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AN ANALYSIS OF THE IMPLICATION OF LAND SPECULATION ACTIVITIES ON LAND AFFORDABILITY IN THE URBAN FRINGE AREA OF LAGOS STATE, NIGERIA

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ABSTRACT

PURPOSE: While affordability studies have centred on house possession through either mortgage repayment or household ability to pay rent in the developed countries, land affordability has remained a topical issue in the third world countries and emerging economy with consequential effect on the economic growth. The purpose of this paper is to examine the activities of the real estate developers as touching the capability and ability of the first time buyers to pay for a plot of land towards actualising their home ownership dream.

DESIGN/METHODOLOGY: The study adopted a quantitative paradigm of research method. A questionnaire survey was carried out with members of the Real Estate Developers Association (REDAN) and household heads in Lagos urban fringe as stakeholders. The Income structure of the civil/public service was also collected. The study employed the use of Land Affordability Index relative to Affordable Limit to determine buyer's affordability.

FINDINGS: The study finds a speculative motive in the activities of developers rather than solving housing supply problem resulting in non-affordability of land to the end user or first home dreamers. 77.8% of the developers' affirmed they subdivide within two years of land purchase for the purpose of resale to the end users and further land retailers. However, other factors such as increase in demand for land, change in income, scarcity of developable land was also found to have impacted on the ease of land affordability.

PRACTICAL IMPLICATIONS: The study revealed that the solution to the lingering housing Problem in Nigeria with over 16 million unit deficit, will not come from private developers if the activities of the developers continue unabated.

ORIGINALITY/VALUE OF WORK: The paper in addition to its contribution to literature, is the first to study land affordability in developing/third world context especially where there is inefficient mortgage system for home ownership, making individuals to acquire land and build their houses.

KEYWORDS: Affordable Limit, Land Affordability, Nigeria, Speculation, Urban Fringe

PAPER TYPE: Research Paper

INTRODUCTION

Until now, affordability studies have been about home ownership, mortgage loan repayment and prediction of the ability of a household to pay rent or mortgage on homes. They are classified as those cast in a neo-classical economic framework, emphasizing the importance of studying housing markets in term of supply and demand principles, and those oriented towards the political economy of housing delivery, focusing on agents involved and their roles and interests (Van der Linden, 1995). However, land affordability in third world countries have been a topical issue revolving around capability of a first-time buyer or end user ability to pay for land. This study considers land affordability from the perspective of the end users. That is, the ability of prospective individual house builders to pay for land without undue inconvenience based on their average disposable earnings. In the study area, it is a norm that while saving to purchase land which is a composite good, one is also spending on current housing related expenditure (for instance, annual rent) and non-housing related expenditure inclusive of health, education and transportation e.t.c) which is taken as a percentage of income. The remaining income after deduction is seen as the capability and affordable limit of the prospective land buyer which should serve the purpose of land purchase within three years, otherwise, in-affordability ensue. The main objective of this study is to assess whether the practice of developers' land acquisitions and withholding has implication on land cost and subsequently result in affordability challenge.

Landed market needs effective governance to mitigate opportunism. Urban fringes are arguably places where regulatory policy decision making, needs to be prioritized in other to minimize land speculation and maintain a healthy real estate market. Rarely are the activities of property developers in the fringe area considered in its entirety in relation to residential land affordability, thus, the need to control activities of the developers to preclude the transformation of urban fringes for their private gain only, becomes necessary. This study considers speculation as a large acquisition and sub-division of land; complete withholding of entire parcels from development of any kind and when land within the urbanizing area is held vacant. Specifically buying at a low price to hold, in expectation of selling at a profit upon a change in value; such practices further complicate the individual's challenge to buy land for home ownership.

Recent happenings, leading to large land acquisition and withholding in the fringes have caused inflation in the land market, inelastic supply of developable land as well as land prices beyond the reach of the income earners (Ubale, Martin & Wee, 2015). In the face of limited research on the impact of developers activity on (residential) land affordability, this study assesses the 'land affordability' concept by analysing implication of speculative activities with focus on the Lagos urban fringe taken into account the ability of the prospective end users (house builders) to pay for land without undue inconvenience based on their average disposable earnings.

Land has long been an important target of public policies in many societies (Cai & Lu, 2015) in which both institutional and regulatory framework play important roles with effects on land affordability process. Some authors including Mohamed (2006), Gallent & Robinson (2011), Cai & Lu (2015) regarded land demand to be proportionate to housing need but Colwell (2002) disagreed with this view and affirmed there are two components of demand for land; first the transaction purpose component and second the speculative purpose component. The transaction component is the natural investment motive: that is, an investor sees land as a factor of production while the speculative component grows out of the desire to withhold land by investors when they believe that price is abnormally high and vice versa. Divergent forms of user demand and investor demand for land have been identified, and the two forms of demand respond to different signals and subsequent decision making processes. The speculative action of developers sometimes puts a strain on households as regards the issue of land affordability and subsequent home ownership. Furthermore,

Shaqra'a, Babdarulzaman & Roosli (2015) affirmed that family usually spent between two and three times their annual income when buying a land since a large down payment is usually required.

