## THE NEXUS BETWEEN LAND ADMINISTRATION SYSTEM AND LAND MARKET DEVELOPMENT IN DELTA STATE, NIGERIA

#### Bernard Adjekophori<sup>1</sup>, Charles C. Egolum<sup>2</sup> & Fidelis I. Emoh<sup>3</sup>

<sup>1, 2&3</sup> Department of Estate Management Nnamdi Azikiwe, University. Awka, Nigeria Corresponding Author`s Email: <u>benejis@gmail.com</u>

**ABSTRACT**: One of the most daunting challenges of urban dwellers today in developing nations is how to promote balance land use that will reduce conflict, abuse, misuse and chaotic location of activities, hence the need for effective land administration system. This study examines the relationship between land administration system and land market development. Using Delta state as a case study, the study adopted a survey research design using a well-structured questionnaire to elicit information from 277 respondents comprising of estate surveyors and Valuers, estate agents/developers and land officers in Asaba, Warri, Sapele and Ughelli in Delta state. Data collected were subjected to statistical analysis with the aid of Statistical package for social science version 21.0. The findings revealed that there is significant relationship between land administration system and land market development in Delta state. It is evident that land administration and land market in the study areas is fraught with various challenges such as market and technical, administrative, cost and legal, financial and bureaucratic challenges. It was also discovered that the identified requirements for effective land administration system were important and indispensable for successful land market operation. The study therefore recommends that the existing policy on land administration should be evaluated to enhance the overall performance of the land administration system in the state; there should the regular updating the land base transaction records to prevent multiple ownership of a parcel; actors in land market should simplify the procedures of transferring land rights; Land transactions should be documented and registered to avoid dispute among land owners and the buyers; government policies and regulations should be strictly enforced as these will enhance land market development in the state; a robust strategy that will ensure long-term sustainable development of an efficient LM is also required for a better and improved land administration that will further enhanced the land market in the State

KEYWORDS: development, Land market, land administration, urban

#### **INTRODUCTION**

The concept of land has consistently occupied a central place in the annals of human society sequel to the enormous role it played and is still playing in the existence of man as a living creature (Okorobia, 1996, Baadom & Akpobari, 2016). Land is not only an indispensable element in development process, but also the most basic natural resources for which all man's activities takes place. Right from the basic to modern knowledge of economics, land has remained important

factor of production to be considered by individuals or organizations (Adjekophori, Adebiyi & Omorogieva 2017).

One of the major challenges confronting urban centers is how to promote balance land use that will reduce conflict, abuse, misuse and chaotic location of activities, hence the need for effective land administration system (LAS). LAS according to Udo and Udoudoh (2018), is concerned with approaches, programmes, policies and practices that seek to ensure that population growth is matched with access to land. Land administration in most African countries consists of the conventional land administration system based on land registration, customary and informal LAS. The vast majority of African countries populations use the customary LAS, especially in the rural area and about 30 - 80 percent of the cities in the urban centers are still not using the formal land registration and administration system (UNCHS, 1999). The need and adoption of the formal process of LAS is therefore a big and missing link.

Most successful LAS provides the confidence and public face of land trading that in turn support highly geared trading process that accelerate creation of national wealth. Under functioning market, land will be allocated to the highest bidder and land use changes will be mediated by market–determined land prices (Lasserve, Lasserve & Selod, 2013). The role of government however is to ensure clarity of property right and enforce adequate measures to address externalities that are not internalized by land market. In many states in developing nations, Delta State inclusive, the stories are actually different, social, economic and political constraints, unclear land rights, insufficient land supply, weakness of land governance, dysfunctional land administration and unregulated land market characterized their LAS (Adjekophori, Egolum & Emoh, 2019)

The formalization of property rights into tradable commodities involve identifying robust land rights and restriction within existing central norms, managing disputes, establishing priorities amongst conflicting rights and layering different simultaneous opportunities in single parcel (Williamson & Wallace, 2007). LAS is responsible for identifying these commodities and creating order to support a reliable trading system.

The theoretical framework for all land administration system all over the world is the delivering of sustainable development, this form the bottom line for economic, social and environmental development as well as good governance (Koroso, 2011). However, efficient socio-economic development and good government required judicious planning, design and implementation as well as rational use of land and its resources ( Opaluwa, Adejare, Samila-Ija, Onuigbo, Nwosu & Idris, 2014). This can only be made possible by active and efficient LAS which is the preoccupation of this paper.

