



Socioeconomic Determinants of Formal Residential Land Affordability in Ibadan, Nigeria

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Abstract: Many citizens cannot secure formal residential land in the developing countries, of which Nigeria is a typical one, despite concerted efforts of governments to make land available at affordable prices. With the administration of questionnaires, this paper examined socioeconomic determinants of formal residential land affordability in Ibadan. Thirty (30) schemes/estates were purposively sampled for the study. The study population was all the 17, 473 plot allottees in the schemes and a sample frame of 4,602 from where 354 original plot allottees was adopted as sampling size. Systematic sampling was used for plot density: with medium density having 185 copies; high density had 152 copies and 17 copies for low density plot allottees. Statistical analysis was carried out with the aid of frequency and simple percentage and inferential tools; correlation and regression, using SPSS. Regression analysis test result of affordability at F 16.895 is significant means that access to loan and educational level attained by the plot allottees, their income level and family size at the time of plot allocation are important factors that determine level of residential land affordability in the study area. The paper concluded that government should not relent in educating its citizens and resuscitate mortgage system.

Keywords: affordability, determinants, Ibadan Nigeria, residential plot allottees, socioeconomic factors

1.0 Introduction

Fingers are not and could not be equal because the interaction of social and economic (socioeconomic) factors among others in human societies has segregated mankind into different groups. The segregation (socioeconomic status) in effect determines the activities and what people in each group attain in live in relation to people of other groups and has led to sharp inequality in their overall well-being (American Psychological Association, Task Force on Socioeconomic Status, 2007). Land is the platform of all human activities, for instance, residential plot or land is needed by man as a means to satisfy his housing demand. Although, majority of citizen in Nigeria are striving to meet their housing – a basic need, there is housing problem as a result of inaccessibility to residential land and its affordability problem among other factors which, everything being equal, has kept many out of having a house of their own.

As early as the 1970s, Federal Government of Nigeria (FGN) realized the ineffectiveness and inadequacy of traditional systems of land delivery in satisfying the yearnings of the citizenry and governments. The Government then developed land tenure reformation and adopted enabling actions to provide people with residential plots. In its concerted effort to further boost land accessibility, the FGN adopted Sites and Services Schemes in 1986. Many agents and parastatals of all the three tiers of government have been actively involved in the production of schemes and allocation of residential plots to citizens since 1986.

Many citizens sighed their relief then and attempted to access residential

land through this government channel; however, socioeconomic factors acting together bring about an effect of or determine who gets this or that plot of land and why some and not all citizens in a particular town or city get formal residential land (Olaniran and Ashaolu, 2017). Socioeconomic factors include, population size and fluctuation, (un)employment rate, poverty level, inflation, fund availability, interest rate, and citizen's family size, educational level, occupation, income, access to loan, etc. (American Psychological Association, Task Force on Socioeconomic Status, 2007, Nzunda, Munishi, Soka, and Monjare, 2013, Ajayi and Adebayo, 2017 and Vita Cintina, 2018).

The success of the few that secured formal plot allocation would not have warranted any apprehension or research interest if it had not been achieved with affordability problem that affects their other needs. It also aggravates socioeconomic problem of the exclusive majority in most cities and countries. Consequentially, it creates city dichotomy as areas occupied by those who could not afford the formal plots but sought and secured it through alternative channel – informal land delivery system - continue to live .majorly in poor and unsanitary environment that are devoid of basic infrastructure (Olaniran and Ashaolu, 2017). One is not unmindful of unabated population growth, unchecked urbanization expansion, prevalence of poverty and dwindling public fund, developing land grabbing, criminality, etc. that might continue to throw the cities and Nigeria and other nations that feature similar characteristics off balance if the problem of residential land

affordability is not carefully studied, recorded, understood, tackled, resolved and anchored on a sustainable pedestal.

This paper therefore studied socioeconomic determinants of formal residential land affordability in Ibadan with the aim of providing information to lessen the problems of inability of many urban dwellers to access secured land to build their houses in a decent environment.

2.0 Literature Review

Winters-Miner and Miner, (2015) defined socioeconomic status (SES) as a composite measure of an individual's economic and sociological standing which is measured in a variety of ways that account for a person's work experience and economic and social position in relation to others, based on income, education, and occupation. For identification of SES factors, American Psychological Association, Task Force on Socioeconomic Status, (2007) considered education, income, and occupation as fundamental aspects of SES but added accumulated wealth and ownership of important assets, such as a house and a car to them.

Vita-Cintina, (2018) concluded that economic, social, governance and political, technical and technological, environmental and individual factors influenced agricultural land use. Ajayi and Adebayo, (2017) used occupation, income, education, sex (gender) and family status and the study revealed occupation, income and education as the best predictors of accessibility to residential land in the city of Akure, Nigeria and that sex (gender) and family status did not have impact.

