IMPACT OF AIR POLLUTION ON RESIDENTAL PROPERTY VALUE IN ILORIN METROPOLIS

(A CASE STUDY OF ASA–DAM AREA, ILORIN)

BY

MUNIRUDEEN ABASS GBOLAHAN

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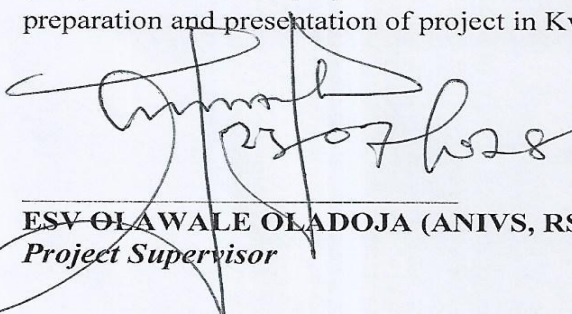**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR**

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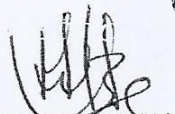**ESTATE MANAGEMENT**

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CERTIFICATION

This is to certify this project is an original work carried out by **MUNIRUDEEN ABASS GBOLAHAN** with matriculation number **HND/23/ETM/FT/0138** of the Department of Estate Management and valuation, Institution of Environmental Studies (IES) and has been prepared in the accordance with the regulation governing the preparation and presentation of project in Kwara State Polytechnic, Ilorin
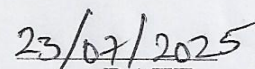
_____   _____
ESV OLAWALE OLADOJA (ANIVS, RSV)   **DATE**
Project Supervisor

_____   _____
DR. ESV (MRS) N.I UWAEZUOKE (ANIVS) RSV   **DATE**
Project Coordinator
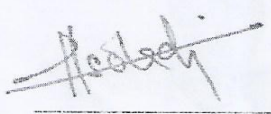
_____   _____
ESV. MRS. ABDULKAREEM RASHIDAT A. (ANIVS) RSV   **DATE**
Head of Department

_____   _____
ESV.(DR) LUKMAN MUSIBAU Ph.D (ANIVS, RSV)   **DATE**
EXTERNAL EXAMINER

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DEDICATION

I want to gladly dedicate this project work to Almighty God, the creator, the maker of heavens and earth for its divine possibility and immense grace over this work and to my parent.

ACKNOWLEDGEMENTS

My profound gratitude goes to Almighty (God) for his guidance over my life right from the commencement of my study to this present time. I thank him for his protection, mercy, love and care over me.

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ABSTRACT

Every research work is meant to identify particular problems and give recommendations on how the problems will be solved or minimized. Industrial land use, their locations and their effect on residential property values have been the subject of considerable study over the years. From the earliest zoning codes to the current impacts of globalization, the location on urban form remains profound. This study aims at determining the critical analysis of industrial estates on residential residence in Asa Dam area of Ilorin in Ilorin West Local Government Area, Kwara State, Nigeria. Two sets of questionnaires were administered differently to 96 inhabitants in Asa Dam area living relatively close to, and along Asa Dam. However, 116 copies of the returned questionnaires were used for this study. The result of this study revealed that the overall environmental problems indicated high environmental problems, some of the respondents indicated little environmental problems which indicate that environmental problem is high in the area especially environmental problems such as dust particles, noise pollution, and obstruction of view as a result of smoke from industrial emission. However, there is no water pollution, no open dumpsite, and no overstressed of infrastructural facilities. The environmental problems posed by industrial sites do really affect residential property values (i.e. it hasreduced rental values of the affected properties). Even though residential properties are located close to Irewolede / Dangote / Gari Alimi Road Industrial zone, it has not been causing any delay or prevention in the sale or letting of the affected properties. Lastly, rental values of residential properties of various types increases with increase in distances but some properties such as room and parlor, 2-3 bedroom flat, and self-contained increase in rental values at varying distances but drop in value as it tends towards some specific distances.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Industrial revolution and subsequent growth of rapid industrialization have caused seriousthreats to sustainable development of both developed and developing states. While modemindustries extracted various natural resources, other raw materials and energy from theenvironment to produce material goods and services, such uses and production processes haveresulted in large scale emissions of wastes into the environment causing severe threats totraditional agrarian practices, suppressing the values of rural and urban property and reducing thequality of human life (Baby, 2003). Although most of the developed states had responded tothis social menace by developing a variety of technological, economic and legal regimes forregulating the polluting behavior of firms, the developing states have not attained sufficientprogress in regulating industrial pollution and its influences on their economy and society due tolack of technological alternatives, failures of markets, institutions, government policies, masspoverty and illiteracy. A residential area is a land use in which housing predominates, as opposed to industrialand commercial areas. These include single-family housing, multi-family residential, or mobilehomes (Kilpatrick, 1999). Zoning for residential use may permit some services or workopportunities or may totally exclude business and industry. It may permit high density land useor only permit low density uses. Residential zoning usually includes a smaller FAR (Floor AreaRatio) than business, commercial or industrial/manufacturing zoning. The area may be large orsmall (Knight, 2015). Residential areas are zoned for living and any industrial activities are notexpected to operate in these areas so as to avoid nuisance. Industrial properties are propertiesused for industrial purposes. Types of industrial property include factory-office multiuseproperty; factory -warehouse multiuse property; heavy manufacturing buildings; industrial parks;light manufacturing buildings; and research and development parks (Barrons, 2015). The randomdevelopment of small scale industrial and workshop activities in residential areas of Asa Dam area municipalities in Ilorin causes environmental nuisances such as noise, air, water and soilpollution, and heat emissions. These nuisances are both harmful to the environment and