Owning to the invaluable and indispensable contribution of land to the overall welfare of man and nations, land administration and land market has received serious concern and attention from both academics and professionals over decades and around the world. Researches such as Dowell (1993),Feder and Nishio (1999), Sevatdal,(2002), Brits, Grants and burns (2002), Mabogunje (2003), Omirin, (2003), Aluko (2003),Malcome (2004), Mahoney et. al. (2007), Burns and Dalrymple (2008), Williamson, Enemark, Wallice and Rajabiford (2008), Omirin, (2009),

Ukaejiofo (2010), Nubi and Ajoku (2010), Damaris (2013), Beek and Bjerge (2014), Baadom and Akpobari (2016) Dawidonicz and Zrobek (2017), Adjekophori, (2018), Betge, (2019), Dimo & Jossam, (2019) have conducted extensive studies on LAS and LM. Most of these researches found a positive relationship between LAS and LM but identified ineffective land administration system as a hindrance to effective land market operation and development. Building and maintaining of LAS is part of government serious activities for all nations with the primary objective of supporting an efficient and effective land market, environmental protection and sustainable development (Siniak & Saltykou, 2014).

There is an undeniable relationship between a LAS and land market development, the central economic driver for most countries (Dale & Baldwin, 2002). LAS and land market are bound by feedback relationship. The market supplies LAS with information about transactions and changes in the property values while the LAS registers the supplied data, create thematic databases and facilitates data process (Dawidowicz & Renigerbilozor, 2014). An efficient and effective land market will allow landowners to turn their assets into capital that can further be used for other investment purpose (Desoto,2000)

Although previous studies on land administration and land market highlighted above agreed that effective land market can be achieved through efficient land administration system, none of the studies however have particularly addressed how land administration system affects and influence land market development in Delta State. This therefore creates a significant gap in knowledge that motivates this study. Thus the study therefore, examines empirically the relationship between land administration system and land market development in Delta State, Nigeria, with a view to proposing a workable pathway towards a sustainable LAS and virile land market that will enhance economic and sustainable development. The study hypothesized that:

H<sub>0</sub>: There is no significant relationship between Land administration system and land market development in Delta State

## LITERATURE REVIEW

Good administration and management of land significantly influences better land use planning and development for maximum revenues. Availability of adequate and reliable information on land will facilitate effective and efficient land market. Previous studies on land administration reveal that recent analyses of urban land markets show growing concern for effective land administration but lack a robust framework capable of showing how land market function and major policy and regulatory constraints that affect efficient land market operation.

The history of land administration in Nigeria can be traced back to the pre-colonial era. Land was regarded as being owned by community and every member was entitled to the use and enjoyment of the proceeds from it. It was administered through the indigenous traditional institutions. Consequent upon the advent of the colonialism, the responsibility which used to be carried out by traditional institutions was gradually usurped by the British colonial administration. At inception,

the British administration recognized the existence of indigenous tenure systems and did not interfere with operation of the various autonomous units. The colonial administration made laws which merely superimposed it pre-occupation with law and order on the communal land tenure system. The chaotic situation presented by different land tenure systems applicable to different parts of the country coupled with the pressure on land brought about by rapid urbanization in some parts of the country and government inability to acquire land at what it considered reasonable costs for development purposes led to various efforts by government to redress the problems.

Land administration is a system implemented by the state to record and manage rights in land, the major aspects of land administration system include the following; management of public land, recording and registration of private rights in land; recording, registration and publicizing of the grants or transfer of those rights in land through sale, gift, encumbrance, subdivision and consolidation (Ogedengbe, 2016). Ogedengbe further emphasized that land administration has evolved from separate system to manage private rights in land and manage public land. Ogedengbe also stated that in countries with a colonial background there is often a dual land administration system based on western model operate in western areas and areas formerly occupied by colonial land holders and customary system operate elsewhere. According to Bruce (2006), land law reforms activities in support of modern land administration systems are becoming increasingly necessary to keep up with the trend towards market liberalization and the demand for stronger private property rights in land.

Morenikeji, Ayorinde and Owoyele (2013), noted that prior to the promulgation of the land use decree of 1978 in Nigeria, there was no uniform land administration system. they further said that in northern Nigeria land was communally owned and vacant plots where allocated by the chief or the emir in whom the land was vested, no individual had absolute title to land, then in southern Nigeria, a kind of dualism existed in the ownership and control of land in which some parts or the land in a community were owned by individual families and others reserved was held in trust for the community and administered by the traditional ruler.