The above researchers seem to dwell in the application of the SES concept to their respective disciplines which may not practically serve, as one might want, our domain – residential land. For formal residential land allocation, operational definition of socioeconomic factors can therefore be expanded to include, government's objectives, land rights or tenure system, plots' prices, population size and fluctuation, urbanization, nation economic status, (un)employment rate, poverty level, inflation, fund availability, interest rate, and citizen's family size, educational level, occupation, income, access to loan, relationship, etc.

On mode of measuring the impact of each factor, American Psychological Association, Task Force on Socioeconomic Status, (2007) observes that the intersection of SES with other different personal attributes and with group membership compounds the difficulty of measuring the concept. It recommended that both the joint (, that is, SES with personal attributes and with race membership compounds,) and independent effects of SES and race and ethnicity should be addressed and the assessment should be based on both individual and neighbourhood and community levels. On analysis income, it reasons that people (of color) at the same income level as other groups tend to have less accumulated wealth, have more people dependent on the income meaning large family size. This paper, therefore, adopts independent assessment of impacts of socioeconomic factors on residential land affordability in Ibadan.

Land is a fundamental input in housing. Its availability significantly influences the ease of housing delivery. There are very large expenses of unused land in the study area. The problem, therefore, is not of land availability but that of accessibility, ownership and rational use (Onu and Onu, 2010). A United Nations (year) study on land use in urban areas of developing countries underscored this problem when it observed that: The demand for urban land is growing, yet the supply is limited and in line with economic law of demand and supply, this situation radically increases land cost. (Onu and Onu, 2010).

The problems of urban land supply include availability, accessibility, affordability and titling of residential land mostly in urban centers in Nigeria (Omirin, 2003, Agaato, 2006, Oyedele, 2008 and Olaniran, (2012). When the problems grew out of proportion, Land Use Decree of 1978 (now Act of 1990) was enacted in Nigeria to ease off problems of land accessibility and affordability especially in urban centres so that every Nigerian and government would have access to land to build his house where he and his family could reside and use for overriding public projects respectively. This was closely followed up in 1986 with adoption of site and services scheme (SSS) to make residential land readily available, convenient and affordable to all categories of people (Ajanlekoko, 2001 and Ibem, 2010). This scheme is being anchored by relevant government ministries and units, housing corporations and agencies.

Government at different levels in Nigeria was involved in direct construction and allocation of residential buildings. However, the numbers of plot and house provided through these programme were comparably insignificant to serve huge population in the country.

The few plots available were affordable to only public servants and others who were employees of organized private institutions and professionals or mostly high- and very few medium-income groups. It was also ascertained that “education enhances the probability of being in the formal housing markets, either as a renter or an owner” (Morais and Cruz, 2007, Ibem, 2010, Olaniran, 2012 and Olaniran and Ashaolu, 2017). On the other hand, habitation of core and degenerated centre of Ibadan was related to the occupations of the heads, who were mainly petty traders, craftsmen or farmers without any capital (Fourchard, 2003 and Olaniran, 2012). It is also asserted that the new elites live in the peripheral modern suburbs of Ibadan where individual homes are the rule (Lloyd, Mabogunje and Awe, 2009).

Thus, United Nations observed that “Pro-poor, proactive action by African governments to provide and scale-up affordable land and housing is crucial to reverse the trend that new migrants settle in largely informal, non-serviced housing because there is few other affordable housing options available to them” (UN HABITAT, 2011 and Olaniran and Ashaolu, 2017). Nigerian Government is not relenting in its pursuit of education for its citizens and has established Federal Mortgage

Bank, encouraged the formation and operation of primary mortgage banks, microfinance banks and cooperative society in order to boost access to fund. Many people embraced cooperative society to secure loan. To cap it all, the Federal Government of Nigeria established the Federal Ministry of Lands, Housing and Urban Development in April 2010 which is charged with the responsibility of ensuring adequate and sustainable housing delivery in environment that is conducive to living just to satisfy Nigerians and ease residential land affordability.

Residential land affordability could be defined as the capacity of people of different socio-economic groups to pay for allocation of plots with adequate incentive for its development from their disposable income and available loan resources without difficulty in obtaining other human basic needs such as food, clothing, children education, transportation and medical care, etc. (Agbato, 2006, UN HABITAT, 2011 and Olaniran, 2012). Aribigbola, (2011) agreed that (housing) finance affordability describes essentially the problem of the low and moderate-income groups with regard to the high cost of financing housing.