The availability of and accessibility to land for development in developing countries is a great challenge. While land is inaccessible to certain class of the society in the urban and semi-urban areas, the price (per plot) is a great hindrance which sometimes results in in-affordability by private individual. In the effort to mitigate

the housing shortages, the private developers' participation becomes inevitable through land acquisition and subsequent development of affordable houses for all categories of income earners. Surprisingly, such private developers' involvement were majorly seen as large acquisitions of land without commensurate housing development while some of the houses developed were beyond the reach of the majority. Sometimes, subdivision and sale of plots is evident which is an indicator of speculative practice.

Speculation is often times associated with economic bubbles (Bogle, 2012). While it is a good motive of investing especially in money markets (forex market especially) and other durable goods and items like precious stones, gold etc, it is not expected to be the sole aim in solving social problem like housing. Speculation in land occurs when the price of landed properties exceed its intrinsic value by a significant margin. Land speculators tend to buy land with the expectation that a profit can be earned from a subsequent price change and sale. Accordingly, creating an artificial value for land which they do not plan to own for a very long time. This study therefore categorise anyone who has purchased land with no intent of development (acquired land more than he could expect to develop) as a speculator. This is observed in the activities of developers along the urban fringe corridor of Lekki in Nigeria.

Residential Land Affordability (RLA) gap ensues where land control mechanisms are seemingly weak manifesting land speculation with its attendant distortion of development and unjustly shifts income to developers (Emsley et al., 2008; Suhaida et al., 2011). Lack of affordability often times arises due to high land prices caused by the interaction of market forces (Gurstein, 2012) which results to a selection decision function of a household between land which is usually demanded towards meeting housing need and a non-housing product.

2.0 MEASUREMENT OF LAND AFFORDABILITY

Gan and Hill (2009) identified several indexes for measuring affordability. These measures relates to housing affordability within the context of mortgage. Some of which were developed in America, Australia and Britain as highlighted below:

- (a) National Association of Realtors (NAR), America, measures affordability as

25% of median monthly income

Monthly repayment

The National Association of home builders (NAHB) postulated

- (b) 28% of median monthly income

Cost of house for median housing

- (c) The Australian Real Estate Institute (REIA/AMP) index measures the ratio of median household income to median loan repayment.

Thus;

Median Household Income

Median Loan Repayment

- (d) The BIS Strapnel index measures the ratio of mortgage repayments on a typical housing loan on average full time male earnings

Thus:

Mortgage Repayment

Average Full Time Male Earning

- (e) The Common Wealth Bank of Australia/Housing Industry Association measure the ratio of median household disposable income to the qualifying income required for typical first time home loan.

Thus; CBA/HIA =

Median Household Disposable Income

Qualifying income required for a typical first home loan

- (f) Demographic International (2008) measures affordability by computing median price to income ratio.

Thus:

Median Price of Houses

Income of Purchaser

- (g) Omirin (1994) propounded an index for measuring land affordability as

$$\alpha_v = \beta_v / \mu_v$$

This index utilises the net income as well as used modal income which is only for low income earners leaving out other grade levels of income.

Land affordability according to Omirin (1994) is the ability of prospective house builders to pay for land without undue stress based on their average income. This implies that land affordability is measured relative to the relationship between land cost and income, or size of the loan in respect to income and it is generally influenced by land prices, interest rate and income level. This indicates the affordability capability of a first-time buyer or end user, dictating a household's ability to pay for land after average rental housing and non-housing expenditure has been deducted from average income earnings. Earlier studies have classified the measurement of affordability into three distinct measures as purchase affordability, repayment affordability and income affordability (Jiang, 2012; Suhaida, Tawil, Hamzah, Che-Ani, Basri & Yuzainee, 2011; Notani, 1997). Income affordability is simply an average Price Income ratio (PIR) as adopted by Cai and Lu (2015) in addition to the residual income method approach.

Gan and Hill (2009); Cox (2015) expressed middle income housing affordability in relation to the housing segment provided by the private sector which is not typically subsidized. Gan and Hill (2009) views affordability index from the perspective of an affordable limit that sets the ratio of the maximum allowable loan to income. Affordable Limit (AL) is expressed as the remaining disposable income (from all sources) after current housing (rental) and non-housing expenditure have been made. This is the maximum amount from income that is left to be expended on land purchase in preparation for home ownership. Affordable limit largely defines the capability of a prospective home builder. The affordable limit is therefore expected to equal or greater than the PIR to measure affordability

$$\text{Therefore; Affordable Limit (AL)} \geq \frac{\text{Average Price}}{\text{Average Disposable Income}}$$

Therefore affordable limit largely defines the capability to pay for desired land within a specific period of time (usually three years in the study area).

