



# RESIDENTIAL LAND USE COMMERCILISATION AND RENTAL VALUE TREND IN OSOGBO, NIGERIA.

<sup>1</sup>ANKELI, IKPEME ANTHONY, <sup>2</sup>NUHU, MUHAMMAD BASHAR, <sup>3</sup>SULE, ABBAS IYANDA, <sup>4</sup>ANKELI, UCHECHI CONSTANCE, <sup>5</sup>BELLO, ADEWALE TAJUDEEN

(1. Senior Lecturer, 2. Professor, 3. Lecturer, 4. Lecturer 5. Consultant Town Planner)

1. Department of Estate Management and Valuation, Federal Polytechnic Ede, Nigeria
- 2 & 3 Department of Estate Management and Valuation, Federal University of Technology, Minna, Nigeria
4. Department of Statistics, Federal Polytechnic, Ede, Nigeria
5. Bello Adewale Consulting (Chartered Town Planners), Lagos, Nigeria

**Abstract:** Several studies have been carried out on urban land use change in Nigeria but none of these studies have critically examined the pattern of residential land use commercialization and property rental trend in an emerging city as Osogbo. The study is therefore design to evaluate the influence of property use conversions from residential land use to commercial uses in order to ascertain the current rental trends of converted or commercialized two and three bedrooms as well as tenement buildings along Gbongan road, an area hitherto characterized with residential development in Osogbo metropolis. Data for this study were sourced through both Primary and secondary data sources and the data collected were analyzed using descriptive and inferential statistical tools. Findings from the study revealed that residential land use commercialization is more along major arterial roads leading to the fast depletion of the available residential housing stock in the area. Despite the fact that, the converted or commercialized properties commanded higher rental values, its failure to comply with the state's planning regulations have led to the distortion of the city master plan with the resultant consequences of aesthetic problems, rental values variations among others. It is on these findings that the study recommended among others the need for a more effective and efficient land use monitoring and management mechanism in the state.

**Index Terms - Land Use Commercialization, Residential Properties, Rental Values Trend**

Corresponding author e mail: thonyankeli@gmail.com

## I. INTRODUCTION

The global urban growth and development has witnessed series of transformations or changes over time as evident in the unguarded and uncontrolled global demographic trend and pattern which ranges from a mammoth scale of sequential increase in global population and urban land uses, to the micro level of variation in the distribution of population and land use infiltrations across continents and nations of the world. Scholars have identified this to be a major issue shaping and reshaping the economic, social and physical dimensions of urban centres in many large cities of the world, especially in the Sub-saharan Africa (Ankeli, Nuhu, Sule, Ankeli and Alade, 2019; Olarewaju, 2016; Nduwayezu, Sliuzas and Kuffer, 2016 and Adebayo, 2009). According to Hall and Pfeifer, (2000) cited in Thuo, (2013), the population in urban centres of countries in Africa just like that of other parts of the developing nations of the world

is expected to double its current size by 2025. This assertion was further supported by the report of UN-HABITAT (2011) cited in Nduwayezu et al., (2016) which opined that, 52% of the 3.6 billion world's population are currently residing in the urban centres but this is expected to rise to 67% by 2050 as the global urbanization rate increases, while the proportion of the population of urban centres in the developing regions of the world will increase from 47% in 2011 to 64% in 2050 with the expectation that African urban population will triple from 414 million in 2011 to 1.2 billion by 2050. The expected rapid rise in urban population growth will definitely translate to increasing demand for urban land, land uses and development, particularly in the area of urban housing, commerce, transportation and other various urban land uses.

Cities in Nigeria are growing at unparalleled and uncontrollable rates with the attendant consequences of extensive urban landscapes, distorted city master plan and other socio-economic, demographic and physical consequences. However, Adeyinka (2014) opined that the proportion of land allocated to the various land uses in different part of the globe varies significantly over time and space depending on the level of development, the effectiveness of planning regulations as well as the compliance level of populace to law and order. Clark et al., (2006) cited in Adeyinka (2014) classified urban land uses in Canada into six, with residential land use occupying the largest proportion of 40% of the total land mass, closely followed by transportation taken 32%, public /institutional occupying 10%, open space takes 7%, industrial land use with 6% and commercial land use occupies 5% which happen to be the least proportion of land use. But despite the legal allocation of land to the various uses, there are factors that help in the alteration of the allocations in most cities of the world. Previous scholars as Ankeli et al., (2019), Ankeli, Sule, Nuhu, Ankeli and Kemike (2018), Akerele (2013), Ogungbemi (2012) and Adebayo (2009) have identified such factors to include highest and best use, demography, economic, invasion, succession and dominance, institutional and infrastructural factors, environmental factors among others.

