**AN EXAMINATION OF THE EFFECT OF LOCATION ON RENTAL VALUES OF RESIDENTIAL PROPERTIES**

**ABSTRACT**

This study examined the effect of location on the rental value of residential properties in Ikeja Local Government Area in Lagos State. Data used were derived mainly from secondary sources such as documents, including published literature, official documents, and media reports. Primary data were obtained from questionnaires administered to registered Estate Surveyors and Valuers, Estate Agents, landlords and residents of the study area. The purpose of the study is to analyse and determine the roles of location and neighborhood characteristics in the determination of rental value of residential properties, in other to achieve this, attempts were made to evaluate the role of location and neighborhood factors in the determination of house prices in the conceptual background to this study. The second chapter also examined the various property characteristics that have relatively strong impact on market values (prices) and to an extent influence the rent, sales and purchase decisions of accommodation seekers, sellers and buyers in Nigeria. The third chapter sets out the method and procedure employed in carrying out this project. The fourth chapter presents the results of the empirical and comparative analyses of the effect of location on the value of residential properties in Ikeja Local Government Area of Lagos State. It is concluded that neighborhood and location attributes show more importance on house values when smaller geographical housing units are examined. The recommendations of this study should enable individuals, Real Estate Professionals, investors and other stakeholders to make fair estimates of the market values of residential properties in Ikeja Local Government Area of Lagos State given the features of such housing units. This would aid rapid valuation, help to improve housing quality and make possible mass evaluation of properties.

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**CHAPTER ONE**

**INTRODUCTION AND BACKGROUND**

**1.1 Background to the Study**

Residential properties are both consumption and investment good (Sratton, 2008). As consumption good it is acquired for owner occupation. Also, the investment (property) may be to maximize optimum return from outright sale or letting. If this is the case, the price of the residential property becomes very important to the landlord and the occupants. Hence investment in this type of property is regarded as a considerable source of wealth for many individuals. The physical characteristics of the property such as number of bedrooms, age, size, various amenities and services have been noted to help determine the rental price for landlords as they set rental prices for residential properties. In addition, external factors such as population, income, traffic congestion, proximity to work, access to public transportation, proximity to higher institution and environmental characteristics may have significant impacts on rent (Oni, 2007).

Therefore, any serious investigation into the nature and behavior of residential property price should recognize that property as a commodity is not a single good, but a complex bundle of services or potential services which operate in many dimensions (Oyebanji, 2003).

Nigeria has a large real estate market that is untapped due to limited circulation of information about property characteristics, their actual value and their impact on market values, organizations, available properties and professional services available in various locations nationwide. As real estate consultants and practitioners market their properties, they recognize that in order to generate success, their information must be well circulated and this information should be available, accessible, reliable and affordable to the property buyers, sellers and investors with speed, precision, accuracy and at the magic moment when the client needs the information.

The impact of location in housing market is very significant. Since housing units are fixed in location, they differ in terms of their surroundings, the kind of community in which they are located, and their nearness to employment and shopping places. Location also means that a dwelling's surrounding is possibly of great importance in affecting its value. For decades, real estate property was generally seen as a legacy a parent bequeaths to the offspring. However, with the realization that real estate is a major source of capital appreciation and a good hedge against inflation, the real estate market is coming close in popularity and importance to the money and capital markets.

Today, real estate property constitutes a significant index in man’s wealth. As economic activities have achieved more sophistication over time, real estate has continued to play a central role in their development. In Lagos State, the rental values of residential properties has shown an upward pattern over the years. This is because Lagos is the largest city in Nigeria, located along the West African coast. The entire Lagos metropolis has 9,197 roads consisting of carriageways, cul-de-sac, lanes, streets, avenue, ways, and crescents (Lagos Street, Map, 2008). Besides, the huge financial transactions involved, high property demand, the ever increasing population and the limited supply mainly in major cities such as Lagos, Ibadan, Abuja and Port Harcourt has made the real estate sector susceptible to abuse by many dishonest property developers, greedy landlords, unregistered agents and swindlers who engage in several illegal practices to the detriment of the practitioners, citizens, foreigners, stakeholders and the noble profession (Agunbiade, 2013).