In other words, it relates to the issue or problem of accessing or raising adequate finance to build or rent housing by the low and medium income households and it is fixed at 30% of one's income. The 30 percent threshold has been criticized in the literature as deceptive, for low income families, spending 30 percent on housing costs leave very little for all

other necessities, whereas for middle-income families, it is an appropriate expenditure level (Andrews, 1998, Darmanin, 2008, Stone, Burke, and Ralston, 2011 and Herbert, Hermann, and McCue, D. 2018). Thus, very many people could not benefit from formal residential land and houses with their meagre incomes as problem of formal residential land affordability is a stark reality. Olaniran, (2012) revealed that the formal residential plot allottees experienced affordability problem in Ibadan land.

The question germane to this research is: what are socioeconomic factors determining residential land affordability in the city of Ibadan? The theoretical framework upon which this study is anchored is the materialistic perspective. This perspective is the fundamental conceptualization that involves access to resources or materialist approach as it focuses on the attainment of goods and services which in this study is residential land (American Psychological Association, Task Force on Socioeconomic Status, 2007). This study focuses on the impact of socioeconomic factors on residential land affordability in Ibadan and this is the gap this study is ready to fill. This study considered access to loan especially through cooperative society and family size along with education, occupation and income.

3.0 Research Methodology

3.1 Study Area

Ibadan is located in the South Western part of Nigeria. It has long history of urbanization that predates modern urbanization as known today. Despite the fact that sites and services scheme started as early as 1900s in Ibadan,

there is residential land affordability problem (Olaniran, 2012).

3.2 Research Design

The population for this research work was all plot allottees who had secured direct allocation of land from government for residential development as specifies by Land Use Decree of 1978. Geographically, the study covered all 11 Local Government Areas: Akinyele; Egbeda; Ibadan North; Ibadan North East; Ibadan North West; Ibadan South East; Ibadan South West; Ido; Lagelu; Oluyole and Ona Ara that make up Ibadan Land. Reconnaissance survey revealed that there were 53 government estate schemes with 17,473 plots allocated to the general public between 1920 (with Mokola Layout) and 2012 and the number was adopted as study population. New schemes that had not been fully allocated as at the time of this study were excluded. The study is limited to 2012 when plots allocation was very active.

Direct plot allottees could only be reached in 30 estate schemes with 14,851 allocated plots. Pilot survey on the 30 residential estates (with the help of all the 14 agencies and ministries in charge of the estates) revealed that only 4,602 plot allottees could then be contacted and the number was adopted as sample frame. It was difficult for this researcher to cover the entire sampling frame hence; sampling method as recommended by Kothari (2007) was adopted.

Therefore, from sampling frame of 4,602, only 354 original plot allottees who had developed, were developing or those who were yet to develop but

with easy access was adopted as sampling size. The figure was obtained through scientific calculation using the formula of statistical estimation theory employed when studying proportion of population (Kothari, 2007: 179).

$$nf = \frac{n}{1 + \frac{n}{N}} = \frac{384}{1 + \frac{384}{4,602}} = \frac{384}{1.083442} = 354$$

Where: N = the estimate of the population size. nf = the desired sample size which is = 384 calculated from the formula $n = z^2 \cdot p \cdot q / e^2$. The formula is used in case of infinite population when the researcher is to estimate proportion in the universe.

Z = the value of the standard variate, usually set at 1.96, which corresponds to the 95% confidence level under Normal Curve. P = the sample proportion in the target population estimated to have a particular characteristics. Usual practice is the use of 50% and is adopted here. $q = 1.0 - p$, e = degree of accuracy desired, usually set at 0.05., n = size of sample.

$$\text{Hence: } n = \frac{Z^2 \times p \times q}{e^2} = \frac{(1.96)^2 \times (0.05) \times (0.05)}{(0.05)^2} = \frac{0.009604}{0.0025} = 3.8416 = 384$$

For each of the sampling unit, unit proportional sampling frame divided by total sampling frame size multiplied by estimated total sampling size was adopted.

$$\text{The formula is: } SSu = \frac{PSFu}{SFt} \times ETSS$$

Where SSu = Unit sampling size, PSFu = Unit proportional sampling frame, SFt = Total sampling frame and ETSS = Estimated total sampling size.

3.2 Sampling Technique/Procedure

Purposeful sampling technique was adopted for plot allottees as it excluded schemes (like Mokola Layout) where direct plot allottees were not or no longer accessible. In each sampling unit/stratum, systematic sampling was strictly utilized in distributing the questionnaire where applicable and purposive sampling was used where it was practically impossible to do so as some of the respondents declined to entertain the questionnaire. On the basis of plot density, systematic sampling procedure was used. Highest number of copies of the questionnaire (185) went to medium density, with high density having 152 copies and 17 copies went to low density plot allottees.