An arbitrary increase in land price being a composite good will, on the long run do have effect on the affordability capability of the prospective purchaser. Eckart (1983) found that increased scarcity of land is usually aggravated by land speculative practice. This invariably reduces householders' capabilities and outstretches the affordable limit of a prospective home builder. Therefore, land affordability could also be defined as the relationship between land price and household income less housing and non housing expenditure.

There are several ways of representing unitary land costs relative to an ability to pay (Ward, Jimenez & Jones, 1993; Eckart, 1983; Stone, 2006). It could be related to minimum wage or other standard wage line (Omirin, 1994), or against a basket of basic commodities (Gan & Hill, 2009) or against actual wages of individuals and/or households (Cox, 2015). Land affordability is thus affected by two principal variables of capital (i.e land purchase price) and occupation (current accommodation and non-housing expenditures inclusive of health, education and transportation) (UN - Habitat, 2011)

While some prospective purchaser may pay in instalments, others may pay lump sum through equity savings or loan. Loan, will of course attract additional cost in terms of loan repayment interest rate. Land affordability therefore involves more than the often used land price and household income. Here, it is assumed that while saving to purchase land which is a composite good, one is also spending on current housing related expenditure (e.g annual rent) which is taken as a percentage of income. This is the context upon which this study is based.

3.0 METHODOLOGY

Various Urban fringe areas exist in Lagos State. These include areas along the Lagos-Badagry expressway in the southwest, the Lekki -Epe expressway in the southeast, Ikorodu and Ajegunle in the northeast, Isheri in the north, Alimosho, Igando and LASU- Ojo area in the northwest as well as the Lagos-Ibadan expressway. Lekki -Epe expressway in the southeast was purposively selected being a fast growing hub of industrial and residential activities as well as a major transportation route with rapid urbanization growth where investors and foreign industrialists prefer to berth. As a result of the pressure of demand for land for both residential and commercial developments, the land prices tends to be unaffordable due to unnecessary withholding and artificial scarcity created by the speculative practices of some land grabbers in the study area. Some of the urban fringe settlements in Lekki-Epe expressway includes Agungi, Ajah, Addo, Oke-Ira, Majek, Ibeju-Lekki, Abijo, Badore, Lekki Peninsula, Alpha Beach, Eleko, Lakowe, Otunla, Elemoro, Ikate, Ogombo, Olokona, Ikota, Awoyaya, Lagasa, Sapati, Bogije, Sangotedo, Ipetu, Oribanwo, Bankole, Folorunsho, Kaiyetero amongst others as shown in figure 1.

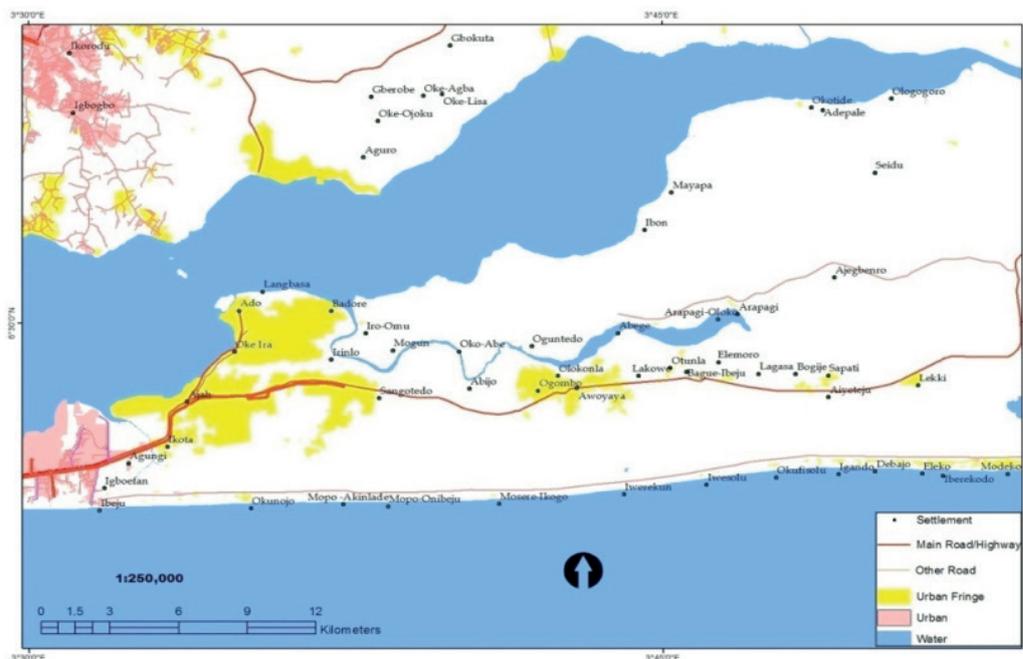


FIGURE 1: THE MAP OF LEKKI-EPE URBAN FRINGE CORRIDOR OF LAGOS STATE, NIGERIA

Source: GIS Laboratory, Geography Dept. Unilag (2016)