There had been various policies on land and housing markets in Nigeria. These policies vary from the provision of mass housing through federal housing authority and state housing corporations, site and high income residential housing scheme across the length and breadth of the country by both the state and federal governments. To solve the problem of inadequate funding the "National Housing Fund Scheme" was introduced by the federal government with the federal mortgage bank of Nigeria the apex mortgage bank. According to federal government of Nigeria (2002), the housing policy goal was to "ensure that all Nigerians own or have access to decent, safe and affordable housing accommodation with secure tenant" (Oleyede, Iroham & Ayedun, 2011). they further stated that despites the good intentions of the various governments, varying challenges made the policies not to achieve their desired goals, regulatory frameworks and administrative procedures of ten constitute barrier to the development of more efficient and equitable land markets because costs of conforming to official norms are often higher than what people can afford.

According to Serra, Dowall, Motta and Donovan (2004), urban land markets plays a critical role in shaping urban development outcome determining the location, density, form and price of

residential, commercial, and industrial development. They further stated that urban land markets are driven by both demand and supply factors. on the demand side population growth, income and level of economic activities determines how much land is demanded to support development, then land supply is determined by topography and physical conditions, patterns of land ownership, availability of infrastructure such as roads, electricity, water, etc. and government regulation.

Williamson et al. (2010), presented the land administration functions from a global perspective. This was done based on the Land Management Paradigm (LMP) which includes a broad range of processes that manage land tenure, land value, land use and land development. In addition, the land management paradigm allows moving the meaning of the land administration beyond its normal functions of conventional land surveying and registering (Williamson, Enemark, Wallace, & Rajabifard, 2010)

It is worth to mention here that these land administration functions are different from each other in several aspects such as required profession and amount of work. In addition, Williamson et al. (2010) have described the four functions as follows:

1. Land tenure: This function includes the process where the property is held or has secured access to people such as: ownership of land, a survey of boundaries, management of disputes, loan access to land and legal rights and responsibilities of owners and users.

2. Land value: Land value function includes a specified process of valuing the properties to get the suitable value for taxation and market purposes.

3. Land use: This includes the process of adopting and changing the uses of lands according to specific laws and regulations to get the optimal utilization of lands.

4. Land development: This function includes the process of constructing buildings or infrastructure for public and private purposes (Williamson et al., 2010). Payne (2012), identified some challenges of land administration, and they are as follows;

- 1. Security of tenure
- 2. Regulatory barriers
- 3. Land use planning
- 4. The rise of neoliberalism
- 5. The political economy of land

Urban land markets can be affected by demand and supply, land sale and lease, spatial planning, speculation that affects land price, and formality and informality of urban land market. Insights into some of these characteristics which predominantly shape the operation of land market are given below.

- 1. Demand and Supply in Urban Land Market
- 2. Speculation
- 3. Land Sale and Land Lease
- 4. Formal and Informal Land Market
- 5. Land Market Institutions and Organization

Koroso, (2011) assessed urban land market from good governance perspective in China and noted that the main driving force behind land market is rapid urbanization, improved tenure security and economic growth contributed to the land market system in China. Barsukova, Radchevskiy, Saifetdinova, Bershitshiy and Paramonov, (2016) studied the problems and prospects of the land market development in Russia and discovered that land market contributes to problems of unclaimed land shares and contributed to good turnover of land in all sectors of the land market and agricultural land market price.

Morenikeji, Ayorinde and Owoyele (2013), assessed the problems of land administration in Oyo and Niger States, and discovered that there was cumbersome process of getting right of occupancy, frequent changing of public officers, poor record keeping and inability of government to pay compensation in respects of acquired land. Butler (2013), evaluated on Nigeria land markets and the land use law of 1978, and noted that there was excessive speculation and accumulation of land wealth in few hands than the larger population.

