS) was also used to capture the position of the boundary points and the boundaries were later digitised in a GIS environment. This approach is new to Nigeria. Considering the ambiguity that surrounded its success; the cost implication and capacity (personnel, equipment, infrastructure, etc) required, the Committee on land reform decided to conduct pilot SLTR - one in the savannah region (Kano State) and the other in the forest zone (Ondo State).

SLTR is a subset of "Fit-for-purpose" land administration which aims at registering all land in a sustainable manner. In order to achieve this,

an 'entry point' is identified in which sophisticated system is pursued incrementally within the available means or resources until all land rights are secured by all for social and economic developments. Absence of this framework therefore portends a clog in the wheel of emergence of a broad-based development. Though the sporadic method is gradually paving way for the systematic method, but how efficient are the two methods of registration in terms of time and cost and how acceptable is the space-enhanced methodology to the landowners? These are some of the questions this paper sets to address.

1.1 The Study Area

The study area covers three local government areas (LGAs) namely Akure North, Akure South and Ifedore in Ondo State. Akure North LGA has its headquarters in Iju/Ita Ogbolu. It has landmass area of 660 square kilometres. Akure South has its headquarters in Akure town with a landmass of 331 square kilometers. Ifedore Local Government Area has its headquarters in the town of Igbara-Oke. It has an area of 295 square kilometres. The population figure of Akure North, Akure South and Ifedore is projected at 163,168, 437,982 and 218,645 respectively in 2014 at 3% annual growth.

The study of the space-enhanced SLTR is justified on the basis of the fact that the study area is one of the two cases of the pioneering efforts for the project in Nigeria. Moreover, the Ondo State project has the tendency of serving as a springboard for other commercial areas of the southwestern Nigeria which is the commercial nerve of the country.

2. LITERATURE REVIEW

The awareness of the importance of SLTR has gained prominence in Asian and European countries such as Cambodia, Netherland (Burns, 2004; Thiel, 2010; Jones, 2010) and in some African countries such as Rwanda, Ghana, Uganda (Rugema, 2011; Karikari, 2006; Sittie, 2006; Addai *et al*., 2011). However, there is paucity of literature, especially empirical findings, on systematic land registration in Nigeria.

Various authors have linked high poverty level with low level of land titling and inadequate documentation of ownership right in land property (Peter Kuntun – Mensah, 2006; De Soto, 2000; Atilola (2013). Also, Dowell and Leaf (1989), De Soto, 1993 established that there is a strong relationship between land titles and land prices. De Soto (1993) noted that in Peru, investment in property increases nine fold when squatters obtain formalised title to their homes. He also observed that in Costa Rica farmers who hold formal land titles have much higher incomes than those who do not.

According to World Bank Ranking (2013), Sub-Sahara African countries namely Rwanda, Botswana, Ghana and Nigeria rank 1st, 2nd, 4th and 47th respectively in the ease of registering property. On the ease of doing business, the four countries rank as follows Rwanda (2nd), Botswana (4th), Ghana (5th) and Nigeria (20th). This implies that there is a correlation in property registration and ease of doing business. It was observed that the countries with proper system of land registration thrive in business than the countries with less efficient registration system.

2.1 Fit-for-Purpose (FFP) Land Administration

Global efforts at solving land administration challenges especially in developing countries have metamorphosed into Fit-for purpose (FFP) land administration framework targeted at delivering security of tenure that is flexible, inclusive, participatory, affordable, reliable, attainable and upgradeable (FIG-World Bank, 2014).

In providing the guiding principles for developing countries interested in FFP, Enemark, et al (2016) classified the stakeholders into three namely: Advocates (Politicians, United Nations Organisation), Policy and Strategy Makers (Decision makers) and Implementers (Land professionals). Also, Enemark, *et al* (2015)

offered three key principles for building country specific land administration and they are spatial or technical, legal and institutional frameworks. Under each of the three core components, four guide principles are outlined (see Table 1).

For successful implementation of FFP land administration, three key areas were strongly highlighted- capacity development strategy for building and sustaining the systems; assessing the costs and seeking support from World Bank, United Nations and other organisations; and strong political will and leadership for monitoring of the set goals for overall benefits of the society (see Enemark *et al* 2016, Enemark *et al,* 2015).