localpopulations (Sofer, Gnaim , Potcher, 2012). However, it remains as a major polluter, resultingin the degradation of the health of local population and reduction in property values (Baby,2003).

More so, air pollution, while being a negative externality, has led to lower propertyvalues in Asa Dam area(Akpan, 2010). Also, in Asa Dam area, environmental pollution hasreached alarming levels, Industry is one of the most important causes. There are over 50mostly small unauthorised units located in residential areas many of them is highly pollutingchemical, metal, asbestos, rubber, and plastic factories. Unhealthy conditions prevail whereindustry and residences are intermixed (Bentinck and Chikara, 2011). Also, there are traces ofareas in developing states such as Nigeria where there is concentration of industrieslocated close to residential areas such as Lagos, Onitsha, Aba, Port Harcourt, etc.Port Harcourt, Delta State, Ibadan, etc. In Ibadan, there are areas characterized by concentration ofindustry such as Bodija, Oke Ado, OlIlorinle Industrial Estate, among others. Although thedevelopment of industrial properties should be based on mono-functional policy concept ofseparating industry and housing, residents may be affected by industrial activities due to multipleperceived dis-amenities such as noise, traffic, congestion, air pollution, water pollution, landpollution, and obstruction of view. This study will contribute to the planning debate byelaborating on the implication of the presence of industrial properties such as factories on directresidential properties. This study aims at assessing negative externalities from industrial sites onnearby residential property values in Ilorin and also to assess the magnitude of such impact onthe residential property values.

The development of industrial and workshop activities in residential areas in Ilorin iscausing environmental nuisance such as noise, air, water, soil pollution, and heat emission thatare harmful to the health of dwellers in these areas and also affect the value of residentialproperties located in these areas in Ilorin. Industrial activities being a major producer ofenvironmental nuisances are concentrated in specific zones in Ilorin, which is well monitored.

Nevertheless, there are a number of cases where residential land uses are mixed with industrialactivities some areas in Ilorin which may arise probably through illegal means or throughconversion of use which affect residential property values located in these areas and also affectthe wellbeing and safety of people that reside in these areas and in turn affect property valueswhich is evident on the rent and prices that tenants

or purchasers are willing to offer for suchproperties. Industrial activities directly or indirectly create problems which are detrimental to thehealth and survival, and wellbeing of people residing in residential properties located close toindustrial sites in Ilorin, industrial activities also affect residential property values which arelocated close to industrial properties.The noise, water, air, soil pollution from industrial activities can have a negative effect on property prices (Anstine, 2013; Nelson, 2014; David 2016). It is supposed that noxious facilitieswould affect house values significantly. Clark (2016) finds that there are consistently negative impacts on houses proximity to factories with statistically important influence on residentialproperty values. It gives out evidence on the price drop on the real sale price of houses if thehouses are located proximity to factories.