Land administration system provides the infrastructure for implementation of land policies and land management strategies in support of sustainable development. The infrastructure includes institutional arrangements, legal frameworks, processes, standards, land information, management and dissemination systems, and technologies required to support allocation, land markets, valuation and control of use and development of interests in land. (Ogedengbe, 2016),

## STUDY'S SETTING AND METHODOLOGY

The State (Delta) presently covers a landmass of about 18,050Km<sup>2</sup> of which more than 60% is land. The state lies approximately between longitude 5°00 and 6°45` East and Latitude 5°00 and 6°30'North. It is bounded in the north by Edo State and in the East by Anambra State, South –East by Bayelsa State and on the Southern flank in the Bight of Benin which covers about 160 kilometers of the State's coastline. Delta State is generally low-lying without remarkable hills. The State has a wide coastal belt inter-lace with rivulets and streams, which form part of the Niger-Delta. Delta state is an oil and Agricultural producing state in Nigeria situated on the region known as south-south geopolitical zone with a population of 4,112,445 in 2006 census (Male:2, 069, 309, Female: 2,043,136). With annual projection of 3.5%. The environmental setting of Delta State has a very serious ecological setting such as erosion and flooding. Coastal and creeks erosion affect the coastal areas, resulting in loss of farm and residential land, and in some cases whole village such as Ogulaha and Ugborodo (Ibe, 1988). Flood is a widespread phenomenon in the State. The numerous rivers in the creeks flood their banks creating social and economic problems. Flash foods and flood poundage are the major features of dry lands, especially in the urban centers of Warri, Sapele and Ughelli. In recent times, oil exploitation and gas flaring have further aggravated the ecological problems, causing very serious environmental pollution. The consequences include the destruction of aquatic life and vegetation and red

Delta State was the major area for the study, but the scope was limited to four (4) major cities namely Asaba, Warri, Sapele and Ughelli for data collection. The choice of these cities is premised on the fact that these cities are urban centers with high concentration of commercial and real estate

activities as well as an active property market amongst other areas. Besides, they also represent the major ethnic groups in the state. This will allow for comparison, contrasting and generalizing of data and results at the end of the study

This study adopted a survey cum descriptive research design. Thus, using questionnaire to elicit information from the respondents. A survey was conducted in Asaba, Warri, Sapele and Ughelli Delta State between June and September 2019. Self-administered questionnaire with close ended questions suitable for quantitative analysis was the major instrument design and used to elicit information for the study. The questionnaire was structured on a 5-point likert scale. Respondents were requested to indicate their perception on the subject based on their knowledge and experience. Respondents were carefully chosen, using a random but purposive sampling technique to select key respondents from all the categories of target population so as to ensure that the right respondent with relevant knowledge and experience on the subject matter of the study are adequately selected. 277 respondents were sampled from a population of 787 respondents. The Taro Yamane Sample size formula was used to determine the sample size at 95% confidence interval. The formula is a simplified formula for calculating sample sizes and is given by:

n=N/1+(e)Where n=sample size required N = the population size e = the level of precision (Singh &Masuku, 2014)

Respondents comprised of 96 Registered Estate Surveyors and Valuers, 168 Estate Agents/Private Developers and 13 Land Officer in the Ministry of Lands in Asaba. The choice of these categories of respondents is premised on the fact that they form the major key players in land administration and land market operations and can provide a reliable and adequate information towards achieving the study's objectives. The data collected were coded and captured analysis with the aid of Statistical Package for Social Science (SPSS) version 21.0

#### RESULTS

| Cronbach's alpha        | Ν   | Sum     | Mean   | RII  | Std.      | Chi.s | p-    |
|-------------------------|-----|---------|--------|------|-----------|-------|-------|
| @0.98                   |     |         |        |      | Deviation | q     | value |
| Land Title Registration | 277 | 1305.00 | 4.7112 | .942 | .61649    | 51.08 | .000  |
| Land Valuation          | 277 | 1179.00 | 4.2563 | .851 | .61214    |       |       |
| Land Use Planning       | 277 | 1243.00 | 4.4874 | .897 | .69991    |       |       |
| Cadastral               | 777 | 1220.00 | 1 1268 | 997  | 83002     |       |       |
| Survey/Mapping          | 211 | 1229.00 | 4.4306 | .007 | .83002    |       |       |
| Land Computerization    | 277 | 1187.00 | 4.2852 | .857 | .86909    |       |       |
| Standardization Of The  | 777 | 1260.00 | 1 5910 | 016  | 02627     |       |       |
| Process                 | 211 | 1209.00 | 4.3012 | .910 | .92027    |       |       |
| Valid N (listwise)      | 277 |         |        |      |           |       |       |