Table 1: The Key Principles of Fit-for Purpose approach

Spatial framework	Legal framework	Institutional framework
• Visible (physical) boundaries rather than fixed boundaries	• A flexible framework designed along administrative rather than judicial lines	• Good land governance rather than bureaucratic barriers
• Aerial/satellite imagery rather than field surveys	• A continuum of tenure rather than just individual ownership	• Integrated institutional framework rather than sectorial silos
• Accuracy relates to the purpose rather than technical standards	• Flexible recordation rather than only one register	• Flexible ICT approach rather than high-end technology solutions
• Demands for updating and opportunities for upgrading and ongoing improvement	• Ensuring gender equity for land and property rights.	• Transparent land information with easy and affordable access for all.

Source: Enemark *et al*, 2015

2.2 Concept of Efficiency

According to business dictionary, efficiency is the comparison of what is actually produced or performed with what can be achieved with the same consumption of resources (money, time, labour, etc). Efficiency is a measure of the relationship of outputs (quantity and quality) to inputs which may also be expressed as a ratio. Efficiency can also be defined through any of these three categories: business, technical and engineering. Lovell (1993) defines the efficiency of a production unit in terms of a comparison between observed and optimal values of its output and input. The comparison can take the form of the ratio of observed to maximum potential output obtainable from the given input, or the ratio of minimum potential to observed input required to produce the given output. In this paper, efficiency of land titling is considered in terms of cost and time.

2.3 Land Titling and Cost

Some of the indices of measuring business performance (efficiency) in relation to property registration system are procedure, time and cost (World Bank, 2014). Chen (2013) applied the three indices of the World Bank, to measure efficiency of property registration in Qingdao, China. The additional indices used by Chen are simplicity, fit-to-context and certainty. Using the World Bank indices as a benchmark, his findings indicate that property registration in Qingdao is 'very efficient' in the sub-categories of Simplicity, Speed and Fit-to-Context, while it was considered 'efficient' in the sub-categories of Cost and Certainty.

In sporadic method of land titling, it was generally believed that survey accounts for the high cost and the delay in processing. Atilola (2013) opined that technological advancement, especially fit-for-purpose survey using GNSS rovers with CORS had changed this assumption. He argued further that a large number of contiguous plots, if surveyed together, have the capability of saving 20% to 30% of the cost than surveying them individually. However, Atilola (2013) did not validate these claims with empirical studies. This study therefore demonstrates that systematic land titling method is cost efficient using orthophoto as basis of parcel identification.

Empirical studies in sub-Sahara Africa have shown that land formalization in terms of registration and titling have economic impact (Place and Migot-Adholla, 1998; Cartel *et al*, 1997). Also, Roth *et al* (1994) using a relatively small sample of plots in Somalia irrigation scheme found that titled land is significantly more valuable than untitled land.

Kato *et al* (2000) in their study in Cambodia, identified corruption as one of the causes of increase in the costs of registration. They also established a link between cost and time. The claimants who could easily afford the bribe get their registration completed within two weeks while those who could not wait for about two years to complete their registration.

2.4 Land Titling and Time

Across the world, time is an important factor in land administration and economic discourse. Bogaerts and Zevenbergen (2001), while advocating for general boundaries argued that demarcation, measuring and registration of fixed boundaries require more time and effort. World Bank study on Africa showed that "if no dispute occurs, the process of land registration takes an average of 15 to 18 months and that normally a period of two to seven years is not uncommon." (UNCHS, 1991).

Before and after the Colonial era in Nigeria, manual record keeping was in use by all land related sectors in Nigeria. The surveyor, as a land data manager, was and is still responsible for data acquisition and maintenance. In addition, he produces survey plan which is required to be attached to the legal instrument for registration of titles. Unfortunately, the surveyor carries out this assignment using analogue method. Maps and data are kept in files and cards. The stored files are retrieved by manual tracing. To worsen the situation, the procedure of obtaining a Certificate of Occupancy (C of O) is expensive and the administrative protocols and bottleneck tell on the time taken to obtain title to a parcel of land.