In recent past, investors have diverted their funds into real property development because of the security of returns and the profitability of the market (Kauko, 2003).

In addition, because of the high competition in the residential property market, there has been expansion and improvement in the quality of residential properties provided by the investors to meet demand.

A number of factors affect residential property values in Nigeria. These include location, demand and supply, accessibility, institutional, economic factor among others. Nevertheless, there is still a short fall in the market leading to increase in rent and capital values (Eriki & Udegbunam, 2008).

Regardless of these advantages, real estate practitioners, financiers and investors in residential properties are faced with dearth of data on the effect of location on the value of residential properties and what level of rental income a development project could reasonably be expected to realize in a transaction involving willing and able parties.

**1.2 Statement of Problem**

Real estate has contributed to the growth and development of the Nigerian economy despite that the sector has continued to face challenges such as poor funding, poor infrastructure, high cost of building materials, lack of government policies and unethical standards.The problem this study seeks to solve is to analyse and determine the relative roles of location and neighborhood characteristics in the determination of residential properties value in Ikeja L.G.A in Lagos State. Another problem is to determine the practical model for the valuation of residential housing units in Nigeria property market.Also, this study will identify the property features that have significant influence on property market values using primary and secondary sources.In addition, this study will determine if location is a major factor in residential property valuation in Nigeria and the cumbersome bureaucratic delay associated with obtaining land and government approval in relation to property development.These will be achieved through the measurement of primary and secondary data with the aim of providing professionals, investors and stakeholders with valuable information.

**1.3 Objectives of Study**

The objectives of this study are:

1. To determine various location factors affecting residential properties in the study area.

2. Examine rental values determinants of residential properties in the study area.

3. Examine relationship between location and residential property values in the study area.

4. Suggest how the real estate investors and policy makers can reap optimally from locational advantages.

**1.4 RESEARCH QUESTIONS**

The following research questions were asked in order to provide scientific framework for this study:

1. What are the factors that affect residential properties in Ikeja?
2. What role does location play in the determination of rent of residential properties in Ikeja?
3. What is the correlation between property market values and location?
4. What are the implications of these determinants and policy maker on investor’s decision?

**1.5 Research Hypotheses**

H0: there is no significant relationship between location and the cost of rent.

H1: there is a significant relationship between location and the cost of rent.

H20: there is no significant relationship between location and the cost of residential properties.

H21: There is a significant relationship between location and the cost of residential properties.

**1.6 Significance of Study**

This study will contribute to the body of knowledge that are available in both print and broadcast media. Also, it will serve as a reference material for students, scholars and other researchers on the effect of location on rental values of residential properties.

In addition, it will help individuals, professionals, investors, communities, change agents, media professionals and the society at large on how to identify residential property characteristics and how they affect property values in Nigeria.

Also, this study will help researchers, scholars and investors to identify various residential property characteristics that have relatively strong impact on market values (prices) and to an extent influence the sales and purchase decisions of sellers and buyers in Nigeria.

This study should enable real estate professionals and investors to make fair estimates of the market values of residential real estate properties given the features of such housing units. This would aid rapid valuation, help to improve housing quality and make possible mass evaluation of properties.

**1.7 Scope of Study**

The study focus on residential properties in Ikeja L.G.A, Lagos State. Ikeja is home to a large number of residential housing units. The study centered on Ikeja as a location, to examine its effect on rental values of residential properties. So many attributes constitutes a location like accessibility, facilities provision, environmental aesthetics, security, business opportunities. Preliminary study revealed that there are different types of residential properties in the study area. These are Terrace building, Maisonette, Bungalow, Block of flats, Tenement. Due to the magnitude, terrain and complex nature of Lagos State, the study will focus on residential properties in Ikeja intra-city. Ikeja is the predominant component of Ikeja Local Government, which itself is one of four zones identified within the larger Lagos metropolis. The four zones (Lagos Island, Apapa, Lagos Mainland, and Ikeja) represent commercial hubs of Lagos metropolis, which as revealed by preliminary observation, shows activity areas where employment, commercial, transportation terminals, and other businesses are concentrated (Oni, 2008).