Table 1: showing the Process /Requirements of Land Administration System

Source: field survey, 2019

The descriptive analysis of process of land administration system is presented in Table 1 the level of agreement to the process of land administration is measured on five point likert scale. The reliability test of responses is determined through cronbach's alpha test. The test measured internal consistent of the item (requirements), and the result of cronbach's alpha test showed that there is high level of internal consistent among the items at 98% (0.89). The relative important index (RII) revealed that all the requirements for effective land administration system were important and indispensable requirement for successful land administration. The result of chi-square statistic (51.08) at p-value (0.000) less than 0.05 level of significance revealed that the opinion of respondents are significantly related, in other word, the respondents strongly agreed to the process or requirements of effective land administration.

Published by ECRTD-UK

ISSN 2054-6351 (print), ISSN 2054-636X (online)

| <b>Fable 2:Perceived relationship</b> | between land administration an | d land market in Delta State |
|---------------------------------------|--------------------------------|------------------------------|
|---------------------------------------|--------------------------------|------------------------------|

| Cronbach's alpha @0.82               | Ν   | Sum     | Mean   | RII  | Hypothesis<br>Testing |         |
|--------------------------------------|-----|---------|--------|------|-----------------------|---------|
|                                      |     |         |        |      | Testing               | 1       |
|                                      |     |         |        |      | Ch1.sq                | p-value |
| Certainty Of Ownership               | 277 | 1159.00 | 4.1841 | .836 | 43.21                 | .000    |
| Security Of Tenure                   | 277 | 1206.00 | 4.3538 | .871 |                       |         |
| Reduction Of Land Dispute            | 277 | 1253.00 | 4.5235 | .906 |                       |         |
| Improved Conveyance                  | 277 | 1293.00 | 4.6679 | .932 |                       |         |
| Simulation Of Land Market            | 277 | 1212.00 | 4.3755 | .874 |                       |         |
| Securing Credit                      | 277 | 1201.00 | 4.3357 | .866 |                       |         |
| Monitoring Of Land Market            | 277 | 1204.00 | 4.3466 | .868 |                       |         |
| Facilitation Land Reforms            | 277 | 1280.00 | 4.6209 | .924 |                       |         |
| Mgt Of State Land                    | 277 | 1301.00 | 4.6968 | .938 |                       |         |
| Support Land Taxation                | 277 | 1306.00 | 4.7148 | .942 |                       |         |
| Improvement Of Physical              | 277 | 1268.00 | 4 5776 | 91/  |                       |         |
| Planning                             | 211 | 1200.00 | ч.5770 | .714 |                       |         |
| <b>Recording Of Land Information</b> | 277 | 1300.00 | 4.6931 | .938 |                       |         |
| Ease Of Doing Business               | 277 | 1238.00 | 4.4693 | .892 |                       |         |
| Increase Number Of Land              | 777 | 1160.00 | 4 2202 | 911  |                       |         |
| Transaction                          | 211 | 1109.00 | 4.2202 | .044 |                       |         |
| Increase In Land Value               | 277 | 1221.00 | 4.4079 | .881 |                       |         |
| Increase Govt Revenue Base From      | דדר | 1250.00 | 1 5126 | 002  |                       |         |
| Land                                 | 211 | 1230.00 | 4.3120 | .902 |                       |         |
| Valid N (listwise)                   | 277 |         |        |      |                       |         |

Source: Field Survey, 2019

The descriptive analysis of relationship between land administration and land market presented in Table 2 revealed that there is high relative important index among the item. The reliability test of responses determined through cronbach's alpha test revealed that there is high level of internal consistent among the items at 82% apha test. This indicates that the data is suitable for further analysis and the opinion of respondents is considered suitable and reliable. The result of chi-square statistic (43.21) at p-value (0.000) less than 0.05 level of significance revealed that there is statistically significant relationship between land administration and land market operation in Delta state. Land administration provides support for land taxation through availability of record on land information for effective management of state land.