3.3 Data Requirements

It is necessary to state that this research adopted retrospective data. The data relate to past time and activities. The respondents were asked to fill the questionnaire in relation to the time they secured allocation of their various plots. These include year of the plot allocation which falls between 1965 and 2011 as shown in Table 4, plot size, location and cost, respondent’s level of education attained, employer or occupation,

income earned, family size, sources of and access to loan then. The respondents were persuaded to even consult their records in order to give accurate answers. Data analysis is conducted accordingly on the basis of past data. For example, in 1974 annual salary of the highest paid civil servant was fixed at ₦15,000.00 per annum and the least paid was ₦1,200,00p.a. On June 9th, 1998 General Abubakar Salam increased minimum salary to ₦3, 500.00 per month for federal and ₦3,300.00 per month for state.

4.0 Data Analysis and Discussion of Findings

Data analysis was carried out using statistical tools such as frequency and simple percentage and presented in tabular form as well as inferential statistics, that is, regression with aid of Statistical Package for Social Sciences (SPSS) 17.0 version in order to answer the research question and satisfy the aim set out by this study. Comments and inferences were drawn from data analysis of the responses of the interviewees to reach conclusions. In this section, there is presentation of data analysis and discussion of findings as shown from Tables 1 to 12 below.

Table 1: Educational Level of the Respondents as at the time of Plot Allocation.

Educational	Level	Frequency	Percentage
	modern/grade 11/technical college	6	1.8
	SC/GCE/NECO	8	2.5
	NCE/OND/Nursing school	14	4.3
	HND/BSc	233	71.5

MSc/PhD	64	19.6
Others	1	0.3
Total	326	100.0

Table 1 portrays the educational levels attained by the respondents as at the time of getting land allocation. All respondents were educated to various levels and 91.1% attended Higher Institutions of differing kinds. This result is in tandem with conclusion

that only the educated people were beneficiaries of the schemes (Ajanlekoko, 2001, Morais and Cruz, 2007, and Lloyd, Mabogunje and Awe, 2009, Ibem, 2010, Olaniran, 2012, Olaniran, 2015 and Olaniran and Ashaolu, 2017).

Table 2: Identity of the Respondents' Employers as at the time of Plot Allocation.

Employer	Frequency	Percentage
Federal Govt.	46	14.1
State Govt.	99	30.4
Local Govt.	37	11.3
Bank/Corporate body	76	23.3
Contractor/Businessman	34	10.4
Driver/Petty trader/Transporter/Artisan	1	.3
Others	33	10.1
Total	326	100.0

Table 2 demonstrates that most of the beneficiaries of the land allocation scheme were employed by the State Government as they constituted highest percentage (30.4%). And 14.1% of the respondents worked for Federal Government while 11.3% worked for Local Government and 23.3% of them worked in banks and other companies. Then 10.4% of the respondents were contractors and business men and women and 10.1% of the respondents were employed in other kinds of employment not

specified in the list. Only one respondent was a petty trader, transporter or artisan. This result is in line with literature evidences as cited below. The probability of ownership in the formal sector is higher among public servants (Morais and Cruz, 2007). On the other hand, habitation of core and degenerated centre of Ibadan was related to the occupations of the heads, who were mainly petty traders, craftsmen or farmers without any capital (Fourchard, 2003).

Table 3: Family Size of the Respondents as at the time of Plot Allocation

Family size	Frequency	Percentage
One person	9	2.8
Two persons	35	10.7
Three persons	70	21.5
four persons	36	11.0
Five persons	57	17.5
More than five persons	118	36.2
No response	1	0.3
Total	326	100

The family size of the respondents is shown in the Table 3. The respondents with more than five members in the family accounted for the highest percentage (36.2%). Respondents with family of two persons were 35 in number (10.7%) and respondents with family size of three persons accounted for 70 (21.5%) while four - member and five – member families were 36 (11%) and 57 (17.5) respectively.

Only one respondent did not tell the size of his family. It could be concluded from the result displayed in this Table 3 that the respondents had large family to cater for thus increasing burden and that might impact on affordability of residential land (American Psychological Association, Task Force on Socioeconomic Status, 2007).

Table 4: Year of Plot Allocation

Year Range	Frequency	Percentage
1965-1974	4	1.2
1975-1984	64	19.6
1985-1994	68	20.9
1995-2004	136	41.7
2005-2011	52	16.0
No response	2	0.6
Total	326	100.0

Table 4 shows that the plots were allocated between 1965 and 2011. Most plots (42%) were allocated between 1965 and 2004. The least, (1.5%) was allocated between 1965 and 1974. Although, allocation of plots in the study area started earlier than 1965, for example, Agodi and Mokola were allocated in 1903 and

1920 respectively (Olaniran, 2012), the first estate under this study, Bodija, came up in 1959 (Fourchard, 2003) and its allocation started in 1963. The reason behind this result is that more local governments were created in 1991 and they all tried to (re)zone already acquired land at their disposal to residential use e.g. Oluyole

Local Government rezoned Orile Odo from industrial/commercial to residential scheme. Oyo State Ministry of Land Survey Physical Planning had also rezoned two schemes: Samonda Airdrome and dairy farm at Monatan to Samonda and Kolapo Isola Residential Schemes respectively.