**1.8 Operational Definitions**

PROPERTY: anything, tangible or intangible whereby legal relationship exist between a person and the State enforces a possessory interest or legal title in that thing (Famuyiwa 2012)

RESIDENTIAL PROPERTY: The classes of dwelling units which provide shelter. It is also the building used substantially as living accommodation.

RENTAL VALUE: This is the monetary returns an investment is expected to command in a year (Babawale 2013)

PROPERTY MARKET: This is a medium where bundles and cluster of rights and interests that exist in property (land and landed properties) are being exchanged.

LOCATION: This is an economic characteristic of real estate composed of immobility, constant change and element of special distribution (Wikipedia 2015)

LAND: This can be defined as the uppermost layer of the earth crust, things attached to it either temporary or permanently beneath or above that can be developed to generate income and interests.

**1.9 Organization of the study**

The study is divided into five chapters. Chapter one deals with the study’s introduction and gives a background to the study. Chapter two reviews related and relevant literature. The chapter three gives the research methodology while the chapter four gives the study’s analysis and interpretation of data. The study concludes with chapter five which deals on the summary, conclusion and recommendation.

**CHAPTER TWO**

**REVIEW OF RELATED AND RELEVANT LITERATURE**

**2.1 Introduction**

**Conceptual Framework**

**Housing**

Housing is a multidimensional good differentiated into a bundle of attributes that vary in both quantity and quality (Ajilowo & Olujimy, 2010). It is the largest single assets of most households and links the value to represent the wealth. The behaviour of house prices, therefore, influences not only business cycle dynamics, but also the performance of the financial system (Haibin, & Tsatsaronis, K. (2004). Similar definition is given by Oram (1979) cited by Sarathchandra (2008) where it stated that housing encompasses all the auxiliary services and community facilities, that necessary for the wellbeing of humanity. As per Oram (1979) cited in Sarathchandra (2008), housing should meet four main requirements of who occupy it;

* It should provide adequate protection from intruders
* It should be secured from the dangers of fire and structural collapse
* It should be provided under conditions which promote good health including clean and adequate water supplies and the removal of various kinds of waste (sanitation).
* It should ensure that residence enjoy adequate space and privacy According to the above descriptions it is obviously stated that house is the fundamental need of a human and housing is the major setting for family life. It should basically provide adequate space for eating, meeting, sleeping and individual activities. Better housing means not only the provision of a physical unit with floor, walls, and roof: housing fulfills one of the most fundamental human needs of shelter.

**Rent**

The term “rent” has several meanings. According to Chris and Somefun (2007) rent is regarded as the monthly payment that is made to a landlord, and it is also construed to be a payment to the use of the building. But to the economist point of view rent is the return to the land. Most of the landlords turning to renting out properties as an investment, therefore letting market have been seen as an attractive alternative investment for these looking for a less volatile income source. Reed and Greenhalgh (2002) discussed the reasons for increasing the rental dwellings opposed to owner occupancy. A number of changes appear to have adversely affected the Rent vs. Buy decision, such as renting as a cheaper alternative, increasing exposure to other forms of non-housing debt, changing attitude to investment, increased family breakdown, increase a single person household, lower fertility rate, etc

**2.2 Factors Affecting for Determination of Rental Value of Residential Properties**

Without standardization, each property is considered to be unique and thus is priced differently (Ruvio,2010). Because each piece of property is unique, it is often difficult to identify the appropriate variables that will explain the rental prices. According to Kim and Nelson (1996), assessing the rental value of residential properties is a complex and challenging process to both practitioners and academicians because it involves analyzing the rental property, neighborhood characteristics and market conditions. McKenzie and Betts (2006) explained these attributes include physical features such as space, age, condition and apartments. Some features can be measured by objective scale or techniques. Other amenities however are not so objective.