Previous studies in Nigeria as Ankeli et al., (2019), Adegunle, Fateye & Agbato. (2016); Agukoronye & Nwankwo (2002) and Adebayo (2009) have revealed that a significant nexus exist between residential land use commercialization and the rapid urban rental growth in most Nigeria major cities. Hence the focus of this study is the assessment of the influence of residential land use commercialization along Gbongon road in order to ascertain the current rental performances of converted or commercialized tenement, two and three bedroom properties in the study area. Since Nigeria is one of the key players in the socio-economic, demographic and political spheres of the sub-Saharan African nations and an emerging major player in the global socio-economic and political domain, a careful assessment of her residential land use commercialization and rental trend is considered imperative as research findings from a study of this nature could be used as baseline information for decision making by policy makers in other developing nations of the world.

It is on the bases of the foregoing that the study considered it pertinent to provide answers to the following questions:

1. What are the drivers of residential land use commercialization in the study area?
2. Does land use commercialization influence rental performance in the study area?
3. What is the rental situation of residential properties values in the study area?

The remaining part of the paper is structured as follows: a brief justification and rationale for the choice of study area is presented in the second section, the review of relevant literatures forms the third section, section four deal with methodology adopted for data collections, while empirical results and discussions were presented in the fifth section and section six concluded the paper with findings and recommendations.

## **II. Justification for the Study and the Rationale for the Choice of the Study Area**

The concept of land and land use globally, are significant concepts as land denote different thing to different societies but is hold in high esteem in all the societies in the world. To some, land signifies an important cultural heritage or resource of inestimable value, a productive factor and capital asset, while to some other culture, land is a consumption goods and a deity. Fabiyi (2006) asserted that, in spite of the numerous advantages and strategic position land occupies in human life, its limited supply and life supporting role, its unguided allocation and use has altered the structure and functioning of the ecosystem. This unguided use and allocations have ignited crisis or unrest in several cities of the world and thus requires careful assessment, monitoring and management. The demand for land is usually derived in nature as the values attached to any piece of land (whether capital or rental values) is dependent on the interplay of series of factors operating in the property market. The occurrences of residential land use commercialization phenomenon or the conversion of building use from residential use to commercial uses is usually in respond to some existing forces as the complex interactions between physical, socio-economic and legal setting among others that exist within a geographical context (Ankeli, et al., 2019 & Smith cited in Ayo-Odifiri, Egenti, Bada & Okosun, 2017). The drivers or factors that interacts to create values in the rental market are the same drivers of residential land use

commercialization in most cities in Nigeria as the use to which urban land are put is usually predicated on the nature of the expected derivable satisfaction which could be financial or otherwise. Olujimi (2010) asserted that the negative effect of drivers of land use conversions damage the interest of investors, thus subsequently discouraging investment potentials and initiatives in the subsector. The commercialization of residential land use is gradually becoming a trend in most urban centres in Nigeria with grievous consequential effect, thus, the critical assessment of this trend and its influence on property rental values is considered pertinent at this stage of our national development.

Gbongon Road stretches from Orita Olaiya through Ogo-oluwa to Abere and beyond, however, for this study, only residential land uses along Gbongon road (from Orita Olaiya to Ogo-oluwa axis) in Osogbo were covered. This section of the metropolis was selected for the study due to the strategic position it occupies in the city as the link between the city centre and the seat of government, a transforming commercial area in the city with richer data on property conversions and rental values compare to other areas in the metropolis. Again the influx of people and business ventures from saturated cities as Lagos, Ibadan and other big towns in Nigeria leading to the consistent and steady conversions of every available properties fronting major streets to either shops, offices or business place is yet another reason for the selection of the area as it is considered to be one of the commercial stronghold of the metropolis. Furthermore, the constant conflicting land uses, evolving economic activities with vibrant rental market creating several rental regimes in the metropolis are factors considered apposite for the choice of the area.