Environmental pollution which include land, water, air, and noise pollution fromindustrial activities have negative effect on both residential property values and on the health andwellbeing of the occupants of those properties and thus reduces the values of residentialproperties because people will not want to live close to areas where their health will beendangered and where they will be disturb by frequent noise and they will want to live in areaswhere their health will be secured (Sofer et al., 2012). These issues have been addressed by manyresearchers so as to proffer a lasting solution to these negative effect but their recommendedmeasures is yet to bring these negative externalities on residential property values as a result ofproximity to industrial properties to a satisfactory level which prompted this study. This studyaims at identifying the adverse effect of the operations of industrial activities on the surroundingresidential properties in Asa dam area ofIlorin.

1.2 PROBLEM STATEMENT

The distance of residential properties industrial sites has a statistically significantnegative effect on the values of residential properties (Friso, and Henri, 2009). However theeffect is largely localized within a relatively short distance from the nearest industrial site.(Bentinck and Chikara, 2001). Absence of solid waste disposal facilities by some industries inAsa Dam area causes discarded litters from the factories and end up in heaps along the streets. Thesematerials may contaminate adjacent properties or be disposed of indiscriminately andcontaminate residential properties. The presence of industrial areas close to residential areas inAsa Dam area

causes overstressed of the limited infrastructural facilities provided and adverseenvironmental condition. Factories also cause the most serious water pollution. Industrialwastewater seeps into the groundwater, polluting the water.It has even been claimed that vibrations caused by machines are so severe that cracks areshowing up in the walls of houses (Bentinck and Chikara, 2001). Industrial machines, plants andgenerators, etc. is considered noise to most people. Typically, little effort is made to dispose oftoxic materials from industry properly, which often are by products of manufacturing industry can lead to economic obsolescence of residential properties situated close to industrial propertieswhen there is little or no demand on contaminated properties because prospective tenants will notwant to endanger their health. In cases of severe contamination sale may not be possible or thesale price may have to be reduced.There are concentrations of industries in some areas in Nigeria, especially Lagos, Ibadan,Port Harcourt, etc. And some industrial sites are located close to residential areas. Activities from these industrial sites produce some kind of nuisance to the nearby residential neighborhood such as air pollution (from burning of fossil fuels from factory plants and machinery, factorygenerators, etc.), water pollution (i.e., the discharge of industrial by-product and hazardous chemicals into Gutters, rivers, etc.), industrial waste generation, and noise pollution from factorymachines and generators. This entire nuisance produced from industrial sites directly or indirectly has an impact (usually negative) on the values of residential properties situated close to them.

Although industrial properties are not meant to be situated within residential neighborhood butthere are instances in Nigeria where industrial properties are located close to residentialproperties such as it is found in Lagos State (i.e. Ikeja, Ikorodu, Apapa, etc.), Port Harcourt,Ibadan (i.e Old Bodija, Oke ado, OlIlorinle Industrial Estate, etc.). The activities from theseindustries will undoubtedly have impact on the values of residential properties located close tothem. The activities from these industrial sites generate noise and contamination within theenvironment where industrial properties such as factories are located close to residentialproperties, and the noise and contamination in turns bring about stigma on the residentialproperties located where industrial operations are being held and thus affect their values. Thenoise and contamination produced from industrial operations also have health implication ofthose occupying the affected residential properties. Also, prospective tenant may not want tosettle in contaminated environment and where there is

undesired noise and this will have a greateffect on the property values situated in a contaminated and noisy environment.

According to Thomson (2013) industrial revolution and subsequent growth of rapidindustrialization have caused serious threats to sustainable development of both developed anddeveloping states. He also pointed out that industrial production processes have resulted intolarge scale emission of waste into the environment causing severe threat to traditional agrarianpractices, suppressing the values of rural and urban residential properties and reducing quality ofhuman life. Although he and other researchers has responded to this social menace by developingand recommending measures to regulate the polluting behavior of firms but had not attained sufficient progress in regulating industrial pollution and its influence on human life and propertyvalues.

Realizing the need for developing a sustainable economy through an appropriateenvironmental engineering, government has formulated a number of policies from researchworks and enacted legislations. Despite these initiatives, the process of industrializationcontinues to inflict damages to human health and property values in Ilorin. Industrial activitiesoperating close to residential properties in Ilorin area produce impact of noise pollution andenvironmental contamination which have adverse effect on the health, safety and wellbeing ofpeople occupying the residential properties and also have negative effect on residential propertyvalues. But in Nigeria, there is no legal frame research upon which noise pollution can be abated.

