# Evaluation of Factors Influencing Access to Residential Land in Lokoja Metropolis, Kogi State, Nigeria

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**Abstract**

*Access to land is a function of physical, economic, social, institutional and contextual factors. Each of these factors affects accessibility to land differently thereby posing a difficulty in decision making to acquire land with ease. This study therefore, evaluates the effects of these factors as they influence access to residential lands in Lokoja metropolis, Kogi State, Nigeria. A sample size of 396 land owners was taken using systematic random sampling to pick the actual respondents. Structured questionnaires were administered on the respondents to elicit information on the various factors influencing access to residential lands in the study area. Binary logistic regression was employed to analyse the data obtained It was found that the strongest predictor of the factors influencing access to residential land was occupation of the people. The study therefore, recommended that governments in their efforts should create job opportunities to reduce the negative effects of the factors influencing access to residential lands in the study area.*

**Keywords:** Residential Land, Land Access, Metropolis, Kogi State, Regression

## INTRODUCTION

Accessibility to land has to do with availability of usable land, affordability and the convenience with which the cost of the land can be paid without undue financial strain, security of tenure and assurance against eviction (Omirin, 2003). Prior to the British rule in Nigeria, access to land was governed by the customary land tenure which was considered to be inadequate to create land for all citizens. These inadequacies led to the promulgation of the Land Use Act of 1978 by the government with the aim of creating cheaper and easier accessibility to land for all Nigerians irrespective of their social status (Oyedokun *et al,* 2012).

Nuhu (2008) believed that access to land is central to mankind shelter, food sustenance and other economic activities. Also, United Nations Centre for Human Settlements (UNCHS 1999) noted that accessibility to land and security of right are important catalysts in stabilizing community, improving housing conditions, reducing social exclusion and improving access to urban service. Thus, a well-defined access to land is *sine qua non* to household asset ownership, production, developments and factor market functions (Deininger, 2003).

Secured access to land creates incentives for the user to invest in labour and other resources so as to maintain its value, sustain its productivity, and allow the user access to social and economic development opportunities (Quan, 2006). In addition, access to land and security of tenure are also necessary for people to raise and stabilise their incomes, participate in economic growth and also essential prerequisites for diverse land-based livelihoods, economic growth, poverty elimination for achieving power in markets, managing natural resources sustainably and preserving people's culture (Oxfam, 2007).

According to Durand- Lasserve (2005), Nkurunziza (2007) and Rakodi (2007), delivery of access to land in most urban areas is mainly between the formal and informal institutions. The formal land administration has failed to meet the demands of the majority of urban poor paving way for increased reliance in the informal land market. On the other hand, the informal land delivery have supplied significant amount of land cutting across socio-economic divisions in the urban areas but sometimes do not have statutory titles and often devoid of household facilities which has resulted in unplanned areas of the city eluding development control by the planning authorities (Leduka, 2004, Oloyede *et al*, 2007, and Olajide 2010).

The factors that could affect access to land as identified by Uluocha (2007) include availability of the land, physical location of the land, affordability of the land, availability of information, land policy and demand for land, while the study of Babatunde (2012) revealed that inadequate funds, lack of interest, lack of infrastructure and violence in the northern part of Nigeria were major constraints to land accessibility.

In the urban areas of Nigeria, Olayiwola and Adeleye (2006) established that, accessibility to land for residential purposes and development projects is almost becoming impossible for individual particularly the low and the middle income groups because the price has become so prohibitive. The implication of this unequal access to land is that, it has forced most urban dwellers in abject poverty owing to lack of legal titles for securing loans to invest in the construction of desirable shelter or purchase of equipment for economic pursuit (Mabogunje, 2003). Munoru (2002) showed that Nigerians are faced with mounting pressure for reforms that justly allocate land. From the South-West to the North-East and all over the country including Kogi State the study area, the issue of access to land is on the front burner. This is due to the pressure on land that is set to increase over time, given the impact of continuous population growth, urbanization, globalization, international investment flows and climate change. As resource becomes scarce and more valuable, those with weak rights to these resources will tend to lose out. Following from this, greater numbers of people in the urban areas still do not have access to land. Where land is concentrated in few hands, secure access to land for the people including residents of Lokoja metropolis - the study area will be inadequate and the consequences are likely to be inequitable patterns of income and wealth distributions (Quan, 2006).