### III LITERATURE REVIEW

The issue of residential land use commercialization is gradually becoming a universal phenomenon especially in the developing nations hence provoking scholarly thoughts especially in the area of its causes, effects and management. For the fact that the inhabitants of an urban centre live and recreate within the residential areas, Adeyinka (2014) opined that, residential land use occupies the central position of an urban area. The study further argued that despite the existing studies in the country that have x-ray the intra city movement, none of such studies have assessed the pattern of distribution of urban land use. The findings of the study however revealed that land use in the study area does not comply with the planning regulations. While recommending the need for the re-designing of the city master plan that will ensure strict compliance with planning regulations, the study further revealed that it concern was only on household trip flow to the exclusion of other important areas of urban land uses that could negatively impact on the city growth and development. Ayo-Odifiri et al., (2017), evaluate the planning implication for changing the use of residential buildings in Auchi, Nigeria through the administration of well-structured questionnaires on 259 respondents. Findings from the study reveals a significant effect of change of use of residential buildings on the emerging land use pattern and uneven cost of residential accommodation. The study, however failed to empirically show the implications of the building use change on residential housing stock and residential land values in the study area as well as not specific on the type of buildings that changes its uses. Olarewaju (2016) studied the spatio - environmental dimension of residential land use change along Taiwo road, Ilorin using descriptive and inferential analytical tools. The study's findings revealed a statistically significant variation in residential property values. The study was however not systematic and empirical enough as the type of value was not stated and the period or span not known. Iroham, Oluwunmi, Simon and Akerele (2013) evaluated the trend in rental values of commercial properties in commercial hub of Akure, Nigeria using both descriptive and inferential statistical techniques in the analysis of data. Findings of the study shown that converted office spaces have better chances of recouping its investment fund as they tend to command the highest rental values in Akure property market.

Despite promoting the idea of using effective and practical means for addressing the causes of commercializing residential land use through use conversions and the factors responsible for the trend by Ojikpong et al., (2016) and Oduwaye (2013), the rate at which properties are been converted in our cities tend to be on the increase. Though, residential land use commercialization is not a new phenomenon in Nigeria but what seems to be eccentric about it is the recent vigour, shape and trend with which residential land uses are been converted. Ogungbemi (2012) observed that several factors are responsible for residential land use commercialization, that is, use conversions especially change of use from residential to commercial land uses but noted that the return expected from the available use options most often determine the type of property use conversions often exerted on land in term of use. However, none of the previous work assessed the commercialization of residential land use in relation to its influence on the available housing stock and rental value performances in an emerging city as Osogbo. Thus this study is considered necessary and timely as it will be the first bold step in this direction.

#### IV RESEARCH METHODOLOGY

Survey research approach was adopted for this study. Data used for the study include both quantitative and qualitative data. The respondents on whom structured questionnaires were administered are Estate Surveyors and Valuers (ESV), staff of the State Ministry of Lands and Physical Planning and Tenants. To determine the land use to be selected for the study, only residential land use that are put into productive commercial uses as shops, offices and other similar ventures operating in converted residential properties along Gbongon roads (within the metropolis) were enumerated and screened in order to select those that best exhibit conversions characteristics. These property class invariably form the sample frame for the study. Out of the 450 properties enumerated, only 350 exhibited residential land use commercialization tendencies that meet the demand for the study. The tenants for the identified 350 properties were used as sample frame, while the sample size was determined using Kothari's (2004) formula for sample size determination. Hence 175 tenants were selected as the sample size for the study on which questionnaires were administered. Since the total numbers of ministry staff and ESV are few and within manageable size, the total sample frame was taken as the sample size for the study. Information on land use, rental values and housing availability were sought through questionnaires administration. Data collected were later processed through the use of both descriptive and inferential statistical tools so as to give the overall evaluation of the rental values performances caused by residential land use commercialization. Descriptive statistical tools used for the study include frequencies, percentages among others.

To determine rental values performance level of the selected converted residential land use types, information on before and after use rental values of the commercialized property types were collected and the differences in rent isolated. Trend model was further used to depict the visual representations of the rental trends for all the property types. It is on the outcome of the findings from the analysis that appropriate recommendations were made. Also, land use commercialization drivers were identified and ranked based on the perceptions of the respondents through the use of Relative Importance Index (R.I.I). The formula that was adopted for the calculation of the R.I.I is:

$$\text{R.I.I.} = \frac{\sum W}{A \cdot N} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5N} \quad (1)$$

Where;

W = weight given to each statement by the respondents' ranges from 1 to 5;

n5 = strongly agreed; n4 = agreed; n3 = uncertain; n2 = disagreed; n1 = strongly disagreed

A = Highest response integer (5) and

N = Total number of respondents.