One of the identified causes of the delay in securing land title is the conventional survey method being employed in sporadic titling and registration. The delay in the processing of C of O has prompted the various stakeholders to call on both the state and federal governments to review process of land titling and registration to allow for proper framing and execution of land policy. In the light of this, systematic land titling and registration was introduced by the Presidential Technical Committee on Land Reform (PTCLR). The effort of the Committee is geared towards mitigating time and cost spent on obtaining title and registration of land parcel in order to increase level of activities in mortgage transactions, land and property markets. However, perceptions of the stakeholders vary with respect to the acceptability and reliability of the space based systematic titling method. Among the landowners involved in the titling process, the systematic approach has generated diverse opinions due to age-long traditional method in use. It is therefore pertinent to investigate into this to clearly capture their perceptions and acceptability of the method.

Several studies (see Deininger, 2003; Kanji *et al*, 2005; Abebe, 2004; Lars, 2004; Bezu and Holden, 2014) have investigated systematic land titling and registration over the years, mostly in developed countries. But in developing country like Nigeria, the concept of systematic land registration is just emerging with no-known empirical study on this subject. This apparent absence of information has made it difficult to have adequate knowledge of the behaviour of systematic land titling and registration in Nigeria, especially in Ondo state Nigeria where a pilot project took place. There is a perceived gap in efficiency and acceptability of the space enhanced which underpins the need for empirical research on systematic land registration. This study attempted to fill the literature gap by using empirical findings to uncover the ambiguities underlining the efficiency and acceptability of the space-enhanced systematic titling.

2.5 Related Studies on Land Titling and Registration in Developing Countries

A careful study of the system of land titling in Rwanda, Kenya, Ethiopia, Mozambique, Uganda and Ghana shows various peculiar characteristics of these countries and this is an indication that no "one-solution-fit–all" Model. Whichever model that is being adopted, there is always an 'entry point' for any developing country to undertake FFP approach of securing formal title and build on it for a more sophisticated technological approach.

Result of Land Tenure Regularisation (LTR) in Rwanda, which was a test of the FFP model, validates the potentials of FFP at overcoming the long-standing challenges of securing tenure rights. Instead of the conventional surveying techniques, aerial photographs were used to identify spatial units and with the assistance of locally trained personnel, 10.3 million parcels were registered in a one-off, low-cost community-based process of land tenure regularisation at the rate of UK£3.42 (US$5.47) and UK£4.05 (US$6.48) per parcel/spatial unit (Sagashya and English, 2009; Enemark et al, 2015 and Enemark et al, 2016). Political commitment was identified as one of the success factors while judicial and financial constraints were identified as threats to the program. Relating this to Nigeria, the entire country is yet to be covered but the same methodology of LTR in Rwanda is being employed in the pilot states of Ondo and Kano. So far, about 14,600 parcels of land have been demarcated in three (3) selected Local Government Areas (LGAs) of Ondo in less than a year at the approximate rate of UK£39.13 (US$49.34) as presented in this paper. Also, Kano State government partnered with Department for International Development (DfID) to provide title to about 1000 property owners, stimulate economic growth and sanitize land transaction through Systematic Land Titling and Registration (SLTR) approach. As a result of the political will of the government of Kano State and counterpart funding by the development partners, SLTR was scaled up to eight (8) LGAs of the State. The government recruited and commissioned 174 casual workers for the scale up (Newsrescue, 2016)

In Kenya, where the issue of land grabbing and non transparent titling existed, new land policy was formulated to accommodate varying degrees of tenures and cater for both private and public land. Prior to the formulation of the new land policy, land was designated as government land, trust land and private land. Under the new dispensation, all land were categorised as Public Land, Community Land and Private Land. Government documented and mapped existing forms of communal tenure- customary, contemporary, rural or urban and incorporated them in the evolving land policy (Siriba *et al,* 2011; Wily, 2018). Through this methodology, FFP was exemplified. Under the private land, a broad spectrum of rights were considered and the law was all encompassing in that it took into consideration the rights of the vulnerable groups- spouses and children and the minority communities such as forest dwellers and pastoralist. In Nigeria, land reform laws are underway to replace the controversial and obnoxious Land Use Decree of 1978. In this way land resources would be utilized maximally when individual rights are well spelt out and entrenched in the law.