There is an urgent need to create conditions in which all groups in urban society especially the poorest and most vulnerable can obtain access to legal and affordable shelter in the ways that prevent the need for future distortion in urban development and land market (Payne 2005). Lokoja town and its metropolis have been growing since it became the State Capital in 1991 because of its geographical location as confluence town and a link between the Northern and Southern Nigeria (Alabi, 2011). Also, the siting of a federal university in Lokoja has led to the swelling of the town's population with a rapid increase in the demand and use of limited residential land. Hence the need for this study becomes vital to evaluate the factors influencing access to residential land in Lokoja metropolis.

From the view of United Nations Centre for Human Settlements (UNCHS) (1999), accessibility to land and security of right are important mechanism in stabilizing a community, improving shelter condition, reducing social exclusion and improving access to urban service. Omirin (2003) noted that the effect of insufficient, unequal and poor access to land in Nigeria has resulted to the following:

a) inefficient use of land resources because low density development standards engender much waste as the cost of servicing land per capital is relatively high and such standards have encouraged lateral expansion, insufficient usage of land, and few people accommodated per unit area while the rest of the people is restricted to congested and unplanned areas of the cities.

b) inequitable distribution of wealth because land in government layouts are in prime location, moderately well laid out, serviced, offer high profits margin upon disposal and commands a higher value per unit area which tends to escalate with demand.

c) worsening housing conditions especially in the low income sector because of the difficulties encountered in securing cheap land legally, lack of titles, excessive overcrowding and high charges.

d) environmental degradation because a vast number of people are restricted to marginal areas without services or infrastructure and has lead to squalid areas, slums proliferation and also, forced city dwellers to provide inefficient solutions to their refuse disposal, water supply among others.

e) poverty accentuation especially in the areas of having legal titles for securing loans to invest in the building of their own houses.

Carter (2003) summarized the poverty reducing effects of land access as including household income gains; food security benefits from making food more easily and cheaply available; the safety net and investment effects where land assets provide a buffer against external shocks and free up resources for investment and the dynamic income distribution effects of more equitable land distribution across society. A well-defined access to land is a key for household asset ownership, production and development because it provides incentives for investment in land and serves as drive for sustainable economic development (Deininger, 2003; Abdulai, 2006).

Mabogunje (2003) stated that the experience of inaccessibility which characterized urban land market have forced most urban dwellers into abject poverty owing to lack of legal titles for securing loans to invest either in construction of desirable shelter or purchase of equipment for economic pursuit. Another effect of lack of access to land according to Fadairo (2006) is squatting which has resulted to inadequate municipal services and infrastructure like roads, water supply, sanitation and waste collection. These wastes generated are thrown indiscriminately into drainage channels thereby causing blockages which eventually result in the flooding and erosion of the areas involved. Likewise, Bello (2009) noted that the inaccessibility of land has endangered low income of the urban poor and has resulted in squatting activities and the creation of slum. The effects of these slums have been seen from various perspectives but the commonest is on the deplorable environmental conditions.

According to Ayedun and Oluwatobi (2011), the Land Use Act which was promulgated in 1978 with the intention of making land readily available and accessible to all eligible Nigerians has ended up constituting itself into clog in the wheel of housing provisions in the country. This is because procurement of land is problematic as well as high cost of land and out of the reach of most Nigerian citizens especially in the urban areas. Also, informal and uncontrolled access to land has resulted in people developing on roads and water ways, a situation that leads to chaotic urban land use that impedes an orderly development (Ahmed and Dinye, 2011).

**Study Area**

Lokoja is the capital of Kogi State and is located in the north – central geopolitical zone (also called middle belt region) of Nigeria. Lokoja is one of the ancient towns in Nigeria that

assumed Metropolitan status from pre- independence days, harbouring many Nigerian ethnic groups. Lokoja has small size localities and is bounded by an imaginary circle having a 16km radius from the General Post Office (its focal point). Lokoja lies within latitude 7°45′N and 7°51′N and longitude 6°41′E and 6°45′E of Greenwich Meridian. It is a confluence town due to the meeting of Rivers Niger and Benue. It lies in the western bank of the River Niger at an altitude of 45 – 125 meters above sea level towards the north-west and at the foot of the Patti ridge, which rises to an altitude of 400m above sea level. Lokoja is well connected and accessible through Federal and State highways. It is the gateway and transit point between the North, East and Southern parts of the country. It is also divided into north of the confluence, east of the Niger and the western mainland (Kogi State Ministry of Lands, Housing and Urban Development, 2014).