#### V RESULTS AND DISCUSSION

The demographic profile and the number of questionnaires administered on the targeted respondents are as presented in tables 1 and 2. From table 1, the Estate Surveyors and Valuers selected for the study are all registered with their professional body and holds either Higher National Diploma, Bachelor's Degree or higher certificates in Estate Management for which 80% are principal partners. Table 2 revealed that out of the 215 questionnaires administered on the respondents, only 202 were correctly filled and returned for analysis representing 94% of the total questionnaire administered. The breakdown shows that out of the 25 questionnaires administered on ESV, only 20 questionnaires was filled and returned, 15 questionnaires was administered on relevant staff of the MLPP with only 12 well filled and returned and out of the 175 questionnaires administered on tenants of converted commercialized residential land space, 170 questionnaires was filled and returned. However, the total number of questionnaires properly filled and returned for analysis was considered adequate for a convincing analysis, as the analysis was based on the total number of questionnaires retrieved.



**Table.1: Demographic Profile of Estate Surveyors**

LOCATIONS	OSOGBO	
	F	%
<b>GENDER</b>		
Male	25.0	100
<b>ACADEMIC QUALIFICATION</b>		
PhD	01.0	04.0
M.Sc / M.TECH	07.0	28.0
B.Sc / B.TECH / HND	17.0	68.0
Total	25.0	100.0
<b>PROFESSIONAL QUALIFICATION</b>		
FNIVS	02.0	08.0
ANIVS + RSV	18.0	72.0
ANIVS	05.0	20.0
Total	25.0	100.0
<b>CURRENT POSITION</b>		
Principal Partner	20.0	80.0
Partner	04.0	16.0
Senior Estate Surveyor	01.0	04.0
Total	25.0	100.0

Source: Field Survey, (2020)

**Table 2: Questionnaires administered on Estate Surveyors and Valuers (ESV), Tenants, Ministry of Lands and Physical Planning (MLPP)**

Locations	ESV	No of ESV	MLPP	Tenants	Total (%)
OSOGBO	Full Time Practitioners	15	15	350	380
	Part Time Practitioners	05	00	00	05
	Freelance	05	00	00	05
	Questionnaire Distributed	25	15	175	215
	Questionnaire Retrieved	20	12	170	202 (94)

Source: Field Survey, (2020)

In order to provide answers to research questions one and two, the researchers further carried out thorough examinations of participant observation by testing their perceptions on residential land use commercialization rate and its influences on property rental performances in the study area with the aim to achieve the objectives of the study. The respondents' responses are as presented in the table below.

**Table 3: Rate of Residential Land Use Commercialization in the Study Area**

Variable	Agreed	Undecided	Disagreed	Total
	F (%)	F (%)	F (%)	F (%)
High	125 (73.5)	15 (8.8)	30 (17.6)	170 (100)
Moderate	45 (26.5)	35 (20.6)	90 (52.9)	170 (100)
Low	35 (20.6)	20 (17.8)	115 (67.6)	170 (100)

Source: field survey, 2020 \*A= Agreed, U= undecided, D= Disagree, F= Frequency \*High rate = more than 10 conversions per annum, \*Moderate = between 5 to 10 conversions and \*Low = below 5 conversions

Table 3 shows that 125 of the respondents representing 73.5% of the total number are of the view that residential land use commercialization in the study area is on the high side. However, 45 and 35 representing 26.5% and 20.6% of the total number of respondents agreed that the rate of residential land use commercialization is moderate and low respectively. This imply that if nothing urgent is done, then in no distance time all the properties fronting arterial roads

in the area will be converted from residential use to commercial uses thereby creating more planning problem in the metropolitan city of Osogbo.

Furthermore, the relative importance index for residential land use was conducted and the outcome is as presented in table 4

**Table 4: Relative Importance Index for Residential Land Use Commercialization Drivers along Gbongon Road Osogbo**

Commercialization Drivers	1	2	3	4	5	R.I.I	Ranking
Economic Factors	1	0	2	10	20	0.87	1st
Demographic Factors	6	0	12	5	10	0.59	4th
Neighbourhood Characteristics	8	10	4	4	8	0.57	5th
Infrastructural Factors	6	3	7	5	13	0.69	3rd
Psychological Factors	4	0	8	7	15	0.77	2nd

**Source:** Field Survey, (2020)

The critical drivers of residential land use commercialization along Gbongon road are as presented in the table above. The table shows that all the variables significantly influences residential land use conversion in the study area with RII greater than 0.5. Economic and psychological factors with R.I.I. of 0.87 and 0.77 are the most critical factors influencing the commercialization of residential land uses along Gbongon road in Osogbo metropolis. The influx of businessmen into the city, cheap cost of living, land cost, future expectations among other might be the reason for these perceptions. The least critical drivers for residential land use commercialization in the study area as shown in the table above is neighbourhood characteristics with R.I.I of 0.57. Hence, there is the need for uniformity in economic, infrastructure and demographic distribution within the various neighbourhoods in the city. The findings of the study are congruent with the submission of Ayo-Odifiri, et al., (2017); Adepoju & Adepoju, (2016) and Akakandelwa, (2012).