Further, Odame (2010) clearly mentioned the a real estate asset consists of a bundle of attributes including, but not limited to location, but number of bedrooms, gross and lettable floor areas, number of storey’s, type of tenure or ownership rights, plot size, quality of aesthetics and accessibility, all of which may affect its rent and price. However, Zainudeen, Senarathne, Jayasena, & Rameezdeen (2006) see the location as a key factor from customers point of view. Chris and Somefun (2007) and Nakamura and Crone (2004) explained the attributes includes bedroom, toilet, bathroom, kitchen, open space, drainage, water supply, refuse disposal, good road network, recreational parks, hospital and many more. Raymond (2000) further discussed that a residential property is a multidimensional commodity, characterized by durability, structural inflexibility as well as spatial fixity. Based on the above justifications on rental values recent empirical work has investigated substantial lists of factors that have been employed to explain market rents for residential income property. These factors range from physical attributes to property management quality characteristics. In addition, the literature shows that market rent is affected by deviations of observed vacancy rates from natural vacancy rates and by such factors as rental concessions and length of residency discounts. Kim and Nelson (1995) also build a model that can provide an accurate way of assessing the rental value of residential rental property and analyzing the factors that determine market rents by using an Artificial Intelligence Technique. The model constructs Kim and Nelson (1995) in their research incorporates all variables and these independent variables are organized into four categories as follows; RENT = f (BC, LC, TC, NC) Where, BC = Building Characteristics, LC = Landlord Characteristics, TC = Tenant Characteristics, NC = Neighborhood Characteristics Building Characteristics are subdivided into building type, size of unit, amenities, and maintenance. Building type includes the number of units in the structure and age of the building. Size of rental unit includes number of rooms, number of baths and number of bed rooms. Size is the total square footage of the building. Sirmans and Benjamin (1991); Redman and Gullet (1998) all found building size to be a significant factor affecting property values. Landlord characteristics include the investor’s age, years of experience and number of properties owned. Tenant characteristics include the head of household age, race and education level.

**2.3 Effect of Location on Residential Rental Values**

Location quality has the potential to shape the present and future wellbeing of families and individuals in a variety of ways. High quality urban locations are a common goal of planner policy makers and real estate professionals. Though location quality is hard to define; location which is described as ‘high quality’ typically exhibits high or stable property values, low rates of migration, high household incomes, racial cohesion and high quality public services Kain and Quigley (1970). Location of a particular property is its unique character which it possesses over every other similar property in the neighborhood. Residential properties do vary in their locational advantages because no two properties are the same in terms of location, though they may be similar in designs and every other thing. The major locational advantages enjoyed by residential property owners are accessibility to transport facilities, nearness to tertiary institution, nearness to commercial properties among others. Location has always been an important determinant of a property’s value. In the early times, a mono centric model of land prices is the one that reigned. This model predicts that land closest to the city center has the highest value. When most cities developed around a central port or railhead, this model was a good predictor of land values. Businesses located near the center of town paid less to move goods to and from the central port. Before modern transportation, most people also preferred to live close to work. Business and residential users competed for the limited central space, and hence bid up central land prices. More recently, however, central city congestion and crime have increased residential movement to the suburbs and many retailers followed their customers out of the city.

Today, shopping, restaurants and entertainment all can be found in the suburbs. Thus, many people commute downtown only to work. In addition, many businesses have moved their operations outside of the city center to take advantage of lower land values. These trends have reduced the value of central city land and have changed the relationship between land value and its proximity to the city center. It is hypothesized that housing values vary with distance from the CBD or that proximity to a large shopping facility capitalizes into higher or lower property values.

**2.4 Determinants of Rent**

The real estate market is complex and challenging in nature. Each piece of property is a unique and multidimensional good differentiated into a bundle of attributes that vary in quantity and quality (Marco, 2008). As such, the mainstream economist’s explanation that rent is solely determined by supply and demand seems rather incomplete and sociologically naïve as rents within any particular area are set by landlords whose decisions are shaped by a variety of social as well as economic factors (Gilderbloom, 1985). Economists and financial analysts have therefore invested a tremendous amount of energy and effort in an attempt to explain what determines residential sale and rental prices (Gilderbloom, 1985). At least, the bundle of factors that determine rent can be broadly classified into economic and noneconomic factors. Some of the economic factors are interest rate and income level. (Égert and Mihaljek, 2007) established that a robust negative relationship between real interest rate and housing prices exists. (Égert and Mihaljek, 2007), (Berglund, 2007) and (Marco, 2008) all found that there exists a positive relationship between income and housing prices. This suggests that increases in incomes give incentives to landlords to take advantage of the increased purchasing power of tenants and increase house prices and rents, though this cannot happen in all localities within a city. Population, as a non-economic factor, is found to have a positive relationship with house prices (Égert and Mihaljek, 2007). Increases in population lead to excess demand for accommodation in the short run and eventually push rent up. Sometimes, the location of an apartment can have a significant impact on the level of rent that a household is likely to pay.