Before the establishment of Lokoja as a State capital, the population was below 40,000 and by 1991 it increased to 43,784 (Kogi State Ministry of Budget and Planning). The 2006 census stated that over 196,643 persons inhabit Lokoja metropolis (National Population Commission, 2014 projection) while the household size of Lokoja metropolis at an average of 5.0 per house is 39,329 (National Bureau of Statistics, 2013). It has a heterogeneous population with various tribes from all parts of Nigeria. Lokoja is dominated by the "Oworo" group who are the land owners but today it has been inhabited by various tribes such as the Yorubas, Nupes, Ebiras, Igalas, Bassanges, and Hausas among others. The major socio-economic groups in Lokoja are those employed by the Government (Federal, State and Local).

From the Kogi State Ministry of Lands, Housing and Urban Development (2015), the settlements/areas in Lokoja metropolis comprises of:
Zone 1 – (Lokongoma Phase 1 and 11 Housing Estates, Adankolo,  Gaduma, New
        Commissioner  Quarters, Ganaja, New Layout and Karaworo)
Zone 2 – (Okumi, Irenodu, Gbangede Egbura, Gbangede Hausa, Gbangede Kabawa, Okpodo,
        Numei, Edimosi, Gande, Banda, Igoti, Kokoch, Ikochi, Kungbani, Karara,Sarkin
        Noma,  Kuroko, Wadata, Otube, Odama Eriku, Esikaku, Dadikowa)
Zone 3 – Zangodaji, Otokiti Village, Army Barrack, Legislative Quarters, Zonal Police
        Headquarters)
Zone 4 – (Bakumba, Makanah, Idori, Felele, Akpombo, Old Market, Jitata, Iredu, Ugwo,
        Adangere)
Zone 5 – (Emuguni, Ajigado, Emi Abaida, Emi Adama, Emi Doujor, Etikara, Atakpa, Emi
        Afa, Kpatakpale, Gbobe, Shintakalu, Ecewu, Shite, Magara, Eketa, Emi Andrew And
        Akabe).

Since Lokoja became an administrative headquarters of Kogi State in 1991, it has been experiencing population increase which has led to increase in the demand for land by residents in the State for residential purposes.

**METHODOLOGY**

The households of Lokoja metropolis is Thirty nine thousand, three hundred and twenty nine (39,329) as contained in the records of the National Bureau of Statistics, Kogi State Branch as at 2015.

Yamane (1967) formula is used to determine the sample size for the study because the population is finite. Thus the sample size (n) for household's number of 39,329 is put at 396. Systematic sampling was used to select the households of Lokoja metropolis while the Director of lands was chosen in the Ministry of Lands. The primary data for this research was sourced

directly from the field survey with the use of structured questionnaire, personal interview and observations. The questionnaire was administered with the help of field assistants on landowners. The secondary source of data was by recourse to journals, magazines, seminar papers, past dissertations that dwell on land and its accessibility.

Table 1: Sampling frame of households in Lokoja metropolis

| Areas | Number of Households |
|-------|----------------------|
| Adankolo | 2564 |
| Lokongoma | 1184 |
| Ganaja | 797 |
| Barracks | 1609 |
| Zango Daji | 1337 |
| Lokoja town | 30,979 |
| Felele | 859 |
| Total | 39,329 |

*Source: National Bureau of Statistics, 2016*

Also, information was obtained from the Ministry of Lands. Logistic regression (binary logistic regression) was employed to evaluate the effects of the factors affecting access to residential land ownership. According to Mcdonald (2014), logistic regression is used to analyze data that have one nominal variable with two values (e.g. male/female, dead/alive, true/false) and one measurement variable. The nominal variable is the dependent variable while the measurement variable is the independent variable and it takes the form of the equation below:

$$\text{Logit } (p) = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + \ldots\ldots\ldots\ldots + b_n X_n \ldots\ldots\ldots\ldots \text{ (iv)}$$

Where p = dependent variable,
$b_0$ = constant
$b_1, b_2, b_3, \ldots\ldots\ldots\ldots b_n$ = regression coefficient
$X_1, X_2, X_3, \ldots\ldots\ldots X_n$ = independent variables
n = number of predicted variables

In addition, Pallant (2011) stated that logistic regression allows testing models to predict categorical outcomes with two or more categories. The predictor (independent) variables can either be categorical or continuous, or a mix of both in the one model. For this study, residential land ownership is the dependent variable while the factors affecting access to residential land are the independent variables.