To further examine the rental trends of residential properties in the study area, critical analysis of property rental passing for before and after use conversion was done with the differences in the rent isolated. The result of the analysis is as presented in table 5 below. The tables reveal the annual performances of the selected commercialized residential land uses in terms of their before and after use rental values along Gbongon road in Osogbo metropolis from 2010 to 2020. The table further shows the calculated arithmetic mean score, standard deviation and average annual rental change or differentiations of before and after use commercialisations. From the table, significant upward performance was noticed between 2010 to 2016 and 2019 to 2020 for all the converted properties, the dip in the rental performance experienced in 2017 and 2018 could be attributed to the depression in Nigeria national economy within the period. The arithmetic means of after conversion from residential use to commercial use for all the property types is higher than that of before use conversions, thus, investment in after use conversions are more attractive.

**Table 5: Average Annual Rental Performances of commercialised Residential land use**

Location		Gbongon Road (Average)							
Property Types	Rent for Converted Two Bedroom [N]			Rent for Converted Three Bedroom [N]			Rent for Converted Tenement Building [N]		
Year	After	Before	*Diff	After	Before	*Diff	After	Before	*Diff
2010	100,000	80,000	20,000	140,000	100,000	40,000	32,000	24,000	8,000
2011	120,000	80,000	40,000	160,000	100,000	60,000	32,000	24,000	8,000
2012	150,000	100,000	50,000	180,000	120,000	60,000	44,000	30,000	14,000
2013	150,000	100,000	50,000	220,000	140,000	80,000	44,000	30,000	14,000
2014	200,000	120,000	80,000	220,000	140,000	80,000	54,000	36,000	18,000
2015	200,000	120,000	80,000	250,000	160,000	90,000	54,000	36,000	18,000
2016	220,000	120,000	100,000	250,000	160,000	90,000	60,000	42,000	8,000
2017	220,000	150,000	70,000	250,000	200,000	50,000	60,000	42,000	8,000
2018	250,000	180,000	70,000	300,000	250,000	50,000	84,000	60,000	24,000
2019	300,000	180,000	120,000	350,000	250,000	100,000	84,000	60,000	24,000
2020	300,000	180,000	120,000	350,000	250,000	100,000	100,000	72,000	28,000
<b>Mean</b>	200,909	128,182	47,273	242,727	170,000	72,727	58,909	41,455	15,636

<b>STD</b>	66,851	38,683	31,966	69,870	58,652	21,490	26,611	15,977	7,366
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**Source:** field survey, 2019 \*Differences in Average Annual Rental Values.

For more obvious visual explanation and understanding, the rental table above is further presented using trend models and cluster chart tables showing rental performances through trend lines, equations and cluster rental standing of each property classes as presented below. The trend model as well as the clustered column for each of the property types are graphically represented in figures 1 to 4 (a and b). The trend models which run the variables against time was used as a proxy in the study to further establish how the variables perform with time, hence for this study, the trend models revealed that, the model accounted for 78.6%; 28.4% and 49.6% of the variable growth in the rent of commercialized three, two and tenement residential properties in the study area. However, the models also show that a change in time (X) brings about higher increase in the rental values (Y) of three-bedroom compare to the other property types studied thus, making the demand for converted three bedrooms to be higher compare with the other property types. The figure also indicated that the rental values performances of three and two bedrooms exhibits competitive trend as one can be use alternatively for the other. The clustered column chart helps in the explicit visual interpretation of the table and figures 1a to 4a. Furthermore, three years forecast from 2020 to 2023 was run and the predictive trend lines further shows a positive upward trend in property rentals in the study area. This implies that residential property commercialisation activities leading to more conversions will continue if nothing is done to abate it.