The complexity and magnitude of the problem of environmental pollution caused by industrialactivities and its impact on both occupants in the affected residentialareas and the residential property values calls for effective and well planned measures in Ilorinand Nigeria at large. Based on the above discussion, the following questions agitate my mind:

1.3   RESEARCH QUESTIONS

a. What are the responses of tenants to the nuisance produced by industrial activities?

b. What are the environmental problems posed on the residential properties as a result ofnearness to industrial sites?

c. What impact do environmental problems have on residential property values?

d. How are the values of residential properties affected at varying distances from industrial sites?

1.3 AIM AND OBJECTIVES

The study aims at determining the associated problems of sitting industrial propertieswithin residential areas in Ilorin, with a view to determining the effect of industrial land use onrental values of neighboring residential properties.

Towards achieving this aim, the following objectives are set to:

i. Identify the industrial properties located in the study area.

ii. Identify the environmental problems posed on the residents by the location of the industries.

iii. Examine the impact of the environmental problems on the rental values of residentialproperties

iv. Examine the rental values of residential properties at varying distances from the industries.

1.4 JUSTIFICATION OF STUDY

Despite the fact that there is concentration of industries in many parts of the Nigeria andwhere in some instances, there is presence of location of industrial properties close to residentialproperties. Government and its agencies, and researchers in the area of real estate do not givemuch attention to the problems associated with sitting industrial properties close to residentialproperties which prompted this study. This aspect of research has not gained the focus ofresearchers in Kwara State and many developing States in Nigeria. More so, what prompted me to this areaof research is that, this area of study has not been well researched by researchers in Kwara State and most developing states, and identifying the existence of concentration of industries withinresidential properties inIlorin especially in the study areas and realizing the need to address theproblems of sitting industrial activities close to residential properties in Nigeria, brought aboutmy interest in this area of study.

This study will assess the effect of negative externalities produced by industrial activitieson residential property values as a result of nearness of residential properties to the industrialproperties by comparing the variation in rental values and/or purchase prices (capital value, ofrecently sold) of the residential properties within the industrial

area with the prices and rents ofresidential properties located a bit far away from where the industrial activities takes place inAsa Dam area. This study will also examine the impact of negative externalities of industrialactivities on residential property values in the polluted areas in Ilorin by focusing and noting thesize (large or small) and the nature of industrial operations. The study area of this research workis majorly characterized by medium scale industry. Thus, this study will focus on the effect ofoperations of medium scale and small scale industry on the residential property values in Ilorin.

This study will only focus on the negative or adverse effect of industrial activities on surroundingresidential property values in the study areas.Lastly, this study will call for the attention of researchers and government and itsagencies to the issue of sitting industrial properties close to residential properties in Ilorin andthis study will try to enlighten and educate professionals in the field of real estate the problemsassociated with presence of industrial properties within residential neighborhood and the effecton residential property values.

1.5 Scope of Study

This study focuses or is restricted to the assessment of the adverse effect or negativeexternalities of industrial activities operating close to residential areas in Asa Dam areaIndustrialEstates in Ilorin i.e., the adverse effect of industrial activities on the residential property valueswithin and around, Ilorin Industrial Estate in KwaraState. This study will also be restricted toevaluating the effect of noise and air pollution, and greenhouse effect produced by industrialactivities on the residential property values in the study area. This study will also compare rentaland/or capital values of residential properties within the estate with the residential propertiessituated outside or not too close or a bit far from Ilorin.

The activities from this industrial estate produces noise, air, andwater pollution which affect the values of residential properties that is situated close to theindustrial estate directly or indirectly which is the focus of this study. Although the industrialestate can also have positive effect on the values of residential properties located close to them inform of nearness to sources of employment. The reason behind choosing Ilorin as area of study

is that there are presence of concentration of industries situated close to residential properties insome areas in Ibadan particularly the study area and it is the area am familiar with.Finally, this study will not dwell much on positive effect of locating residential propertiesclose to industrial properties but this study will focus on negative externalities or adverse effectof industrial activities on the residential property values in Ilorin.