Variables are the income of the people and the prices of land being offered for sale. A questionnaire survey was also carried out for data that borders on ease of land acquisition, reason for holding land after acquisition, relationship between land cost and income, difference between year of purchase and subdivision for sale to end users or commencement of building development, target population in terms of financial capability, amongst others.

Data was collected through a combination of methods; questionnaires, direct observation and in depth interviews. Questionnaires were distributed to household heads in the study area as well as members of the Real Estate Development Association of Nigeria (REDAN). The questionnaire administered to REDAN focused on reasons for land holding behaviour, acquisition and development process and their relationship with actors in the neighborhood development. It further examined the role of developers in plot sub-division, residential development plans and title processing by private developers.

This study has based its affordability assessment on the income of public/civil service in Lagos state. The salary scale of the organised private sector like banks, oil & gas, research institutions, multinationals, world institutions (UN, IMF, World Bank etc.) and Telecom are not considered as they are different and have lower number of employees. The largest employer of labour in Nigeria is the government and public/civil servants are the masses that have more housing challenges.

3.1 STUDY POPULATION AND SAMPLE

The REDAN membership strength in Lagos, Nigeria was made available by the Association comprising of 128 members. This therefore, forms the population from which the sample size was drawn. The sample size was selected and adjudged representative through the adoption of the determination of sample size formula and table propounded by Krejcie and Morgan (1970); Marvridis and Atiken (2009); Joseph and Belisle (2013)

Thus the sample size required for each population to be studied was therefore determined by proportional allocation. Sample proportion for large or unknown population (S_o) is 384

$$\text{Sample size} = [(S_o \times p) / (S_o + (P - 1))]$$

Where S_o = sample proportion

P = population size

Therefore REDAN Members

$$= [(384 \times 128) / (384 + 128 - 1)]$$

$$= 96.182$$

Approximately 97 as minimum sample to be statistically representative.

Semi structured questionnaire was explored for the household heads in the study area using snow ball technique. The population of this stakeholder is large and unknown, thus a sample proportion of 384 was adopted.

3.2 RESEARCH ANALYSIS OF LAND AFFORDABILITY

Adapting Omirin (1994) and Gan & Hill (2015) indexes to the present reality, land affordability can be measured from the perspective of affordable limit.

$$\text{Thus: Affordability} = \frac{\text{Maximum Land Price}}{\text{Income}}$$

This is where no expense is made from the income. However, there are present needs to be met within the income/earnings of individuals. This leads us to a new affordability index which is now expressed as:

$$\frac{\text{Land price}}{\text{Income} - \text{housing expenditure} + \text{non housing expenditures}}$$

Therefore, a land with price Y is deemed affordable for a household with net income of X.
If $Y/X \leq$ Affordable Limit (AL).

Otherwise, the land is deemed unaffordable

Hence, When $\left[\frac{\text{Land Price}}{\text{Income} - (X_1+X_2)} \right] \leq$ AL, Land is Affordable

Where

x_1 = Maximum allowable ratio for rent (usually average of 30%)

x_2 = Non Housing expenditures (health, education, tax, insurance, transportation, feeding and services)

And if $\left[\frac{\text{Land price}}{\text{Income} - (X_1+X_2)} \right] \geq$ AL, Land is Unaffordable

Affordable Limit (AL) here refers to Maximum amount of savings (from all income sources)

The assumption here is that a prospective land purchaser occupies a rented apartment which must be paid for plus all other non housing expenditures. Thereafter, a ratio of the remaining income to the cost or price of the land forms the affordable limit. This means the maximum average income to be set aside for the purchase of land over time.

Affordable limit can also be related to time horizon in case of payment in instalments. Usually, average of three years payment plan, thus, if it takes more than the number of the years allowed to pay up, it is deemed not affordable and vice versa. The affordable limit of 3 years was derived from the primary data collated. As almost 100% of the developers affirmed the period of instalment payment shall not exceed 3 years (36 months) as presented on table 4

Thus, $\alpha_t = \beta_t / \mu_t = \frac{\beta_t}{\mu_t - (x_1 + x_2)}$

There is a global acceptance of maximum of 30% of income adjudged adequate for present housing expenditures. Thus the equation can be re-modified as;

$$\frac{\beta_t}{\mu_t - 0.3\mu_t - x_2} \quad \text{thus} \quad \frac{\beta_t}{0.7\mu_t - x_2}$$

Where;

α_t = Land affordability index for year "t"

β_t = Land acquisition cost (land price + sum of all incidental costs) for year "t"

μ_t = Average median income for year "t" less x_1, x_2

x_1 = Maximum allowable ratio for rent (usually average of 30%)

x_2 = Housing expenditures (health, education, tax, insurance, transportation, feeding e.t.c)

This index utilises average income, allowable maximum rental allowance income and average household expenditures.