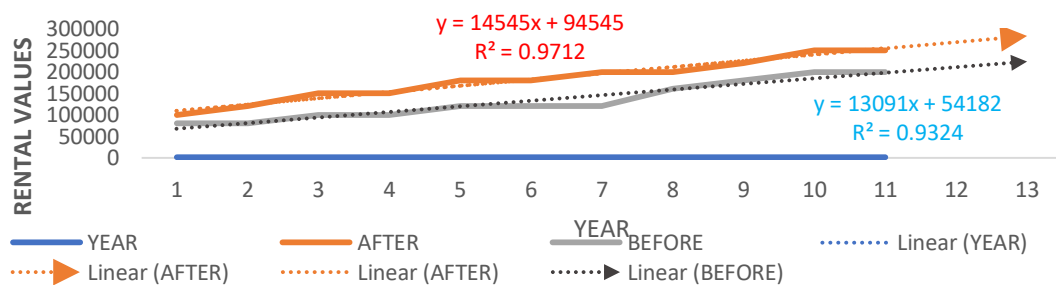


Figure 1a: Average Annual Rental Values of Two Bedroom along Gbongon Road

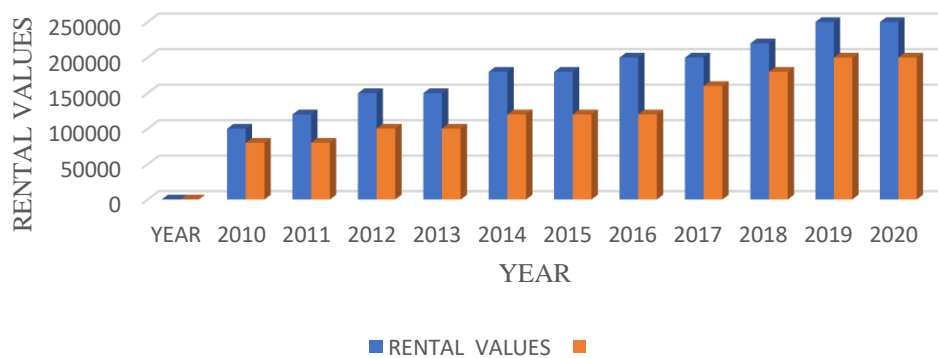


Figure 1b: Clustered Column Chart of Two Bedroom Rental Performance along Gbongon Road

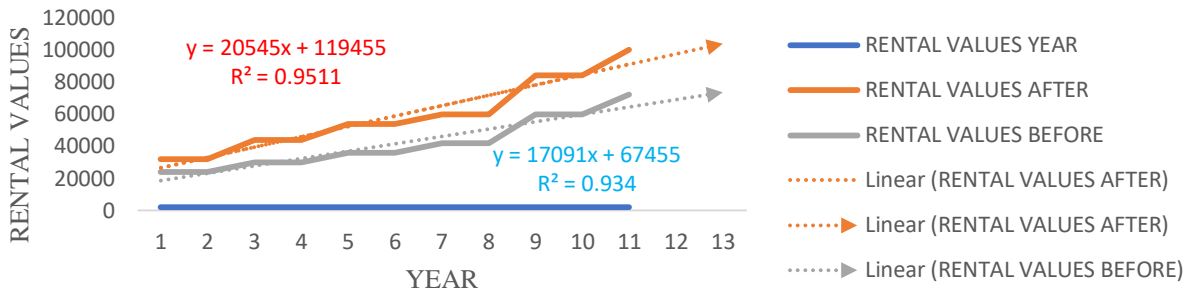


Figure 2a: Average Annual Rental Values of Three Bedroom along Gbongon Road

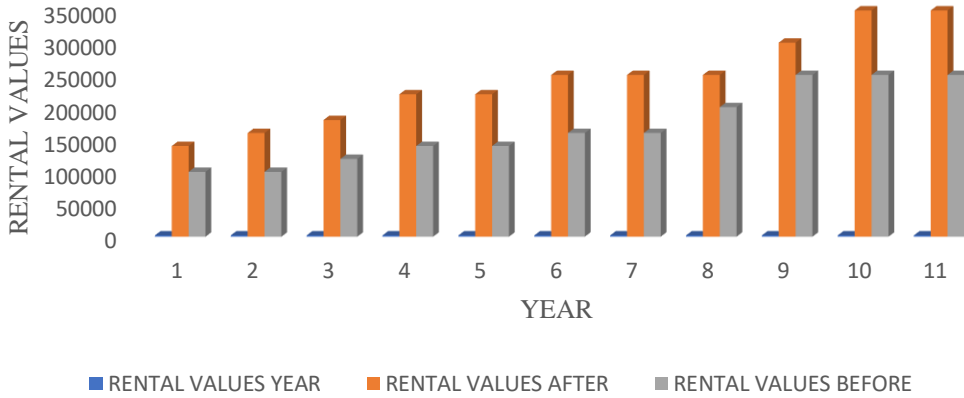


Figure 2b: Clustered Column Chart of Three Bedroom Rental Performance along Gbongon Road