1.6 STUDY AREA

Ilorin is the state capital of Kwara, which is one of the major agricultural / farming produce as major source of income. The town became the capital of the state on September 23, 1967 following the creation of Kwara State which is one of the 12 first States.The study area isAsa Dam area of Ilorin Metropolis, which is State Capital of Kwara, the Metropolis has approximately 5millions inhabitants, Yoruba language and English, though the State has other minor languages speakers, it has 16 Local Government Area Council, while Asa Dam is in Ilorin West Local Government area, the State has land mass of 765km², the study area has many factories, markets place and manufacturing companies spread across the region. Few of these manufacturing companies includes Uniform plc, KamwirePlc, Tuyilplc, Dangote Cement depot (now Olam factory) which indicate the high rate of vehicles plying the area and many market places where refuse are dump at some point and burn.

CHAPTER TWO

2.1LITERATURE REVIEW

This chapter will give a review of past research work relevant to this study objectives,relevant research work from international journals, textbooks, PDFs and internet websites will bereviewed.

2.11 Research Work on Impact of Air Pollution on Property Values

Fernado (2010), in his research on Impact of Air Pollution on Property Values in Ikeja, Lagos pointed out that air pollution, leads to social costs because fewer availabilities of cleanair deteriorates human health and has negative impact on species and physical goods (landedproperties). According to him, air quality from an economic point of view is a public goods thatembodies both positive and negative externalities. His study attempts to determine the marginalwillingness to pay for a cleaner air among housing owners in Ikeja, Lagos. He examinedair pollution impact on housing values.

Fernado, employed GIS (Geographic Information System) for the characterization of theresidential property stock in Ikeja. Total Suspended Particles (TSP) is taken as a variable toestimate the air pollution impacts produced by industrial activities on residential property values.

Estimation are made by him within hedonic price model framework where the price ofresidential housing is a function of amenities and structural characteristics that it contains whichmeans for example, that the environment (i.e. pollution levels in a location) is considered as acomponent of the marketable goods (residential housing). By considering variations in pollutionlevels, households could perceive different air qualities at different sites. Consequently, whenchoosing a place of residence, families would be willing to pay more for less polluted areas andless for more polluted areas. Therefore, it could be possible to establish a relationshipenvironmental quality and (or deterioration) and changes in property values (Fernado, 2000).The hedonic price framework is a good modeling strategy to indirectly estimate therelationship between marketable goods such as housing and the associated non marketableservices it contains such as landscape, or air quality. Fernado study hypothesizes that airpollution, while being a negative externality, leads to lower property values in Ikeja. Thehedonic framework he adopted explained in his theoretical issues to corroborate his hypothesis.

According to Fernado, negative externalities produced from the industrial activities in Ikeja include air pollution from factories and industrial vehicles and generators noise

pollution, andwater pollution all of which constitute a reduction in property values of residential properties in Ikeja.

He concluded from his estimation and findings using hedonic function that air pollutionvariable from industrial activities is very significant on property values. The variable represents anegative externality, suggesting that an increase in of 1% in TSP emission levels, produces areduction of 0.1263% in the property values in Ikeja, Lagos. However, he did not employthe distribution of questionnaires to the respondents i.e. there is no direct contact and sourcingfor information relevant for his study from the owners and/or occupiers of the residentialproperties. Fernado also did not conduct an interview with the owners and occupies of theaffected residential properties, and he did not compare the rental values or prices of the affected

residential properties (contaminated residential properties) against the rental values or prices ofthe residential properties located a bit far from the industrial properties.

2.12 Research Work on Illegal Factories Situated Within Residential Areas

The controversy, the Causes, and the Expected Future stated that environmental pollution hasreached alarming levels and industry is one of the most important causes. There are manyindustries mostly small unauthorized units located in residential areas: many of them highlypolluting chemicals, metal, asbestos, rubbers, and plastic factories. Unhealthy conditions prevailwhere industries and residencies are intermixed. There was extreme environmental stress as aconsequence of industrialization in Ilorin.