In NYC for instance, rent is charged based on location with Manhattan commanding the largest rent (Marco, 2008). In Turkey, rent in urban areas was higher than rural areas by some 26.3 percent (Selim, 2008). Apartments that are between 5-10 years old are less expensive than those that are less than 5 years old by at least 8 percent (Selim, 2008). (Zietz et al., 2007), Selim (2008) and Marco (2008) all found that certain apartment characteristics such as square footage, number of bedrooms, number of other rooms, number of bathrooms and toilets, type of house, type of building, size, and other structural characteristics such as water system, pool, and natural gas had some significant effect on rent. In this study, number of bedrooms, availability of toilet and water facilities, and location of apartment were analysed.

**2.5 Urban Infrastructure and Property Rental Values**

Nubi (2002) also described infrastructure as the aggregate of all facilities that allow a city function effectively. Infrastructure is a key element in the generation of economic growth and development and the main driver of urban activities. It is the economic and social underpinnings of a society and the life wire of the urban system (Nwuba and Salawu, 2010). Patunola (2013) see infrastructure as the sectors of transport, water and sanitation, power, telecommunication and others which represents a large portfolio of expenditure in all countries, ranging from a third to one-half of the public investment (equivalent is roughly 3-6 percent of GDP).

According to Bello, Adeniji, Arowosegbe, (2013) infrastructure covers a wide range of economic and social facility crucial to creating an enabling environment for economic growth and enhances quality of life which include housing, electricity, pipe-borne water, drainage, roads sewage, health, education, telecommunication and institutional structures like police station, firefighting station, banks and post office. It is simply the engine that drives the development of any city. Nwuba and Salawu (2010) however concluded that the state of urban infrastructure in Nigeria is deplorable and inefficient largely due to lack of effective maintenance resulting from the current reactive, remedial, task force approach to maintenance and inefficient infrastructure management system. However, as a conduit of trade and investment that integrates and plays a transformative role in the economic and social life of cities through the aggregation of all facilities that allows a city to grow and function effectively, adequate provision of infrastructure help in boosting the quality and status of housing, changing resources into outputs, enhances business by removing barriers and bringing an increase in the land and housing values, either sales or rentals (Harvey, 1993, Ajibola, Awodiran and Salu-Kosoko 2013). Most cities in the world including those in Nigeria are expanding at an alarming rate, this burgeoning expansion of cities most often result in colossal environmental problems of mismatch between available urban infrastructure and the level of demand. Logically, increase in human capital (labour) in any given area leads to increase in production output which definitely will lead to economic growth. But an increase in human capital without corresponding increase in the available infrastructure often results in the overuse of facilities. Thus, the increase in economic growth will gives birth to the desire to invest in real estate as a result of the expected rental or capital value appreciation. Researchers in the academia have traced the causes of the rise in the market price to those factors that positively or negatively affect and injure ownership motives and goals. Firstly real estate is seen as a bundle of unique characteristics and secondly as factors that interplay to create it values. These factors do not only reflect on its location, but equally affects other amenities such as the quality of neighbourhood and infrastructure services, economic and institutional framework, as well as physical and environmental factors. This has led to the current rebirth the long abandoned rent control edict and tenancy laws by most states in Nigeria. Ankeli el tal (2015a) are of the opinion that the determination of residential property rental values is a complex and a major challenging task facing both practitioners and intellectuals in the real estate profession in Nigeria as the exercise involves the collection and analysis of comprehensive and accurate data on the property characteristics, neighborhood characteristics, landlord and tenant characteristics and the market conditions which are not readily available. Although their study revealed that, properties with better conditions in terms of infrastructures and physical soundness command higher rental values. The findings of their study may not form a good conclusive opinion as their study focused more on housing condition in a small area of Osun state. Olujimi (2009) in his study of the relationships of infrastructural facilities in the determination of rental values of residential properties in Akure, Nigeria, concluded that the most significant property rental determinants of the eleven infrastructural facilities identified are burglary proof and wall fence. This may not be true opinion of respondents in other parts of western Nigeria. His analysis denotes a very weak relationship between infrastructure and rent and the selection and adoption of the opinions of only one hundred and ninety respondents to represent the opinions of entire Akure may not be good enough. Harvey (1993) opined that the willingness of a residential property user to pay a high rent for a property may to a large extent depend on his consideration for basic facilities such as accessibility, water electricity and others. Infrastructure is a basic determinant of property value as the provision of good and adequate infrastructure is central to property values and it leads to appreciation in property values and its absence affects neigbourhood properties adversely (Hammer, Booth, and Love 2000, Johnson, Davies and Shapiro 2005). All over the world, infrastructural development is adopted as the engine for economic and technological enhancement. Hence, the provision, operation, management and maintenance of infrastructures are strong employers of labour, a veritable property value determinant in the property market and the broad base upon which other economic activities rely and thrive. Ibrahim (2011) undertook a survey of infrastructural facilities and their effects on rental values of residential properties in Ilorin metropolis. The study revealed that the presence of facilities generates high preference, keen competition for properties and high rental values, while the absence of facilities results in low patronage, disincentive to people, attraction of poor tenants and consequently low renal values.