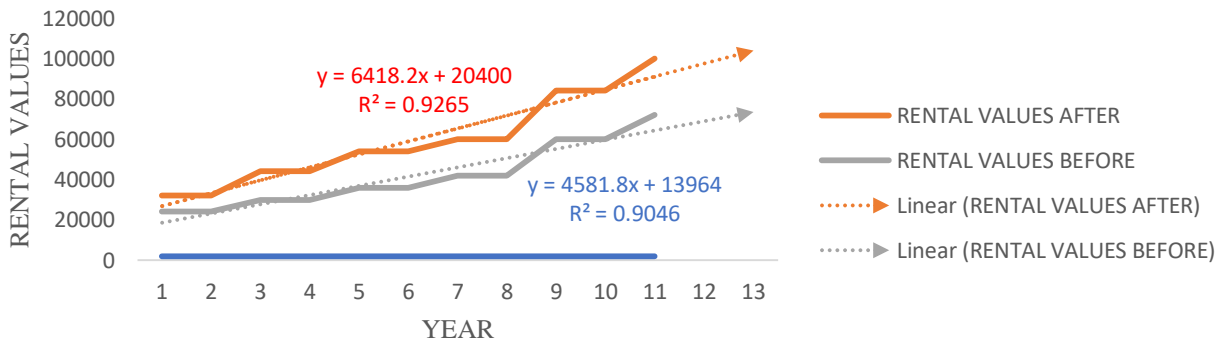


Figure 3a: Average Annual Rental Values of Tenement Building along Gbongon Road



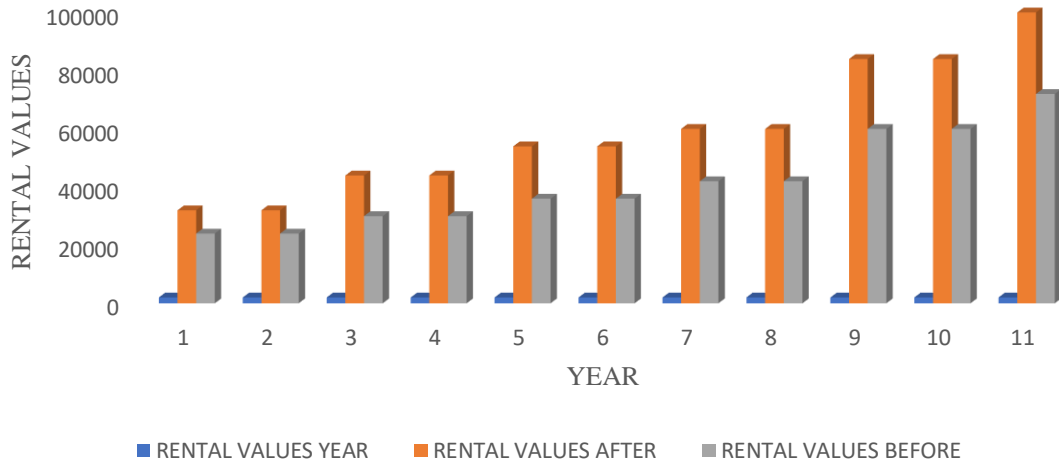


Figure 3b: Clustered column Chart of Tenement Building Rental Performance along Gbongon Road