4.0 ANA TABLE 1: LAND SIZE, TITLE, PRICE AND DEVELOPMENT STATUS LYSIS AND RESULTS

This study focused on the issue of land affordability in the urban fringe of Lekki axis of Lagos state. The study sought to know the sizes of land acquired by the REDAN members for development purposes, development status, title of acquired land, time of acquisition and the prices per plot of land along the corridor. Thereafter the household information concerning their income level, percentage of income spent on living expenses including current house rent and amount available to be spent on land acquisition for home ownership. This is required to assess the end users affordability of land in Lekki urban fringe.

Table 1 presents the different land sizes acquired by each of the respondents, the location, year of acquisition, title of land at the time of purchase, development status and the period for which the land stays undeveloped. The result of the survey shows that 33.3% of the developers, mostly private individuals acquired land sizes of 1 acre (6 plots) and below; 55.6% bought between 1 acre and 25 acres while 11.1% acquired land in excess of 50 acres. The result reveals that majority of the developers acquired land in acres far and beyond their capacity to develop. Interestingly, the private individuals who bought less than one acre also target reselling at high prices. Apart from a plot of land that was bought two years ago (and fully developed), most of the land acquired are still vacant with two cases of part development. Most lands have remained vacant for more than 4 years and up to 16 years in some cases, the position was confirmed in an interview session with some of the developers. This is more distinct in large land acquisitions of 5 acres and above. Similarly most of the large acquisitions are without legal titles. It is only the recent acquisitions that have either government consent or government official gazette of excision to land owners as title. The prices per plot as at 2016 in different areas ranges between ₦250,000 to ₦6,380,000 depending on the distance to the developed urban centre. At Ilesha which is the closest to the urban centre, the value of a plot of land with good and marketable title is the highest (₦6.38m) and Oke-Ira which is off the main road are remotely accessible (see fig 1) have the lowest price of ₦250,000 per annum. This confirms that both distance and accessibility affect land value. 77.8% of the respondents affirmed that land acquired is subdivided within two years of purchase for the purpose of re-selling in plots to the public.

TABLE 1: LAND SIZE, TITLE, PRICE AND DEVELOPMENT STATUS

S/N	Land Size	Location	Year	Price (NGN'000)	Title Purchased	Status	Vacant Period (years)
1	50Acres	Lafiaji	2008	1,000/acre	Receipt	vacant	8
2	1 hectare	Eleko	2015	1,000/plot	Gazette	vacant	1
3	2plot	Eleko	2014	800/plot	Gazette	vacant	2
4	3 Acre	Abijo	2014	1,500/plot	Gazette	vacant	2
5	1 Acre	ILASAN	2014	6,380/plot	Consent	vacant	2
6	6900Sqm	IkteElegusi	2015	980/plot	Consent	vacant	1
7	1 Acre	Lakowe	2000	500/plot	None	vacant	16
8	12Acres	Bogije	2000	450/plot	None	partly vacant	16
9	1Plot	Badore	2014	2,400/plot	Family Receipt	Developed	2
10	2Acres	Okeira	1999	250/plot	Family Receipt	3 plot vacant	17
11	5Acres	Bogije	2005	500/plot	Family Receipt	vacant	11
12	5Acres	Abijo	2012	800/plot	Gazette	vacant	4
13	10Acres	Epe	2000	450/plot	None	vacant	16
14	100Acre	FTZ, IbejuLekki	2010	1,500/plot	None	Partly Developed	6