The study also revealed that the discriminating rent charged by landlords in different locations within the city among similar properties is as a result of uneven distribution of infrastructures within the city which may eventually lead to gentrification. However, the focus of that research was Taiwo, Sabo-Oke and Oloje areas which are a fraction of Ilorin thus it cannot be a perfect representation of Ilorin and the south western Nigeria as a whole. On the contrary, Udo and Egbenta (2007) examined the effects of domestic waste dumpsites on rental values of residential properties in Enugu, Nigeria and affirmed that contrary to popular belief, waste dumpsite which is part of infrastructure does not necessarily affect property values negatively. Kee and Walt (1996) in an attempt to estimate rental value of residential properties using Abductive Learning Networks (ALN), an artificial intelligence condemned the use of regression analysis as adopted by Olujimi (2010) as a model for assessing property rental values due to it parametric nature that requires the user to specify the functional form of the solution. This makes the approach to be more of guess work and prone to inaccuracy. The Abductive Learning Networks (ALN) may also not be an appropriate model in this case due to the technicalities involved.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

**3.1 Research Design**

The researcher used descriptive research survey design in building up this project work the choice of this research design was considered appropriate because of its advantages of identifying attributes of a large population from a group of individuals. The design was suitable for the study as the study sought to examine the effect of location on rental values of residential properties.

* 1. **Sources of Data Collection**

Data were collected from two main sources namely:

1. Primary source and
2. Secondary source

**Primary source:**

These are materials of statistical investigation which were collected by the research for a particular purpose. They can be obtained through a survey, observation questionnaire or as experiment; the researcher has adopted the questionnaire method for this study.

**Secondary source:**

These are data from textbook Journal handset etc. they arise as byproducts of the same other purposes. Example administration, various other unpublished works and write ups were also used.

* 1. **Population of the Study**

Population of a study is a group of persons or aggregate items, things the researcher is interested in getting information for the study. 200 respondents were selected randomly by the researcher as the population of the study.

* 1. **Sample and Sampling Procedure**

Sample is the set people or items which constitute part of a given population sampling. Due to large size of the target population, the researcher used the Taro Yamani formula to arrive at the sample population of the study.

n= N

1+N(e)2

n= 200

1+200(0.05)2

= 200

1+200(0.0025)

= 200 200

1+0.5 = 1.5 = 133.

**3.5 Instrument for Data Collection**

The major research instrument used is the questionnaires. This was appropriately moderated. The respondents were administered with the questionnaires to complete, with or without disclosing their identities. The questionnaire was designed to obtain sufficient and relevant information from the respondents. The primary data contained information extracted from the questionnaires in which the respondents were required to give specific answer to a question by ticking in front of an appropriate answer and administered the same on staffs of the five institutions: The questionnaires contained about 15 structured questions which was divided into sections A and B.