 **RESULTS**

The following factors were evaluated using binary logistic regression to know their effects on access to residential land ownership: distance to centre of attraction; location of the land; road accessibility to the land; topography of the area; neighbourhood development; distance to work; access to infrastructural development; title document to the land; marital status of the respondents; occupation of the respondents; education level of the respondents and sex of the respondents. The result of the analysis is presented as follows:

**Logistic regression classification table for the null model output of households in Lokoja metropolis Classification Table**

Table 2 shows the result of the analysis without any independent variable used in the model which will serve as a baseline later for comparing the model with the predictor (independent) variables included.

Table 2: Classification Table

|  |  |  | Predicted Land Ownership | | Percentage |
|---|---|---|---|---|---|
|  | Observed |  | No | Yes | Correct |
| Step 0 | Landownership | No | 0 | 174 | .0 |
|  |  | Yes | 0 | 182 | 100.0 |
|  | Overall Percentage |  |  |  | 51.1 |

*a. Constant is included in the model.*
*b. The cut value is .500*

As presented in Table 2, the overall percentage of correctly classified cases is 51.1% (percent). In this case, SPSS classified (guessed) that all cases (factors) would have effect on residential land ownership because there was higher percentage of people that answered yes to the question. It is hope that later, when the set of predictor (independent) variable is entered, the accuracy of these predictions will be increased.

**Goodness of Fit Test (Omnibus Tests)**
Table 3 gives us an overall indication of how well the model performs over and above the results obtained for classification table (when no predictor variables were entered into the model) which is referred to as a "goodness of fit" test.

Table 3: Omnibus Tests of Model Coefficients

| Step 1 | Chi-square | Degree of freedom | Significance |
|---|---|---|---|
| Step | 145.273 | 12 | .000 |
| Block | 145.273 | 12 | .000 |
| Model | 145.273 | 12 | .000 |

For this set of result, a highly significant value which should be less than 0.05 is needed. Hence, the result from Table 3 in the column labelled significance is 0.000 which means that the value of $p < 0.005$. Thus, the model with the set of variables used as predictors is better than the SPSS original guess in Table 2 that assumed that all the factors have effect on residential land ownership. The chi-square value is 145.273 with 12 as degree of freedom

**Goodness of Fit Test (Hosmer Lemeshow)**
Table 4 shows the result of the model as being worthwhile. For the Hosmer Lemeshow goodness of fit test, poor fit is indicated by a significance value less than 0.05, so to support the model, a value greater than 0.05 is needed.

Table 4: Hosmer and Lemeshow Test

| Step | Chi-square | Degree of freedom | Significance |
|---|---|---|---|
| 1 | 2.169 | 8 | .975 |

As presented in Table 4, the chi-square value is 2.169 with a significance level of 0.975. The significance value is greater than 0.05, thus indicating support for the model.

**Model Summary**
Table 5 is the model summary which gives another piece of information about the usefulness of the model. Also, the Cox and Snell R Square and the Nagelkerke R Square values provide an indication of the amount of variation in the dependent variable explained by the model (from a minimum value of 0 to a maximum of approximately 1).

Table 5 reveals the Cox and Snell  R Square and the Nagelkerke R Square values which provide an indication of the amount of variation in the dependent variable explained by the model (from a minimum value of 0 to a maximum value of approximately 1). The two values are 0.335 and 0.447, suggesting that between 33.5% and 44.7% of the variability is explained by this set of variables.

Table 5: Model Summary

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|------|-------------------|----------------------|---------------------|
| 1 | 348.068[a] | .335 | .447 |

**Classification Table**
Table 6 provides an indication of how well the model is able to predict the correct category (yes/no) for each case. The result in Table 6 is compared with the result in Table 4 to see how much improvement there is when the predictor (independent) variables are included in the model. The model correctly classified 76.1% of cases overall which is an improvement over the 51.1% in Table 2.

Table 6: Classification Table [a]

| | | | Predicted Landownership | | |
|---|---|---|---|---|---|
| | Observed | | No | Yes | Percentage Correct |
| Step 1 | Landownership | No | 108 | 66 | 62.1 |
| | | Yes | 19 | 163 | 89.6 |
| | Overall Percentage | | | | 76.1 |

a. The cut value is .500

**Logistic regression model for the effect of the factors affecting access to residential land ownership**
Table 7 shows the variables in the equation which gives information about the effect of each predictor variable. The test used is known as Wald Test. The value of the statistic for each predictor is in the column labeled Wald. In the column labeled significance, values less than 0.05 are variables that contribute significantly to the predictive ability of the model while values greater than 0.05 are variables that do not contribute significantly to the predictive ability of the model.