Published by ECRTD-UK

ISSN 2054-6351 (print), ISSN 2054-636X (online)

| Cronbach's alpha @0.86        | Ν   | Sum      | Mean    | RII       | Std.     | Hypothesis |         |
|-------------------------------|-----|----------|---------|-----------|----------|------------|---------|
|                               |     |          |         |           | Deviatio | Testing    | ,       |
|                               |     |          |         |           | n        | Chi.sq     | p-value |
| Poor Awareness On Las         | 277 | 1252.00  | 4.5199  | .903      | .79204   | 27.22      | .000    |
| Process                       |     |          |         | ~ <b></b> |          |            |         |
| Unclear Lant Tenure/Right     | 277 | 1187.00  | 4.2852  | .857      | .76724   |            |         |
| Incompetency Land             | 277 | 1126.00  | 4.0650  | .813      | 1.0228   |            |         |
| Administartors                |     | 1120000  |         | .010      | 1.00     |            |         |
| High Cost Of Land             | 277 | 1241.00  | 4 4801  | 896       | 70490    |            |         |
| Registration                  | 277 | 12-11.00 | 4.4001  | .070      | .70470   |            |         |
| Inaccurate Valuation Opinion  | 277 | 1096.00  | 3.9567  | .791      | .96587   |            |         |
| Poor Demand For Land          | 277 | 991.00   | 3.5776  | .714      | 1.2270   |            |         |
| Inadequate Supply Of Land     | 277 | 986.00   | 3.5596  | .710      | 1.1070   |            |         |
| Lack Of Credit From Financial | 277 | 1200.00  | 4 (950  | 027       | 02.017   |            |         |
| Institutions                  | 211 | 1298.00  | 4.6859  | .937      | 23.817   |            |         |
| Govt Regulations On land      | 077 | 11 (2.00 | 4 10 40 | 020       | 01007    |            |         |
| Matters                       | 211 | 1162.00  | 4.1949  | .838      | .81087   |            |         |
| Insecurity Of Land Title      | 277 | 1131.00  | 4.0830  | .816      | .93074   |            |         |
| Weak Land Admin Process       | 277 | 1157.00  | 4.1769  | .835      | .81723   |            |         |
| Unregulated Land Title        | 277 | 1118.00  | 4.0361  | .807      | .93568   |            |         |
| Infromal Land Activities      | 277 | 1134.00  | 4.0939  | .818      | .87136   |            |         |
| Activities Of Land Grabbers   | 277 | 1174.00  | 4.2383  | .847      | .88930   |            |         |
| Land Speculation Problem      | 277 | 1172.00  | 4.2310  | .846      | .87479   |            |         |
| Location And Accessibility    | 277 | 1164.00  | 4.2022  | .840      | .83986   |            |         |
| Multiple Ownership Factor     | 277 | 1177.00  | 4.2491  | .849      | .85933   |            |         |
| Multiple Sales Of Land To     |     |          |         |           |          |            |         |
| Different Buyers              | 277 | 1180.00  | 4.2599  | .851      | .74036   |            |         |
| Cumbersome Procedures Of      |     |          |         |           |          |            |         |
| Land Registration             | 277 | 1179.00  | 4.2563  | .851      | .76802   |            |         |
| Incompency Of Land Market     |     |          |         |           |          |            |         |
| Operators                     | 277 | 1133.00  | 4.0903  | .818      | .95694   |            |         |
| Valid N (listwise)            | 277 |          |         |           |          |            |         |

## Table 3 : Challenges To Effective Land Administration And Land Market In Delta State

Source: Field Survey, 2019

The descriptive analysis of challenges to effective land administration and land market in Delta State presented in Table 4. Revealed that there is high relative important index among the item, which indicates that all the challenges to land administration and land market are highly critical

| British Journal of Environmental Sciences   |
|---|
| Vol.8, No.1, pp. 1-19, February 2020  |
| Published by ECRTD-UK   |
| ISSN 2054-6351 (print), ISSN 2054-636X (online)   |
| ffecting effective land administration. The reliability test of responses determined through      |
| cronbach's alpha test revealed that there is high level of internal consistent among the items at |

cronbach's alpha test revealed that there is high level of internal consistent among the items at 86% apha test. This indicates that the data is suitable for further analysis and the opinion of respondents is considered suitable and reliable. The result of chi-square statistic (27.22) at p-value (0.000) less than 0.05 level of significance revealed that the opinion of respondents on these challenges are statistically and significantly related in other word the respondent strongly agreed that land administration and land market is critically affected by these challenges. Lack of credit from financial institutions, and poor awareness on land Process are major challenges with highest relative important.