For clarity and better understanding of display of Table 5, it is recommended that it should be read along with Table 4 above, Table 6 and Table 7 because of long period of time (1965 to 2011) and misconception it may create on

the value of money involved .The reality is that most of the beneficiaries were allocated the plots during the years (earlier years) when the income levels were very low for public servants in the country. For example, in 1974 Udoji Commission fixed salary of highest paid civil servant at ₦15, 000.00p.a. and the least at ₦1, 200.00p.a. It does not mean that the respondents were low income earners as portrayed in Table 5. Inflation and subsequent review of salary have been playing their parts too.

Table 5: Income of the Respondents as at the time of Plot Allocation

Income per annum in Naira (₦)	Frequency	Percentage
Less than 100	31	9.5
101-1000	89	27.3
1001-10000	65	19.9
10001-100000	27	8.3
100001-500000	34	10.4
500001-1000000	3	.9
1000001-2000000	17	5.2
2000001-5000000	14	4.3
Greater than 5000000	24	7.4
not fixed	22	6.7
Total	326	100.0

Table 5 shows the respondents that received between ₦101-1,000.00 as income as at the time of plot allocation were more in the sample as they constituted 27.3%. Those that received between ₦1,001.00 – 10,000.00 constituted 19.9% of the total. Those that received less than ₦100 constituted 9.5%. Those without fixed

incomes accounted for a small 6.7%. Respondents with higher range of incomes constituted lower percentages: ₦2,000,000 – 5,000,000.00 income earners constituted 4.3% and ₦100,001 – 200,000.00 income earners constituted 5.2%.

Table 6: Cost of the Plots as at the Time of Allocation

Plot Cost	Frequency	Percentage
₦1, 001-10, 000	104	31.9
₦10, 001-100, 000	68	20.9
₦100, 001-500, 000	93	28.5
₦500, 001-1, 000,000	20	6.1
₦1, 000,001-2, 000,000	19	5.8
Greater than ₦2,000,001	18	5.5
No response	4	1.2
Total	326	100.0

Table 6 shows the range of costs of the plots. The plot cost as small as between ₦1,000.00 and ₦10,000.00 at the beginning and as high as more than ₦2,000,000.00 now in some schemes especially the state own. This is due to time series or long period of time from 1965 when plot allocation started to 2011. Inflation is one of the reasons

why there is variation in the prices exhibited above. Time series calculation of the value could not be done to bring them to the same time as necessary information such as base year value were unavailable to this researcher and more so the analysis is done on plot by plot basis as shown in Table 7.

Table 7: Calculated Level of Affordability of Residential Plots from data Supplied by Plot Allottees

Scheme	Year	Plot size m ²	Density	Cost	Allottees (Y)	% Affordability
Oluyole Extention	1984	808	Medium	1,991.50	4, 600.00	43.29
Olubadan Estate	1986	1325.479	Medium	10,603.83	1,200,000.00	0.88
Yemetu Resettlement	1987	479.612	High	125,998.92	19657.78	640.96
Sode	1995	1108.145	Medium	94,307.73	1,200,000.00	7.86
Lam Adesina	1996	785	Medium	22,500.00	33,000.00	68.18
Ogbere Resettlement	1999	638	High	38,027.6	56,000.00	67.91
Akobo	2001	557	High	150,000.00	1,000,000.00	15
Olunde	2008	806	Medium	561,600.00	312,000.00	180
Ejioku	2009		High	236,875.00	324,000.00	73.11

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It is noticeable that the land cost increased as the years passed by. This might be due to periodical review of charges and incidental expenses carried out by land Institutions in line

with increasing inflation and loss in values of Naira in all categories of plot density. Also noticeable is the variation in cost of plots allocated in different schemes.

Table 8: Mode of Payment for the Plot

<i>Mode</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Deposit and instalment</i>	<i>177</i>	<i>54.3</i>
<i>Instant lump sum</i>	<i>85</i>	<i>26.1</i>
<i>Payments as they were charged</i>	<i>33</i>	<i>10.1</i>
<i>No response</i>	<i>31</i>	<i>9.5</i>
Total	326	100

Three specific modes of payment for the plots were identified as contained in the Table 8 which shows that 54.3% of the plots were paid for by making deposit and later balanced up by paying bit by bit, 26.1% of the plot allottees paid instant lump sum and

10.1% of the plot were paid for bit by bit as charges were made known or demanded but 31% of the respondents could not indicate any specific mode of payment. Mode of payment is relevant to issue of affordability for its relative relief.