As shown in Table 7, the factors whose value on the significance column is less than 0.05 are factors that have effect on residential land ownership in Lokoja Metropolis which are location of the land, access to infrastructural development, neighbourhood development, nearness to work, marital status of the respondents, sex of the respondents and distance to centre of attraction while road accessibility, title document to the land, topography, level of education

of the respondents and occupation of the respondents do not have effect on residential land ownership in Lokoja Metropolis.

Also, the B values provided in the second column are values used in an equation to calculate the probability of a case falling into a specific category. These B values tell us about the direction of the relationship (positive or negative). Negative B values indicate that an increase in the independent variable score will result in a decrease probability of the case recording a score of 1 in the dependent variable (residential land ownership). Thus, location of the land, neighbourhood development, distance to work and distance to centre of attraction showed negative B values (-1.989, -1.041, -1.642, and -1.458) respectively. This indicates that if the land is located in prime areas with developed neighbourhood, closer to place of their work and centre of attraction, the less likely it is that they will be residential land owners. The positive B values are road accessibility and occupation (0.013 and 0.371) respectively. This suggests that the residents saying road accessibility and occupation have effect on residential land ownership are more likely to answer yes to the question whether they have residential lands.

Table 7: Variables in the Equation

|  | B | S.E. | Wald | df | Sig. | Exp (B) |
|---|---|---|---|---|---|---|
| Road accessibility | .013 | .304 | .002 | 1 | .965 | 1.013 |
| Location | -1.989 | .839 | 5.616 | 1 | .018* | .137 |
| Title document | -.431 | .270 | 2.550 | 1 | .110 | .650 |
| Access to infrastructure | -.933 | .400 | 5.442 | 1 | .020* | .393 |
| Topography | -.350 | .417 | .702 | 1 | .402 | .705 |
| Neibourhood development | -1.041 | .360 | 8.368 | 1 | .004* | .353 |
| Nearness to work | -1.642 | .741 | 4.912 | 1 | .027* | .194 |
| Level of education | -.179 | .268 | .447 | 1 | .504 | .836 |
| Marital status | -.633 | .273 | 5.389 | 1 | .020* | .531 |
| Sex | -.603 | .278 | 4.703 | 1 | .030* | .547 |
| Occupation | .371 | .269 | 1.895 | 1 | .169 | 1.449 |
| Distance to centre of attraction | -1.458 | .637 | 5.242 | 1 | .022* | .233 |
| Constant | 1.488 | .336 | 19.617 | 1 | .000 | 4.430 |

At 95% (0.05) confidence level. * represents significance values at $p < 0.05$

**CONCLUSION AND RECOMMENDATION**

The strongest predictor of the effect of the factors influencing access to residential land ownership is occupation of the respondents recording an odds ratio of 1.449. This implies that the odds ratio is in favour of occupation by one and half times of getting access to residential land than other factors affecting access to residential land ownership. Government should therefore, intensify its efforts to reduce the effects of the factors influencing residential land ownership by creating job opportunities and ensuring prompt payment of salaries to workers in the study area.

**References**
Ahmed, A. and Dinye, R.D. (2011). Urbanization and the challenges of development controls in Ghana: A case study of WA Townships. *Journal of sustainable development in Africa,* 13(7), 210 -235.
Alabi, M.O. (2011). Urban sprawl pattern and measurement in Lokoja, Nigeria. CCASP Terum. Theoritical and empirical researches in urban management. 4(13). 158-164.

Ayedun, C.A. and Oluwatobi, A.O. (2011). Issues and challenges militating against the sustainability of affordable housing provision in Nigerian. *Journal of Business Management Dynamics*. 1(4), 1-8.

Babatunde, A.A. (2012). "An assessment of challenges to land for urban development in Minna", *Journal of geography, environment and planning,* 8(2),51-62.

Bello, M.O. (2009). Squatter settlement, accessibility of land and the urban poor. Paper presented in FIG working week with the theme "Surveyors Key Role in Accelerated Development" held at Eilat, Israel. 3-8th May.