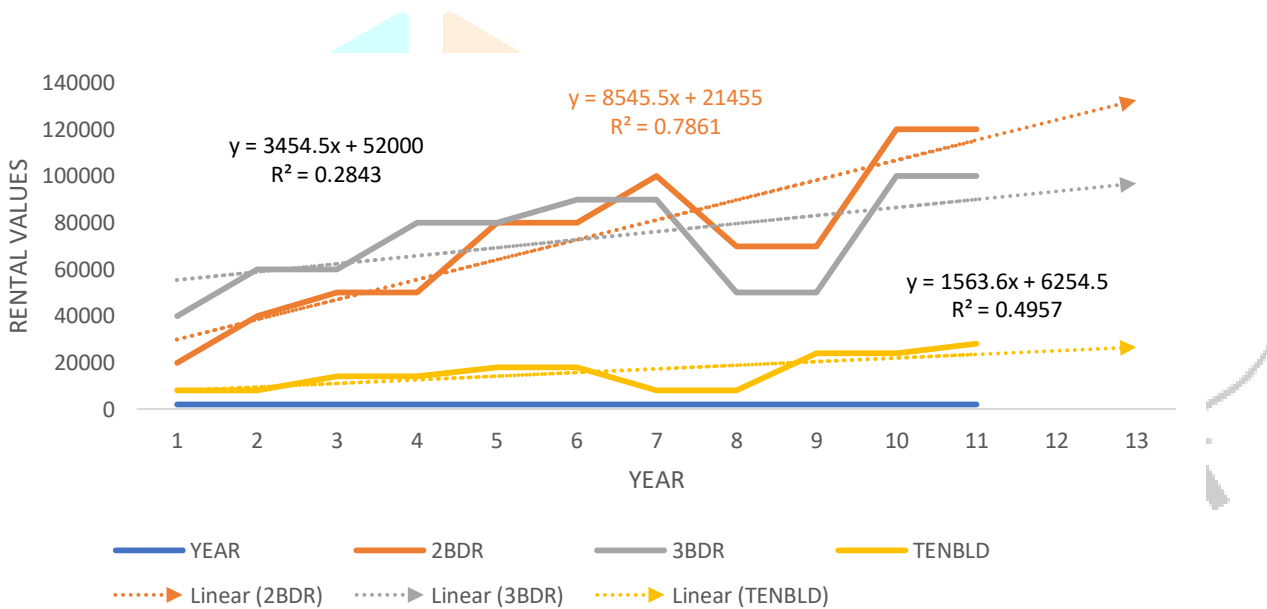


Figure 4a: Average Annual Differentials in Property Rentals along Gbongon Road

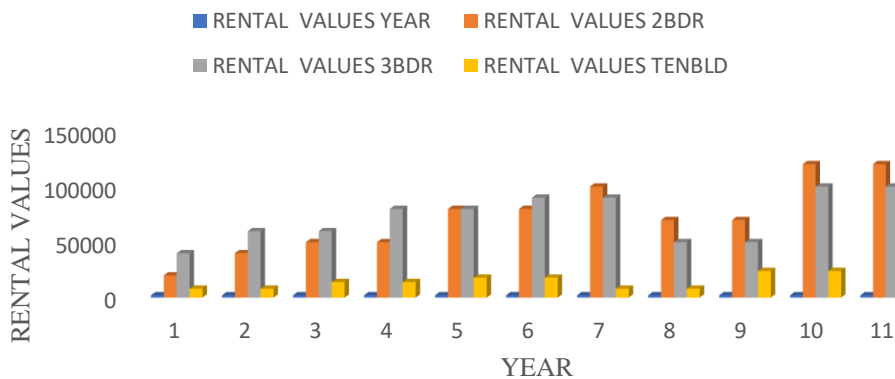


Figure 4b: Average Annual Differentials in Property Rentals of Two Bedroom along Gbongon Road

## VI. Conclusion

The study evaluates the causes and influence of residential land use commercialization on rental value performances of some selected property types along Gbongan road in Osogbo. The study confirmed the significant upward rental trend in the area with converted three-bedroom property in high demand leading to the unguided residential property commercialization thereby creating an unenviable rental regime in the area. The study also observed that, out of the five drivers/factors influencing residential land use commercialization as identified in previous literatures and tested in the study area, the most critical influencing factors in the study area are economic and psychological factors with R.I.I. of 0.87 and 0.77 respectively. This however negate the submissions of earlier scholars as Ankeli, et al., (2019); Ojikpong, et al., (2016), Ogungbemi, (2012), Oni, (2009) and Ankeli, (2007) who never considered psychological factors as a serious factor that can impact on land use change in the country. It further revealed that, as converted properties command superior rental growth thereby pushing residential property owners to convert their residential properties to commercial uses, the available residential housing stocks are depleted with the consequential effect of distortion in the city master plan with the resultant aesthetic problems, high occupancy rate, land use infiltration, high urban rentals/ variations among others. It is on these findings that the paper recommends the need for robust and systematic action plan that will incorporate pragmatic, proactive and sagacious land use planning, development and management mechanisms that will aid coordinated land use and the stabilization of urban property rentals in Nigeria and in the study area in particular.

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