Table 9: Time allowed for the Payment of the Plots

Period	Frequency	Percentage
Less than 6 months	50	15.3
6 - 12 months	108	33.1
About 2 years	25	7.7
3 years and above	13	4.0
No response	130	39.9
Total	326	100

Table 9 portrays that 15.3% of the plots were paid for within less than 6 months; 33.1% of the plots were paid for between 6 and 12 months; 7.7% of them were paid for in about 2 years; and 4% of them were paid for over a period of 3 years. 39.9% of the respondents could not tell the period

within which they paid for the plots allocated to them. This is an indication that the Institutions in charge of residential land allocation favourably relaxed term of payment for allocated land and this might be another boost to land affordability.

Table 10: Ability of Respondents to pay for the Plot without taking Loan

Response	Frequency	Percentage
Yes	201	61.7
No	89	27.3
Missing	36	11
Total	326	100

In Table 10, 61.7% of the respondents indicated that they were able to pay for their plots without taking loans. 27.3% of them could not pay for the plots without taking some forms of loans. The remaining 11% of them did not respond to the question. Those that could pay without taking loans paid through past savings and monthly payments from incomes. Those that paid through loans secured loans from government credit facility, employer housing loan scheme, mortgage bank,

commercial banks, cooperative societies, relatives and friends.

4.1 Factors that Influence Affordability of Formal Residential Land in Ibadan Land

Income, family size, level of education of the plot allottee and access to loan (cooperative or other) were examined using regression analysis and reported in Table 10 below. Also, in Table 11 the test of standardized coefficients is displayed

Table 11: Regression analysis test result of affordability problem on access to loan, educational level, income level and family size of the beneficiaries

Variable		Sum of squares	df	Mean square	F	R square	Multiple R
Dependent variable: Land Affordability	Regression	2890.862	4	722.716	16.895*	0.180	0.424*
Factor variables: Educational level, Family size, Access to loan, income level	Residual	13175.655	308	42.778			
	Total	16066.518	312				

*Significant at 0.05 alpha level

In Table 11, the overall model significance determination as indicated by F (16.895) is significant at 0.05 level of significance. This means that access to loan and educational level attained by the plot allottees, their income level and family size at the time of plot allocation are significant factors that determine level of residential land affordability in the

study area. A change in any of these factors/variables will lead to a change in the level of affordability. The relationship between the level of affordability and these factors is shown by the significant multiple R (0.42). The R square value 0.18 indicates that 18% of the variation in the level of affordability is explained by access to loan, educational level,

income level and family size. 18% change in affordability level is sought in access to loan, educational level, income level and family size. The

remaining 82% variation in affordability level is explained by other factors not considered in the regression models.

Table 12 Relative contribution of factors variables to dependent variables

Variable	Unstandardized coefficients	Standardized coefficients (Beta)	T	Significance
Access to loan	-0.236	-0.288	4.201	0.00*
Educational level	0.198	0.209	3.947	0.00*
Income level	-0.002	-0.008	0.130	0.89
Family size	0.147	0.200	0.3077	0.00*

Table 12 shows that regression coefficients for the factor variables such as access to loan, educational level, and family size are significant, though they are low. But income level was found insignificant. Meanwhile, the negative signs of variables like access to loan and income level imply that increases in these factors lead to decrease in land affordability problem in the study area while increase in educational level and family size aggravates land affordability problems in the study area.

Surprisingly, income as a factor considered by the current study was found insignificant. This finding seems to be in contrast to a priori expectation and theoretical foundation given the fact that more money will be made available through additional income and subsequently lessens affordability problem of land for residential purpose. In particular, this finding is also in contrast with previous findings on relationship between income and land affordability by Fourchard (2003); Morais and Cruz (2007); Lloyd, Mabogunje and Awe (2009); Ibem (2010) and Olaniran (2012). However, most respondents

sampled were medium and low income earners that belonged to one cooperative society or the other where access to loans is more feasible and usually available at low costs while some medium and high income earners were beneficiaries of fund from Federal Mortgage Bank. This provides justification for the significance of access to loan as a factor considered by the current study.

The standardized coefficients are meant to make the regression coefficients more comparable (Pallant, 2011). The standardized coefficients are coefficients of regression line, which result when all the independent variables are transformed to the same standard of measurement using z-score. The standardized coefficients or betas are z-score generated coefficients of regression line. By comparison in Table 11, access to loan has the highest beta; it is followed by education level and family size. Family size has the lowest beta. The implications of these are access to loan is most potent factor in predicting residential land affordability in the study area among other factors, educational takes the

second position in predicting the affordability and family size takes the third in the prediction. The least contributor to the prediction of residential land affordability is income level; and it is the only factor that is not significant by the standardized test. Thus, no matter the size of income affordability problem could not be really determined in the study area against all other factor variables. This might be attributable to very low income experienced till 1999. Apart from finding regarding income, the findings of the current study validate existing findings from previous researches in the field such as Fourchard (2003); Morais and Cruz (2007); Lloyd, Mabogunje and Awe (2009); Ibem (2010) and Olaniran (2012).