* 1. **VALIDATION OF THE RESEARCH INSTRUMENT**

The questionnaire used as the research instrument was subjected to face its validation. This research instrument (questionnaire) adopted was adequately checked and validated by the supervisor his contributions and corrections were included into the final draft of the research instrument used.

* 1. **Method of Data Analysis**

The data collected was not an end in itself but it served as a means to an end. The end being the use of the required data to understand the various situations it is with a view to making valuable recommendations and contributions. To this end, the data collected has to be analysis for any meaningful interpretation to come out with some results. It is for this reason that the following methods were adopted in the research project for the analysis of the data collected. For a comprehensive analysis of data collected, emphasis were laid on the use of absolute numbers frequencies of responses and percentages. Answers to the research questions were provided through the comparison of the percentage of farmers’ response to each statement in the questionnaire related to any specified question being considered.

Frequency in this study refers to the arrangement of responses in order of magnitude or occurrence while percentage refers to the arrangements of the responses in order of their proportion.

The simple percentage method is believed to be straight forward easy to interpret and understand method.

The researcher therefore chooses the simple percentage as the method to use. The formula for percentage is shown as.

% = f/N x 100/1

where f = frequency of respondents response

N = Total Number of response of the sample

100 = Consistency in the percentage of respondents for each item contained in questions.

**CHAPTER FOUR**

**PRESENTATION ANALYSIS INTERPRETATION OF DATA**

**4.1 Introduction**

Efforts will be made at this stage to present, analyze and interpret the data collected during the field survey. This presentation will be based on the responses from the completed questionnaires. The result of this exercise will be summarized in tabular forms for easy references and analysis. It will also show answers to questions relating to the research questions for this research study. The researcher employed simple percentage in the analysis.

**4.2 DATA ANALYSIS**

The data collected from the respondents were analyzed in tabular form with simple percentage for easy understanding.

A total of 133 (one hundred and thirty three) questionnaires were distributed and 133 questionnaires were returned.

**Section A**

Gender distribution of the respondents.

**TABLE I**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Gender distribution of the respondents** | | | | | | |
| Response | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Male | 77 | 57.9 | 57.9 | 57.9 |
| Female | 56 | 42.1 | 42.1 | 100.0 |
| **Total** | 133 | 100.0 | 100.0 |  |

From the above table it shows that 57.9% of the respondents were male while 42.1% of the respondents were female.

**Test of Hypotheses**

H0: There is no significant impact of the government programs towards pollution reduction.

H1: There is a significant impact of the government towards pollution reduction.

**Table II**

|  |  |  |  |
| --- | --- | --- | --- |
| There is a significant impact of the government towards pollution reduction. | | | |
| Response | Observed N | Expected N | Residual |
| Agreed | 40 | 33.3 | 6.8 |
| strongly agreed | 50 | 33.3 | 16.8 |
| Disagreed | 26 | 33.3 | -7.3 |
| strongly disagreed | 17 | 33.3 | -16.3 |
| Total | 133 |  |  |

|  |  |  |
| --- | --- | --- |
| Test Statistics | | |
|  | There is a significant impact of the government towards pollution reduction. | |
| Chi-Square | 19.331a | |
| Df | 3 | |
| Asymp. Sig. | .000 | |
| a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.3. | |

**Decision rule:**

The researcher therefore reject the null hypothesis which states that there is no significant impact of the government towards pollution reduction as the calculated value of 19.331 is greater than the critical value of 7.82

Therefore the alternate hypothesis is accepted which states that there is a significant impact of the government towards pollution reduction.

**TEST OF HYPOTHESIS TWO**

**H20:** There is no significant relationship between pollution and the value of estate development.

**H21:** There is a significant relationship between pollution and the value of estate development.

**Table iii**

|  |  |  |  |
| --- | --- | --- | --- |
| There is a significant relationship between pollution and the value of estate development. | | | |
| Response | Observed N | Expected N | Residual |
| Yes | 73 | 44.3 | 28.7 |
| No | 33 | 44.3 | -11.3 |
| Undecided | 27 | 44.3 | -17.3 |
| Total | 133 |  |  |

|  |  |
| --- | --- |
| Test Statistics | |
|  | There is a significant relationship between pollution and the value of estate development. |
| Chi-Square | 28.211a |
| Df | 2 |
| Asymp. Sig. | .000 |
| a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 44.3. | |

**Decision rule:**

The researcher therefore rejects the null hypothesis that states that there is no significant relationship between pollution and the value of estate developmentas the calculated value of 28.211 is greater than the critical value of 5.99. Therefore the alternate hypothesis is accepted which states that there is a significant relationship between pollution and the value of estate development.