Carter, M R. ( 2003). Designing land and property rights reform for poverty alleviation and food security. *Land Reform, land settlement and cooperatives* No.2, 2003. FAO

Deininger, K. (2003), Land policies for growth and poverty reduction. Oxford: Oxford University Press.

Fadairo G. (2006). Erosion crisis and its effects on housing in Akure in Fadamiro, J .A; Olujimi, J. A. and Atilagbe, A. M. O(eds) urban environmental sustainability: interventions and responses; 160-168

Leduka, R. C. (2004). Explaining informal land delivery systems and institutions in African Cities: Conceptual framework and emerging evidence. Paper presented in a workshop organized by the Housing Studies Programme, University of the Witwatersrand 8-10 November.

Mabogunje, A.L. (2003). Land Management in Nigeria: issues, opportunities and threats. Proceedings of a national workshop organized by the Department of Estate Management, University of Lagos, Akoka, Lagos, Nigeria on the theme *land management and property tax reform in Nigeria*. 4-5th November..

Mcdonald, J.H. (2014), *Handbook of biological statistics* (3rd edition). Baltimore, Maryland: Sparky House Publishing

Nkurunziza, E. (2007). Informal mechanisms for accessing and securing urban land rights: the case of Kampala, Uganda. *Environment and urbanization.* 19(2), PP 509-526. http://eausagepub.com accessed 10th June, 2015.

Nuhu, M.B. (2008). Public land policy, new trends: challenges in Nigerian institutional frameworks for state and public sector land management. Paper presented at FIG/FAO/CNG International Seminar on State and Public Sector Land Management, Verona, Italy.9-10th September.

Olajide, O. (2010). Confronting the informal land use: issues and challenges. Proceedings of real corp conference, Vienna 18-20 May, pp 131-140. Retrieved from http://www.corp.at on 15th August 2016

Olayiwola, L.M. & Adeleye, O. (2006). Land reform, experience from Nigeria. Paper presented in 5th FIG Regional Conference with the theme "promoting land administration and good governance", held at Accra, Ghana.8-11th March.

Oloyede, S.A., Ajibola, M.O. and Oni, O.A. (2007). Informal land delivery in Lagos State, Nigeria. *Journal of land use and development studies, 3(1), pp. 140-146.*

Omirin, M. M. (2003). Issues in land accessibility in Nigeria. Proceedings of a National workshop organized by the Department of Estate Management, University of Lagos, Akoka, Lagos, Nigeria on the theme *land management and property tax reform in Nigeria*. 4-5th November.

Oxfam, G.B (2007). 'Key principles on land rights', *land rights in Africa*. Oxford http://www.oxfam.org.uk/what_we_do/issues/livelihoods/landrights/key_principles.htm

Oyedokun, T.B., Adewusi, A.O., Ojo, B., Onakoya, B.O., and Akinbogun, S.P. (2012). Constraints to land accessibility by urban residents in Akure, Nigeria In : Laryea, S., Agyepong, S.A., Leiringer, R., and Hughes, W. (Eds) *Proceedings of the 4th West Africa Built Environment Research (WABER) Conference*, Abuja, Nigeria, 1249-1260.

Pallant, J. (2011). SPSS Survival Manual. *A step by step guide to data analysis using SPSS.* 4th Editon. Retrieved from www.allenandunwin.com/spss on 4th August, 2015.

Payne, G. (2005). Getting ahead of the game. A twin track approach to improving existing slum and reducing the need for future slams. Environment and urbanisation. 17(1).

Quan, J. (2006). *Land Access in the 21st Century: issues, trends, linkages and policy options.* United Kingdom: Natural Resources Institute, University of Greenwich.

Rakodi, C. (2007). Land for housing in African cities: Are informal delivery systems institutionally robust and pro-poor? *Global urban development.* 3(11). Available at www.globalurban.org accessed 18th July 2016.

Uluocha, N. (2007). The role of GIS in improving land accessibility for urban housing delivery. In T.O. Nubi, M.M. Omirin & A.S. Afolayan; *private sector driven housing delivery issues, challenges and prospects.* Department of Estate Management, University of Lagos, Lagos. ISBN 978-48753-0-1.

United Nations Centre for Human Settlement (UNCHS) (1999). *Implementing Habitat Agenda*: adequate shelter for all, Global Campaign for Secure Tenure, Nairobi.

Yamane, T. (1967). *Statistics: An Introductory Analysis*, 2nd edition. New York: Harper and Row.