5.0 Conclusion and Recommendations

The paper studied socioeconomic determinants of urban residential land affordability with a focus on Ibadan Land and revealed that access to loan, education, family size and income

were determinant factors of residential land affordability in the study area. It also concludes that access to loan was most potent factor among others in predicting affordability problem in the study area and income level was the least contributor.

Although the current study provides further contribution to studies on land affordability problems by taking into consideration access to loan and family size unlike other previous researchers in the field the inability of the researcher to consider the level of access to loan and family size and amount involved serves as limitation to the study and as such provides ground for future research in this aspect.

It is hereby recommended that government should not relent in educating its citizens and upgrading mortgage system in the country in order to serve all categories of people. The cooperative credit society should be improved too to rescue many intending plot allottees.

References

- Agbato, S. E. (2006). A Study of Formal Land Transactions in Lagos State, an Unpublished M.Sc.Thesis submitted to Department of Estate Management, Obafemi Awolowo University, Ile-Ife, Nigeria
- Ajanlekoko, J. S. (2001). Sustainable Housing Development in Nigeria – The Financial and Infrastructural Implication, International Conference on Spatial Information for Sustainable Development, Nairobi, Kenya
- Ajayi. M. A., and Adebayo, M. A. (2017). Socio-economic Factors Affecting Residential Land Accessibility in Akure Nigeria: A Gender Perspective, International Journal of Built Environment and Sustainability, Faculty of Built Environment, Universiti Teknologi Malaysia, 165-171 downloaded from:

- file:///C:/Users/Test/AppData/Local/Temp/Socioeconomic_Factors_Affecting_Residential_Land_.pdf December 7, 2019
- American Psychological Association, Task Force on Socioeconomic Status, (2007). Report of the APA Task Force on Socioeconomic Status. Washington, DC: American Psychological Association. Downloaded from: <https://www.apa.org/pi> on December 7, 2019.
- Andrews, O. N. (1998) Trends in the Supply of Affordable Housing: Meeting America's Housing Needs (MAHD): A Habitat 11 Follow-up Project. Downloaded from: <https://www.liifund.org/wp-content/uploads/2011/03/Andrews-MAHN-housing-affordability-1998.pdf> on December 7, 2019
- Aribigbola, A. (2011) Housing Affordability as a Factor in the Creation of Sustainable Environment in Developing World: The Example of Akure, Nigeria *Kamla-Raj* 2011 *J Hum Ecol*, 35(2): 121-131. Downloaded from: <https://www.liifund.org/wp-content/uploads/2011/03/Andrews-MAHN-housing-affordability-1998.pdf> on December 7, 2019
- Chartered Institute of Housing, Coventry (1992). Rent Levels, Rent Structures and Affordability: A Guide for Local Authorities and Housing Associations. Downloaded from: eprints.covenantuniversity.edu.ng > 6.pdf on December 7, 2019
- Darmanin, J. (2008). The Computation of a Housing Affordability Index for Malta, Bank of Valletta Review, No. 37 Spring. Available at bov.com/documents/bov-review-37-paper-2 and accessed on 06/07/2019
- Federal Republic of Nigeria (1978). Land Use Decree No 6, now Cap 202 of 1990: Law of the Federation of Nigeria
- Fourchard, L. (2003) Urban Slums Reports: The Case of Ibadan. Downloaded from: https://www.ucl.ac.uk>dpu-projects>Global_Report>pdfs>Ibadan on December 7, 2019.
- Herbert, C., Hermann, A. and Daniel McCue, D. (2018). Measuring Housing Affordability: Assessing the 30-Percent of Income Standard, downloaded from https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Herbert_Hermann_McCue_measuring_housing_affordability.pdf on 06/07/2019
- Ibem, E. O. (2010). An Assessment of the Role of Government Agencies in Public-Private Partnerships in Housing Delivery in Nigeria in *Journal of Construction in Developing Countries*, Penerbit Universiti Sains Malaysia, 15(2), 23–48. Downloaded from:

- [http://web.usm.my/jcdc/vol15_2_2010/JCDC%2015\(2\)%202010-ART%202_corrected_\(23-48\)_21.12.2010.pdf](http://web.usm.my/jcdc/vol15_2_2010/JCDC%2015(2)%202010-ART%202_corrected_(23-48)_21.12.2010.pdf) on December 7, 2019
- Kothari, C. R. (2007). *Research Methodology: Method and Techniques*; New Delhi; New Age International (P) Limited Publishers page 179.
- Lloyd, P. C. Mabogunje, A. L. and Awe, B. (2009). *The City of Ibadan: A Symposium on its Structure and Development*, Arts and Humanities Research Council, Cambridge University with Institute of African Studies, University of Ibadan. Downloaded from: <https://journals.sagepub.com/doi/abs/10.1080/00420986820080641> on December 7, 2019.
- Morais, M. P. and Cruz, B. O. (2007). *Housing Demand, Tenure Choice and Housing Policy in Brazil*. Downloaded from: <https://pdfs.semanticscholar.org/d59b/7e0dbf198faa6233a34830f27c60b31e00ad.pdf> on December 7, 2019.
- Nzunda, N. G., Munishi, P. K. T., Soka, G. E. and Monjare, J. F. (2013). Influence of Socio-Economic Factors on Land Use and Vegetation Cover Changes in and around Kagoma Forest Reserve in Tanzania in *Ethiopian Journal of Environmental Studies and Management* 6 (5) 479- 488. Downloaded from: <https://www.researchgate.net/publication/258697520> on December 5, 2019.
- Olaniran, M. O. (2012). *Residential Land Affordability in Ibadan Land*, being unpublished M. Sc. Thesis submitted to Department of Estate Management, Faculty of Environment Designed and Management, Obafemi Awolowo University, Ile Ife, Nigeria.
- Olaniran, M. O. and Ashaolu, T. A., (2017). Informal residential land market in Nigerian cities: pro or anti-poor? The case of Ibadan metropolis. *Journal of Buildings and Sustainability*, 2(2), 46-55. Downloaded from: <http://www.insightcore.com/journal-of-buildings-and-sustainability.html> on November 6, 2017.
- Omirin, M. M. (2003). *Issues in Land Accessibility in Nigerian in Land Management and Property Tax Reform*, Omirin M. M. et al (ed.) (2003), 49-70
- Onu, V. and Onu, A. J. C.(2010). *Urban Residential Housing And Low-Income Earners: A Study of Makurdi Metropolis, Benue State, Nigeria* *European Scientific Journal* December edition 8(28), 231-246. Downloaded from: <https://ejournal.org/index.php/esj/article/view/648> on December, 7, 2019
- Oyedele, J. B. (2008). *Urban Land Acquisition Process in Oyo State*, an unpublished M.Sc. Thesis, Department of Estate

- Management, Obafemi Awolowo University Ile-Ife, Nigeria.
- Pallant, J. (2011). SPSS Survival Manual: A step by step guide to data analysis using the SPSS program. 4th Edition, Allen & Unwin, Berkshire. Downloaded from: [https://www.scirp.org/\(S\(i43d yn45teexjx455qlt3d2q\)\)/reference/ReferencesPapers.aspx?ReferenceID=851962](https://www.scirp.org/(S(i43d yn45teexjx455qlt3d2q))/reference/ReferencesPapers.aspx?ReferenceID=851962) on December 7, 2019.
- Stone, M., Burke, T. and Ralston, L. (2011). The Residual Approach to Housing Affordability: the Theory and the Practice, Australian Housing and Urban Research Institute, (AHURI), Swinburne-Monash Research Centre. AHURI Positioning Paper, No. 139 May Downloaded from on 06/06/2019 at
- UN HABITAT, (2011). Affordable Land and Housing in Africa, Adequate Housing Series Volume 3 HS Number: HS/076/11E ISBN Number (Series): 978-92-1-131938-5 ISBN Number:(Volume) 978-92-1-132370-2, from <http://www.unhabitat.org> on April 23, 2017
- Vita-Cintina, V. P. (2018). Analysis of Influencing Factors of Use of Agricultural Land, Rural and Environmental Engineering, Landscape Architecture Research for Rural Development 1(..) 181 – 187 downloaded from: http://www2.llu.lv/research_conf/proceedings2018_vol_1/docs/LatviaResRuralDev_24th_2018_vol1-181-187.pdf on December 7, 2019.
- Winters-Miner, L. A., Bolding, P. S., Hilbe, J. M., Goldstein, M. Hill, T., Nisbet, R., Walton, N. and Miner, G. D. (2015). Personalized Medicine in Practical Predictive Analytics and Decisioning Systems for Medicine: Informatics Accuracy and Cost-Effectiveness for Healthcare Administration and Delivery Including Medical Research, Chapter 3, 176-204. Downloaded from: <https://www.elsevier.com/books/practical-predictive-analytics-and-decisioning-systems-for-medicine/miner/978-0-12-411643-6> on sDecember 7, 2019