According to them, the presence of industrial areas close to residential areas causesoverstress of the limited infrastructural facilities and adverse environmental conditions. They also pointed further that dueto totally absent of solid waste disposal facilities the discarded litters from the factories in Ilorinend up in heaps along the streets choking the open sewer lines. They also stated that there is absence of proper drainage which creates stagnant pools of water allthrough the residential properties, providing ideal grounds for mosquitoes. Water-borne diseasesand infections are therefore very common in the area and malaria illness. When visiting Asa dam, the smoke, the garbage, filthy, water in the opendrains and stagnant pools, and the noise levels overwhelm the outsider. The industrial activitiessituated close to residential properties creates also a precarious situation jeopardizing the healthof nearby people occupying the residents.

There are three main sources of air pollution atAsa dam: first, combustion offossil fuels and waste in factories; second, emission during the process of manufacturing; andthird, road traffic. The most serious of air pollutants were identified as particulate matter, sulphurdioxide, suspended nitrates and carbon monoxide (Bentinck and Chikara, 2001). They also statedthat factories also cause the most serious water pollution. Dyeing of textiles, rolling and picklingunits (washing of steel), acid baths and the production of many types of chemicals generate adischarge of fluid waste that has not been treated. The dyeing factories cause the mostspectacular-looking water pollution. Not only is the waste water reported to be acidic; but itcontains high concentrations of (heavy) metals such as chromium, copper, iron, cadmium, nickeland lead. Industrial wastewater seeps into the groundwater, polluting the water from hand pump.

Households and industries generate different types of solid wastes. Household wastes are mostlyorganic and contain few toxic substances; industrial wastes are more dangerous. Especiallychildren are vulnerable to diseases transmitted by uncollected waste, because they play out in theopen. And the odour of industrial emissions and materials is obvious.To an outsider, the noise level around the industries is maddening; it is also experiencedas such by many of the local residents. A large part of the noise comes from the many industriesthat rely on power generators in case the electricity supply fails. Other machines also producenoise as well, notably those in the sheet-metal factories, in plants manufacturing tools andconstruction materials, and in the repair shops. The noise caused by the flour and lentil mills,which keep running day and night, is particularly bad inside the residential areas. It has evenbeen claimed that vibrations caused by machines are so severe that cracks are showing up in thewalls of houses (Bentinck and Chikara, 2001).In addition, Respiratory diseases are rampant, although it is feared that they often goundiagnosed. Respiratory disorders are commonly connected with air pollution. Pollution fromthe factories also causes tuberculosis. Asthmatic problems are reported to be on the rise as well.

This is a phenomenon found in the whole of Ikot Ebido, but it is particularly serious where there arehigh concentrations of dust and pollution. One would not immediately think of psychologicaltroubles, psychiatric diseases or depression as obvious health hazards. However Bentinck andChikara mainly focus on small scale industry without emphasizing much on medium scaleindustry which are the major causes of environmental pollution and did not concentrate on theeffect of negative externalities

of industrial activities on the values of nearby residentialproperties and they mainly focus on the effect of negative externalities of industrial activities onthe health of those occupying the nearby residential properties in Ilorin, but which this study willaddress.

2.13 Research Work on Impact of Noise on Residential Property Values

As populations and industries expand, noise is an increasingly important issue for realestate analysts. Thus, this research work will address the impact that industrial noise onresidential property values. Homes nearby industrial properties experience some diminution inproperty market values. Diminution in value is the difference between the before and aftermarket values of properties that have been damaged or taken (Randall, 2001).

Noise is unwanted sound. By that definition, the sound emanating from industrialmachines, plants and generators, etc. is considered noise to most people. The real estateprofessional needs to assess the markets perceptions towards noise, knowing that thoseperceptions are then translated into sales prices when the properties are sold and other indicationsof market values(Randall, 2001).There are only three ways to mitigate noise: quiet the source,put more distance between the source of the noise and the receptor, and build or create a barrierto the noise (Randall, 2001).It is often impossible for home owners to have control over quietingthe source of industrial noise located close to them, and it is equally impractical to move theirhouse further from the industries.

In addition, industrial operations may cause a variety of effects such as noise, visualimpairment, pollution, traffic, emotional, and health-related effects. According to Randall, noiserelated stress has a measurable impact on human health and noise can specifically cause sleepdisturbance, physiological stress reactions, temporary threshold shifts in hearing, interferencewith speech and communications, and psychological distress. Excessive and needless noiseconstitutes a nuisance.