| Componen | Initial Eigenvalues |          |            | Extraction Sums of Squared Loa |          |            |  |
|----------|---------------------|----------|------------|--------------------------------|----------|------------|--|
| t        | Total               | % of     | Cumulative | Total                          | % of     | Cumulative |  |
|          |                     | Variance | %          |                                | Variance | %          |  |
| 1        | 5.170               | 25.850   | 25.850     | 5.170                          | 25.850   | 25.850     |  |
| 2        | 2.070               | 10.348   | 36.198     | 2.070                          | 10.348   | 36.198     |  |
| 3        | 1.663               | 8.317    | 44.516     | 1.663                          | 8.317    | 44.516     |  |
| 4        | 1.174               | 5.869    | 50.385     | 1.174                          | 5.869    | 50.385     |  |
| 5        | 1.034               | 5.171    | 55.556     | 1.034                          | 5.171    | 55.556     |  |
| 6        | 1.008               | 5.042    | 60.597     | 1.008                          | 5.042    | 60.597     |  |
| 7        | .904                | 4.522    | 65.120     |                                |          |            |  |
| 8        | .890                | 4.448    | 69.568     |                                |          |            |  |
| 9        | .799                | 3.997    | 73.565     |                                |          |            |  |
| 10       | .742                | 3.712    | 77.277     |                                |          |            |  |
| 11       | .659                | 3.296    | 80.573     |                                |          |            |  |
| 12       | .607                | 3.034    | 83.607     |                                |          |            |  |
| 13       | .570                | 2.851    | 86.458     |                                |          |            |  |
| 14       | .484                | 2.419    | 88.877     |                                |          |            |  |
| 15       | .478                | 2.390    | 91.266     |                                |          |            |  |
| 16       | .446                | 2.229    | 93.495     |                                |          |            |  |
| 17       | .409                | 2.047    | 95.542     |                                |          |            |  |
| 18       | .368                | 1.842    | 97.385     |                                |          |            |  |
| 19       | .276                | 1.382    | 98.767     |                                |          |            |  |
| 20       | .247                | 1.233    | 100.000    |                                |          |            |  |

Table 4: Total Variance Explained on Challenges to land administration and land marketOperation

Extraction Method: Principal Component Analysis.

The cumulative variance of the five most correlated challenges to land administration and land market in Delta State is presented in table 5. The eigenvalue in the table, and the total under

#### Published by ECRTD-UK

# ISSN 2054-6351 (print), ISSN 2054-636X (online)

eigenvalue revealed the amount of total variance in the original variable accounted for by each of the components. The variance which is simply the ratio of variance accounted for by each of the component to the total variance of the variables. The analysis required the first five components to be extracted and the first five components form extracted solution and the most highly emphasized challenges to land administration and land market in Delta State. The extraction of sum of the square loadings in the second section explained the variability in the original 20 variables. The extracted components explained 60.597% variability in the original variables. therefore this study considerably reduce the data by selecting the extracted components as the most emphasized factors or components with the minimum of 39.4% loss of information. This further indicates that the outlined challenges to land administration and land market in Delta State.

|  |                 | Eigen |               |
|--|-----------------|-------|---------------|
| Challenges                                 | Factor loadings | value | % of variance |
| Factor 1: Market and technical challenges  |                 | 5.170 | 25.850        |
| Poor Demand For Land                       | .727            |       |               |
| Inadequate Supply Of Land                  | .724            |       |               |
| Infromal Land Activities                   | .646            |       |               |
| Weak Land Admin Process                    | .586            |       |               |
| Unregulated Land market                    | .610            |       |               |
| Factor 2: Market factors challenges        |                 | 2.070 | 10.348        |
| Land Speculation Problem                   | .784            |       |               |
| Activities Of Land Grabbers                | .781            |       |               |
| Factor 3: Administrative challenges        |                 | 1.663 | 8.317         |
| Poor Awareness On Land Process             | .810            |       |               |
| Unclear Land Tenure/Right                  | .673            |       |               |
| Incompetency Land Administrators           | .548            |       |               |
| Factor 4: Cost and legal challenge         |                 | 1.174 | 5.869         |
| High Cost Of Land Registration             | .827            |       |               |
| Multiple Ownership Factor                  | .586            |       |               |
| Factor 5: Bureaucratic challenge           |                 | 1.034 | 5.171         |
| Cumbersome Procedures Of Land Registration | .717            |       |               |
| Factor 6: Financial challenge              |                 | 1.008 | 5.042         |
| Lack Of Credit From Financial Institutions | .941            |       |               |