In Ethiopia, measurement of land holdings as well as recording the property holder and neighbours certification program aims at issuing certificates to existing land holders with some limited field demarcation. The first stage of certification is proposed to take two or three years. The certificate issued is called Land Use Certificate. This is followed with a more accurate delineation and recording of property boundaries and expected to take 10-20 years. This second stage does not alter the property rights but merely upgrades the physical identification of the property. Similar pilot programs are ongoing in Ondo and Kano States of Nigeria to make certificate of occupancy available to landowners using Orthophoto as a basis for field demarcation.

3. RESEARCH METHODOLOGY

Both primary and secondary data were used for this study. Primary data were collected through the administration of questionnaire and field observations while secondary data was obtained from Orthophoto maps and the records of Land registry, Ondo State. The data collected from primary sources include personal data of the landowners and government officials. Also their individual experiences with the land titling programme were explored.

Close-ended questionnaire were used to elicit quantitative data concerning household experiences with the systematic land registration process. A sample size of 5% of the total households already covered by the demarcation officers in the study area was taken.

In the rural Ifedore LGA, 2912 parcels have been demarcated, also in urban Akure South, 9989 parcels have been demarcated. In Akure North, which comprised mixed urban and rural dwellers, 3,027 parcels have been demarcated so far. Questionnaire was therefore distributed based on this proportion in the ratio 300:700:300. Out of the 1300 questionnaire that was distributed, 1002 questionnaire could be retrieved in the three target study area. One out of every twenty landowners in the study area whose land had been demarcated was sampled. Comprehensive list of the adjudicated land was obtained from the Lands Bureau for the purpose of reaching the landowners.

Purposive sampling procedure was employed in the selection of landowners. The reason for this selection procedure was to access landowners who have been involved in the land titling and registration programme and who will be able to provide relevant information for the study. The Local Government Areas (LGAs) in the study area were stratified into three: urban, rural and semi-urban. Three wards (two with systematic titling and one with sporadic titling experiences) were purposively selected from each LGA. In the three selected wards, 5% of the households were selected for questionnaire administration using systematic sampling technique. One adult was sampled in each of the selected households. Data analysis was performed using percentage and frequency distribution.

4. DATA PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Efficiency of Sporadic and Systematic Methods of Land Titling in terms of Time

Table 2 shows the result of efficiency of both the sporadic and systematic titling methods.

Efficiency of sporadic method of land titling was determined based on the volume of transactions within the year 2014. A comparison of the volume of C of O processed (completed) over a period of one year with the number of applications received during the same period of time. The result revealed that there was a wide disparity in the total output. Within the period of a year, 633 titles were concluded through sporadic method, while 8,595 titles were completed in the same year through systematic approach.

Table 2: Number of Registered Parcels in 2014 for Sporadic and Systematic Methods

Month	Sporadic		Systematic	
	Applied	Registered	Applied	Registered
January	67	40	733	246
February	73	34	2884	527
March	86	60	4232	1130
April	80	58	3364	1539
May	69	30	1203	1242
June	61	70	140	1531
July	54	35	77	1203
August	52	83	1160	846
September	68	79	833	331
October	74	55	-	-
November	70	41	-	-
December	59	48	-	-
Total	**813**	**633**	**14626**	**8595**

Source: *Author's Field survey*, 2015

Table 3: Number of Applications between January and September 2014 based on Systematic Method

LGA	Akure South	Ifedore	Akure North	Total (Input)
Jan	733	0	0	733
Feb	1190	952	742	2884
March	2166	1138	928	4232
April	2159	541	664	3364
May	600	341	262	1203
June	0	0	140	140
July	0	0	77	77
August	1094	64	2	1160
Sept	783	45	5	833
				14626

Source: *Author's Field survey*, 2015

Table 4: Cost Estimate of Certificate of Occupancy by Landowners

Cost of C of O	Frequency	Percentage
No idea	291	29
Less than N100,000	142	14.2
N100,000- N200,000	542	54.2
N201,000-N300,000	27	2.7
Total	1002	100

Source: *Author's Field survey*, 2015

Table 5: Reasonable and Affordable Cost of C of O

Cost of C of O	Frequency	Percentage
No Suggestion	297	29.6
Less than N10,000	42	4.2
N10,000- N20,000	384	38.3
N21,000-N30,000	241	24.1
Greater than N30,000	38	3.8
Total	1002	100