Source: Authors Field Survey, 2016

TABLE 2: LAND SALE INFORMATION

Qty of Land Sale	Location	Year bought	Price per Plot when bought	Sales price per plot (2016)
682m2	Oke ira Nla Ajah	2014	11,000,000.00	14,000,000.00
1334m2	Sangotedo	2015	20,000,000.00	25,000,000.00
700m2	Addo Ajah	2001	1,000,000.00	25,000,000.00
1 Hectare	Ajah	2014	8,000,000.00	15,000,000.00
50 Acres	Ibeju Lekki	2013	15,000,000.00	25,000,000.00
1Plot	Lekki Phase 2	2013	8,000,000.00	12,000,000.00
1Hectare	Bogije	2013	1,200,0000	2,500,000.00
3Plot	Abijo	2016	3,000,000.00	3,000,000.00
1 Acre	Eleko	2016	2,000,000.00	3,000,000.00
1Plot	Elemoro	2010	1,500,000.00	6,000,000.00
2Plot	Otunla	2011	1,500,000.00	5,000,000.00
1 Acres	Ibeju Lekki	2016	3,000,000.00	3,000,000.00
1Plot	Seaside Estate	2016	8,000,000.00	8,000,000.00
1Plot	Lekki Phase 2	2016	13,500,000.00	13,500,000.00
1Plot	Addo Roundabout	2014	20,000,000.00	40,000,000.00
2 Acre	Ibeju Lekki	2015	2,000,000.00	2,500,000.00
1Acres	Ibeju Lekki	2015	2,000,000.00	2,000,000.00
1Acre	Ibeju Lekki	2016	2,500,000.00	3,000,000.00
2Plots	Awoyaya	2016	4,000,000.00	4,000,000.00
1Acres	Abijo	2016	2,000,000.00	2,500,000.00
2 Acres	Eleko	2014	700,000.00	3,000,000.00
1 Acres	Lekki Epe Express	2016	8,000,000.00	8,000,000.00
10 Acres	Abijo	2015	3,000,000.00	3,500,000.00

Source: Authors Field Survey, 2016

The spending characteristic of the household is presented in Table 3. Result shows that 63 % of the respondents (household head) are tenants wishing to save towards their personal home ownership target. The survey shows in Table 2 the average income earner expenditure in relation to their income (in percentages). Up to 15% is spent on feeding with services taking 5%. Spending on transportation, public transport system or personal automobile gulps 20% of the income, clothing took 10%, education 20%, rent for current accommodation takes another 20% leaving only 10% for savings towards home ownership.

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TABLE .3: PERCENTAGE OF INCOME SPENT ON RENT AND OTHER HOUSEHOLD EXPENDITURES

Items of Expenditure	Food	Services	Transport	Clothing	Education	Rent	Savings
Allowances (% of basic)	20	5	15	3	15	35	7
Actual (%)	15	5	20	10	20	20	10

The above expenditure pattern of an average income earner is compared to various components of allowances of public service workers. It was found that there is disparity in the actual spending pattern of households to the basic allowances provided. However, while the allowances are percentages of basic salary, the actual expenditure is on total income. Ordinarily, rental accommodation provision of 35% of basic salary actually took 20% of the total income which may result in actual being greater than allowance. Again the 7% left for saving under allowances is implied after all other expenses might have been made, it is hypothetical. The 10% savings in actual spending is real as the household revealed that they struggle to save such for their home ownership ambition.

The prices of plot of land across the study area are presented in the Table 4 below. It ranges between ₦800,000.00 to ₦3,500,000.00 per plot. A 10% discount is granted to buyers for one off payment at the time of purchase while instalments payment are allowed for a maximum period of 3 years with a moderate extra cost of fixed sum at intervals of 6 months. The option of paying in instalments is a marketing strategies devised by the REDAN to attract buyers to the layout plots of their acquired land. A separate fee is charged for the Survey and title processing (documentation) per plot. This ranges between ₦200,000.00 and ₦320,000.00 (as shown in Table 4)

Location	Land Price (NGN'000)							Survey & Title (N
	One off Payment	Instalment (Months)						
		6	12	18	24	30	36	
Heaven Paradise 1	1,080	1,200	1,224					200,000
Heaven Paradise 2	720	800	816					320,000
Gadenia Homes & Gardens	2,700	3,000	3,060	3,120	3,180	3,240	3,300	320,000
Beach Gardens & Homes	3,150	3,500	3,570	3,640	3,710	3,780	3,850	320,000
Aster Homes & Parks	2,700	3,000	3,060	3,120	3,180	3,240	3,300	320,000
Adora Gardens	2,250	2,550	2,600	2,650	2,700	2,750	2,800	320,000

Table 5 presents the total monthly income of a typical public/civil service employee in Nigeria based on the national minimum wage of ₦18,000.00. This was collected in order to examine the affordable limit of the citizen based on their legitimate earnings. The table shows a minimum salary grade level 3 earning a total sum of ₦19,346.07 while the maximum grade level 16 earns ₦211,510.41. The political appointees/elected office holders earn about ₦909,600.00. Relating tables 3 and 4 together, the prices of a plot of land in the residential estates being created by the members of REDAN in the study area is far higher than what the public/civil servants in Nigeria can afford based on their legitimate income and their saving ability. It is only the political appointees/elected office holders that can afford a plot of land in any of the residential estates both on 'one spot payment' or 'instalments'. The result indicates that the public/civil servants will have to get more fund from other possible sources to make up for the required fund in order to achieve their home ownership dream. It calls for thought that if land will be acquired with more fund outside the legitimate income of these workers, where, when and how will they accumulate enough fund to develop the land?