#### Table 5: Factor loading analysis of factors

Source: Field Survey, 2019

The result of analysis of challenges to land administration and land market as presented in table 6 revealed that the five factors loaded constitutes about 60.597% variance in the challenges of land market activities in Delta State. The cut-off point for this study is taken 0.5 and above as general rule of thumb applied. The first (1) factor is Market and technical challenges which explained about 25.85% variance in the challenges to land administration and land market in Delta State and such Market and technical challenges such as poor demand for land, inadequate supply of land, informal land activities, weak land admin process and unregulated land market. The factor (2) is market factors and it explained 10.35% variance across 20 variables, this suggests that market factors such as land speculation problem and activities of land grabbers were major market challenges to effective land administration. Factor three (3) is named as administrative challenge, and it explained 8.317% variance in the determinant factors that influence land market activities. Such administrative challenge comprises of poor awareness on land process, unclear land tenure/right and incompetency land administrators were major administrative challenges to land administration and land market in Delta State. Factor four (4) is named as legal cost challenge, and it explained 5.926% variance in the challenges to land administration and land market. Such legal cost challenge comprises of high cost of land registration and multiple ownership factor. Factor five (5) is Bureaucratic challenge, and it explained 5.171% variance in the challenges to land administration and land market activities, such Bureaucratic challenge comprises of cumbersome procedures of land registration. Factor six (6) is financial challenge, and it explained 4.40%, financial challenge comprises of lack of credit from financial institutions.

| Null Hypothesis  | Tests              | Value       | Df | Asymp. Sig. | Decision                        |
|--|--------------------|-------------|----|-------------|---------------------------------|
| There is no significant<br>relationship between land<br>administration system and land | Pearson Chi-Square | 35.771<br>a | 12 | .000        | Null<br>hypothesi<br>s rejected |
| market development in Delta state  | N of Valid Cases   | 277         |    |             |                                 |

## **Table 6:Hypothesis Testing**

The result of hypothesis presented in table 4.14 revealed that null hypothesis is rejected at 0.05 level of significant for the entire hypothesis tested. The first null hypothesis is rejected at 0.05 level of significance therefore the pearson chi-square statistic (35.77) is statistically significant at p-value (.000) is less than 0.05 level of significance, this means that there is a significant relationship between land administration system and land market operation.

## CONCLUSION AND POLICY IMPLICATIONS

Land administration system involves the determination and recording of up-to-date information about rights in land. It must operate within both a technical and institutional framework and address not only the mechanics of setting out, surveying and recording land parcels but also the legal,

financial, administrative, social and political issues that are associated with the management of land. An effective land administration and efficient land market is a crucial component of any developed market economy, bringing a variety of advantages to people. Since land market do not operate in isolation, so many essential factors are necessary to support its efficiency. The study revealed that land administration and land market is still developing in the study state and that the current situation is not encouraging to make it a favorable avenue/environment for real estate development at a scale and affordable rate. It is evident that land administration and land market in the study areas is fraught with various challenges such as market and technical, administrative, cost and legal, financial and bureaucratic challenges. It was also discovered that the identified requirements for effective land administration system were important and indispensable for successful land market operation. The study also found that there are six challenges to effective land administration after factorization were identified and these six identified challenges affected land market by 60.597%. six challenges identified includes market and technical challenges, market factors, administrative challenge, legal cost challenge, bureaucratic challenge, financial challenge. The study also found that there is significant relationship between land administration system and land market development in the study area. The study further revealed that there is statistical significant effect of land administration efficiency of land market. The following suggestions were advance towards effective LAS and LM development in the Delta state:

- Existing policy on land administration should be evaluated to enhance the overall performance of the land administration system in the state
- > There should be a regular updating the land base transaction records to prevent multiple ownership of a parcel of land.
- Actors in land market should simplify the procedures of transferring land rights by reducing the steps and cost that is required to seal a deal.
- Land transactions should be documented and registered to avoid dispute among land owners and the buyers.
- Government policies and regulations should be strictly enforced as these will enhance land market development in the state.
- Access to land by all citizen can be achieved through a land registration system that is affordable and cost effective
- Public-private-partnership approach should be introduced to provide capacity and finance to support LM.
- A robust strategy that will ensure long-term sustainable development of an efficient land market is also required.
- Fund and technical support should be made available by government for a better and improved land administration that will further enhanced the land market in the State.

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