Source: *Author's Field survey*, 2015

Table 6: Average Cost of C of O

	Category	Urban	Semi Urban	Rural
Systematic Method	Cost of C of O per plot in Naira (N)	25,000	15,000	10,000
	Pound Sterling Equivalent (UK £)	65.21	39.12	26.08
	Dollar Equivalent (US $)	82.23	49.34	32.89
	Cost of C of O (~~N~~)	150,000	91.25	493.40
Sporadic Method	Cost of C of O (UK £)	150,000	391.25	493.40
	Cost of C of O (US $)	150,000	391.25	493.40

Source: *Author's Field survey*, 2015

4.2 Cost of titling based on Systematic Method

The cost of obtaining C of O under systematic method of titling in the study area, as shown in Table 6, is categorized into three: N25, 000 for urban area, N15, 000 for semi urban and N10, 000 for rural area. From these figures, the average cost of obtaining C of O can be put at N15, 000. In essence, bulk of the cost is borne by the government. The cost of acquiring orthophoto map covering the entire mapped area and other logistics was by the government. Since systematic titling is an investment by the government to improve security of tenure, growth of land markets, knowledge of who owns what and where, and documentation of state lands, etc, this explains the low cost on the part of the land owners.

Figures in Table 6 showed that the average cost of obtaining C of O under sporadic and systematic arrangement was N150,000 (UK£391.25/US$493.40) and N15, 000 (UK£39.13/US$49.34) respectively. Under systematic titling approach, the cost varies

according to categories of urban, semi urban and rural. However, for sporadic titling approach, there is no difference in the cost of C of O despite the heterogeneity in settlement. It follows that systematic titling is more cost efficient, especially on the part of the landowners. It shows a 90% reduction in the cost of obtaining C of O. Despite the reduction in the cost, this is still relatively high when compared to the cost of obtaining title certificate in Rwanda.

Furthermore, the efficiency of both Sporadic and Systematic Methods were compared by asking the landowners if the sporadic method of land titling was more efficient than systematic method in terms of cost. Table 7 shows the tabulation of response obtained from the list of questionnaires administered within the landowners in terms of cost using the 5-Likert Scale Pattern.

Table 7: Tabulation of Results obtained from Landowners' Response in terms of Cost

Methods of Land Titling & Reg.	Response in 5-Likert Scale Pattern					Total
	SD	D	N	A	SA	
Sporadic	52	131	12	32	29	256
Systematic	174	361	107	56	48	746
Total	226	492	119	88	77	1002

Legend: 'SD' means 'Strongly Disagree', 'D' means 'Disagree', 'N' means 'Neutral', 'A' means 'Agree', and 'SA' means ' Strongly Agree'.

Source: *Author's Field survey*, 2015

The result in respect of the perception of landowners about the cost effectiveness of the two systems is contained in Table 7. The result shows that out of 746 landowners sampled from the wards where systematic land titling registration had taken place, 535 ('Strongly Disagree'-174 and 'Disagree'- 361) of this sample representing 71.7% disagreed that sporadic method was more efficient in terms of cost while 104 (13.9%) landowners agreed that sporadic was more efficient than systematic method. Those who were indifferent on this view were 107 representing 14.3%. Also, among the 256 landowners in the wards where sporadic method was experienced, 183 (71.5%) disagreed while 61 (23.8%) landowners agreed that sporadic method is more efficient in terms of cost than systematic method. On the aggregate, out of the 1002 landowners in both sporadic and systematic areas, 718 (71.7%) landowners disagreed while 165 (16.5%) agreed that sporadic method is more efficient than systematic method in terms of cost. The remaining 119 (11.9%) were indifferent. The divergent views of the respondents could be attributed to the financial status of the applicants. Since the majority were poor such amount to them was outrageous while only the few that were financially buoyant could easily afford it without complaining.

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7. KEY TERMS AND DEFINITIONS

Public notice: It defines the process and period by which the administrative system can be legally assumed to have properly informed the public, for example in connection with issues such as adjudication.

Register: It is a facility for recording land and property matters within a particular jurisdiction. It may be paper based or computer based.

Registration: It is the process by which rights and interests are recorded in registers. These may include land registration, deeds registration, title registration, sporadic registration, systematic registration and registration of transactions.

Title deed: A Title is an ownership certificate based on scientific survey of a specific parcel, with the results registered in a database; the document is final and defensible in the case of counter-claims.