TABLE 5: MONTHLY SALARY (INCOME) OF PUBLIC/CIVIL SERVANT IN NIGERIA

Grade Level	Monthly Income (N)	Affordable Limit	
		(10% of Income)(N)	Yearly Savings(N)
3	19,346.07	1,934.61	23,215.32
4	20,264.92	2,026.49	24,317.88
5	28,881.18	2,888.12	34,657.44
6	29,117.74	2,911.77	34,941.24
7	51,640.09	5,164.01	61,968.12
8	65,984.62	6,598.46	79,181.52
10	87,485.58	8,748.56	104,982.70
12	90,644.76	9,064.48	108,773.80
13	104,939.75	10,493.98	125,927.80
14	115,683.24	11,568.32	138,819.80
15	165,584.42	16,558.44	198,701.30
16	211,510.41	21,151.04	253,812.50
30 Political Appointee	909,600.00	90,960.00	1,091,520.00

From the Table 6, developers were asked to rate reasons for acquisition of large parcels land in the fringe areas. 28 reasons were considered out of which 14 were identified as important reasons for large land acquisition. One of the highly rated motivations is that, it is good investment to buy land and keep it (as long as the value keeps increasing) – a speculation features. Ranking second is the psychological believe of liking the area where the land situates as giving a sense of wealth and prestige to individuals. Land sub-division into smaller plots in order to form an estate in personal name ranks 3rd, Close proximity to major high way ranks 4th, while the dream of leaving a legacy for children ranks 5th. Evidence of sustained demand for residential land ranks 6th. Other important rated factors bother on land being a profiteering business with high possibility of rising prices.

TABLE 6: OTHER POSSIBLE REASONS FOR LAND HOLDING BEHAVIOUR

Reasons for large land acquisition	Mean	Std. Deviation	Mean Rank	Rank
It is good investment to buy land and keep it(as long as the value keeps increasing) and sell after	5.00	-	25.00	1
I like the area where the land situates	4.67	0.58	22.33	2
It gives me a sense of wealth and prestige to acquire and sub-divide into smaller plots in order to form an estate in my name	4.67	0.58	22.33	3
I bought the land because of its close proximity to major high way	4.67	0.58	22.17	4
I need to leave a legacy for my children	4.33	0.58	19.67	5
Evidence of sustained demand for residential land	4.33	0.58	19.67	6
Good profiteering business and high possibility of rising prices	4.33	0.58	19.50	7
Agricultural investment requires large expanse of land	4.33	1.15	18.67	8
I bought the land to secure future investment returns at my old age	4.00	1.00	17.33	9
I bought the land because government has proposed infrastructural development in the location	4.00	1.00	17.33	10
The land is cheaper to buy in the fringes	4.00	-	16.83	11
I bought the land because I have connection with land owners in the area	4.00	-	16.83	12
I bought the land because of its close proximity to developed area	4.00	1.00	15.83	13
Increase in population size	4.00	1.00	15.83	14
Zoning and planning of a new development scheme	3.33	2.08	15.00	15
i acquire the land because i am passionate about provision of mass housing	3.33	1.15	14.00	16
Privileged information about future government development and investment in the area	3.00	1.73	12.83	17
I need the land for communal use and to enjoy outdoor activities	3.33	1.15	11.33	18
I bought the land because i want to become major land dealer in the area	3.00	2.00	11.33	19
I bought the land because i have relevant knowledge, experience and skills in real estate	3.00	1.00	10.33	20
Low land price was the most important factors influencing my decision for land acquisition	2.67	1.15	10.17	21
Ease of transportation and access route	2.67	1.15	10.17	22
Excess demand not met by government allocation	3.00	-	9.67	23
Regulatory lapses makes it possible to buy land cheaply here	3.00	1.00	9.33	24
Lack of physical infrastructure which makes the land cheaper	2.67	0.58	8.17	25
I bought the land because government change the use of the area from agricultural to residential use	2.33	0.58	6.50	26
I bought the land because it was very easy to obtain title on the land	1.67	0.58	4.33	27
Possibility of change of land use from agriculture	1.67	1.15	3.50	28

Source: Authors Field Survey, 2016

5.0 DISCUSSION OF FINDINGS

The study finds that large acquisition of land in the urban fringes reflects the intents of the buyers which is plainly to hold (stock), unused, and resell at a rising market prices several years after their acquisition. The REDAN members who are supposed to acquire land and develop residential properties for the teeming masses of Nigeria who are homeless also engaged more in buying land and subdivide to sell at higher prices even with no value addition to the land in some cases. The price of the land at the end is far beyond the affordable limit of the target buyers (who are expected to act within their legitimate earnings and saving ability). As a result, the high income earners, business moguls and political office holders are the only one that can afford to buy the land and build over some years. Generally, Baker & Andersen (1981) and Zhang et al., (2015) affirmed the buyers of the plots are the higher income group as the price of land is far beyond the means of lower and even middle income group. The study aligned with these authors that only high income group can afford the REDAN members laid out plots of land in their estates. The study proofs that the activities of REDAN members is speculative rather than redemptive in housing amelioration in Nigeria. However, further analysis on table 7 clearly shows that it is not only acquisition and withholding of land by developers that causes land price change as well as in-affordability. Increase in demand for land by end user; change in income; scarcity of developable land as well as inability of government to provide sites and service scheme are other possible factors that may drive land price changes.