**CHAPTER FIVE**

**SUMMARY, CONCLUSION AND RECOMMENDATION**

**5.1 Introduction**

It is important to reiterate that the objective of this study was to assess the effects of environmental pollution on real estate development.

In the preceding chapter, the relevant data collected for this study were presented, critically analyzed and appropriate interpretation given. In this chapter, certain recommendations made which in the opinion of the researcher will be of benefits in supporting the view that pollution has affected the development of real estate in Warri.

**5.2 Summary**

The study opened with a background on the effect of location on rental values of presidential properties. A literature review was undertaken in the second chapter where the effects of location on residential properties were examined. The study methodology was described in the third chapter where the method for data collection were discussed. The fourth chapter analyzed the responses from the sampled respondents and the findings of the study were discussed.

**5.3 Conclusion and Recommendation**

The study has evaluated the residential housing rental values and the provision of infrastructure development in the study area. The study among other things revealed that, properties with better conditions in terms of infrastructures and physical soundness command higher rental values, that investment in residential property development will in the next few years continue to enjoy and maintain an upward growth rate. Again that reasonable number of the tenants was not satisfied with the location and services of the banks in the zones, thus there is need for the ministry in charge of land allocation for infrastructural development and plan approval to revisit the situation on ground. This recommends the need for the provision of essential basic infrastructure by government and its agencies and schedule sustainable maintenance programmes for the infrastructure facilities provided. The study therefore concludes that developers should ensures that all basic infrastructural facilities that will attract higher values to their property be provided, government should make implementable policies and established housing quality standard and supervisory agency that will be responsible for monitoring of housing standards.

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**QUESTIONNAIRE**

**INSTRUCTION**

Please tick or fill in where necessary as the case may be.

Section A

1. Gender of respondent

A male { }

B female { }

1. Age distribution of respondents
2. 15-20 { }
3. 21-30 { }
4. 31-40 { }
5. 41-50 { }
6. 51 and above { }
7. Marital status of respondents?
8. married [ ]
9. single [ ]
10. divorce [ ]
11. Educational qualification of respondents
12. SSCE/OND { }
13. HND/BSC { }
14. PGD/MSC { }
15. PHD { }

Others……………………………….

1. How long have you living here?
2. 0-2 years { }
3. 3-5 years { }
4. 6-11 years { }
5. 11 years and above……….

**SECTION B**

1. Do you think you suffer from pollution in this area?
2. Agrees { }
3. Strongly agreed { }
4. Disagreed { }
5. Strongly disagreed { }
6. Do you think that the pollution in your area affects your health?

(a) Agrees { }

(b) Strongly agreed { }

(c) Disagreed { }

(d) Strongly disagreed { }

1. Do you think that the pollution in your area discourages developers?
2. Agreed { }
3. Strongly agreed { }
4. Disagreed { }
5. Strongly disagreed { }
6. There is a relationship between environmental pollution and the value of the estate development.
7. Agreed { }
8. Strongly agreed { }
9. Disagreed { }
10. Strongly disagreed { }
11. Do you think that the government has tried in making provision for pollution?
12. Agreed { }
13. Strongly agreed { }
14. Disagreed { }
15. Strongly disagreed { }
16. The pollution control system in Nigeria is very poor.
17. Agreed { }
18. Strongly agreed { }
19. Disagreed { }
20. Strongly disagreed { }
21. The worst pollution we encounter is land pollution?
22. Agreed { }
23. Strongly agreed { }
24. Disagreed { }
25. Strongly disagreed { }
26. Water pollution is one of the causes of high level of disease in Nigeria?
27. Agreed { }
28. Strongly agreed { }
29. Disagreed { }
30. Strongly disagreed { }
31. Do you think that environmental pollution discourages investor from investing in real estate development?
32. Agreed { }
33. Strongly agreed { }
34. Disagreed { }
35. Strongly disagreed { }