Jones (1991) in his study of land market commercialization found that there was no relationship between large land acquisitions and land prices in Mexican city of Puebla. The findings of this study contradicts Jones 1991 with a finding that the activities of land speculators including REDAN, who are expected to engage in mass production of housing units for the citizenry but have limited their activities to land retailers, have contributed to increase in land prices beyond the reach of many Nigerians especially the government employees and other workers in the small to medium income business sectors, However the current study corroborates Swierenga (1977) and Aron (1992) that land speculators cause a sharp rise in land value as well as distort frontier development in American economy and Kentucky. Again, Masum (2009) affirmed acute demand of land and developers' activities resulted in high land value in the fringes of Dhakka and referred to developers as informal land grabbers. This study in part agreed with Masum (2009) that increase in demand for land is also a major drive for land price change. The land speculators have taken advantage of the increase in population, inability of government to provide site and service schemes, primary infrastructure and sustainable housing programme.

As a result, only the high income group and anyone that can access fund from other possible sources can afford the land and later, these few ones constitute a monopoly which further increases the land value. This confirms the authors suspicion that the land developers (REDAN)'s motive of profit maximisation overrides their expected housing solution in Nigeria as they indulge more on land speculation related activities with no significant influence in the real estate sector.

Further analysis on table 6 shows that land being a good investment to buy and keep (as long as the value keeps increasing) and sell after is one of the highly rated motivations for land holding behaviour by developers in the study area. This is one of the features of speculation. It could therefore be deduced that REDAN members are speculating with the land they have acquired for profit only and not for the purpose of reducing housing deficit in Nigeria property market.

The salary structure of Nigeria employees as shown in Table 5 with their affordable limit is an issue of concern especially in comparison with the average prices (value) of a plot of land in several real estate project sites in Table 4. This has a dire consequence on the affordability level of prospective purchaser as it will take a grade level 16 employee about 4 years to complete payment (on instalments) for the least cost land of #800,000.00 (and the survey and title fee).

6.0 CONCLUSION

This study examined the issue of speculative activities in relation to land affordability from end-users' perception in Lagos urban fringe. Our conclusion is simple yes; the relationship is noticeable to be significant. Land speculation is aided by the activities of the purported land developers (including REDAN) turned land retailers who has engaged in subdivision and hoarding of land to sell when increase in land prices occur. The resultant increase in land prices is so high beyond the affordable limit of the larger percentage of the citizenry. However, further analysis clearly shows that it is not only acquisition and withholding of land by developers that causes land price change; increase in demand for land by end user is another chief cause. This is the resultant consequence of bad economy and underdevelopment in addition to the country's inefficient land regulation. It is therefore recommended that policies to stop land speculation and accelerate infrastructure development be evolved in Nigeria. For a country that is in absolute housing shortage of more than 16 million units, citizens should have easy access to affordable land for their private home development where government has failed to provide one.

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CORRECTION TABLE

NO.	COMMENTS	CORRECTION
1	Define Speculation more clearly	This has been clearly defined on page 2
2	Need for consistency when referring to affordability	This study relates to land affordability and contextual definition given on page 2
3	Relationship between house prices and land prices	The study focus is on land prices. Verbosity as regards ambiguity has been re-worded
4	Objective of study should be included	The objective of study is to assess whether the practice of developers large land acquisition has implication on land cost and subsequently affordability challenge page 2
5	Methodology section: Restructure methodology to reflect undulating nature of income and expenditure	An assumption/ caveat have been given to serve as control for the undulating nature of income and expenditure application to the study. Page 7
6	Discuss other possible reasons for land holding behaviour	Developers were asked to respond to possible motivations for land acquisitions. This was analysed using likert scale rating and ranked accordingly. Result is thus presented on table 6, pages 14-16
7	Discuss other factors that may drive land prices	Further analysis was carried out to assess other possible factors that could cause land price changes. Result shows Increase in demand for land by end user; change in income; scarcity of developable land as well as inability of government to provide sites and service scheme are other possible factors that may drive land price changes. Result is thus presented on table 7, pages 16-17
8	Editing the paper in terms of language	The whole paper has been rigorously edited
9	Conclusion	Conclusion has been generally edited as a result of the additional analysis and discussion. Page 18