A study published in the Journal of Environmental Economics and Management indicatesthat an increase of NEF (Noise Exposure Forecast) over threshold noise levels would decreasethe market value by 2.5%. Another study in the same journal indicates a diminution in value of0.67% per NEF. Yet another study in the same journal reflects a loss of 0.4% per NEF and refersto other studies with losses of 1% or more per NEF. Additional insights are added by a studypublished in the Journal of Transport, Economics and Policy which indicates that a one-unitincrease in NEF

results in a diminution in value of 0.65% in property market value for detachedhousing. The impact of industrial noise on residential properties is universally negative onresidential property market values under or near an industrial site. A significant portion of thepopulation will not live in a home that is impacted by noise at any cost or discount. And some ofthe population seems more or less impermeable to noise (Randall, 2001).

Various studies indicate that there is a correlation between noise levels, as measured bynoise contours, and the diminution in value suffered. Furthermore, detached housing tends to beimpacted by industrial noise more than semi-detached or terraced housing (Randall, 2001). Thedata suggests that more expensive homes tend to be impacted by industrial noise more than lessexpensive homes. However, Randall only dealt with impact of airport noise on residential realestate but not impact of factory noise on residential real estate which this study will look into.

2.14 Research Work on Standard on the Valuation of Properties Affected byEnvironmental ContaminationInternational Association of Assessing Officers.

Values of such properties may be affected differently from values of equally contaminatedproperties outside a designated site. According to International Standard of Assessing Officers(IAAO), in assessment usage, contamination is any recognized physical or nonphysicalenvironmental influence that must be considered to determine value. Contamination may takevarious forms including physical, aesthetic, and perceptual. Contamination is recognizedthrough federal, state, or local agencies that regulate environmental contamination. Physicalcontaminants are substances present in, on, or near a subject property in measurable quantitiesand identified as having a harmful environmental impact. Some substances are deemedhazardous because they are ignitable, corrosive, toxic, or reactive. Contaminants, such asintrusive light, that have no tangible, physical substance are considered nonphysical. These takemany forms and must be considered as real as physical contaminants because they may affectproperty value. For example, proximity to noise sources often diminishes utility and thereforeproperty value. Another example is electromagnetic radiation originating from nearby powerlines or radio wave transmission devices. Also included would be prevailing market perceptionsof substances or situations. For example, toxic substances may have been completely cleansedfrom a property. However, the stigma attached to this property may not immediately disappear,and value may be affected by

this nonphysical condition. In evaluating the effect of theseconditions on market value, consideration should be given to public perception and fear, whichmay affect values in the property market place (IAAO, 2001).

Residential property value may be affected because of proximity to commercial orindustrial properties. There is also a potential for significant future impact, which would likelyoccur. Radon is a naturally occurring radioactive gas released during decay of radioactiveelements. In recent years, public awareness of this substance and associated risks has grown.

Because the substance is denser than air, it may accumulate in basements and lower portions ofstructures. Often, ventilation or air exchange systems can be constructed to remove the gas andcure the problem. Radioactive waste often remains toxic for a very long time and tends to bemore difficult to dispose of, a greater stigma may result (IAAO, 2001).According to (IAAO, 2001) air becomes polluted when contaminants are released intothe atmosphere or when nontoxic substances react with other substances or light to producecontaminants. The degree to which residential properties values are affected by air pollutiondepends on the economic cost to escape the pollution. And noise pollution includes unwantedsound generated by airport, road traffic, and heavy industry. Effects should be considered similarto other location and neighborhood desirability influences and may be incurable economicobsolescence. Ultimately, the market will determine how much air pollution and noise pollutioninfluence value, the presumption being that additional functional or economic obsolescence maybe recognized if buyers pay less for properties with contamination. Typically, little effort is madeto dispose of toxic materials from industry properly, which often are by products ofmanufacturing industry. These materials may contaminate adjacent properties or be disposed ofindiscriminately and contaminate residential properties. Contamination can range from mild,requiring minimal clean-up costs and having little, if any, effect on value, to severe, withvirtually no use of the property possible for the present or the foreseeable future and withprohibitive costs to correct the problem. The degree to which contamination affects the presentand future utility of the property must be established (IAAO, 2001). Liability may affect the use of the property and its future sale and may contribute to anystigma. The highest and best use of property that has suffered contamination may be altered. Incases of severe contamination sale may not be possible or the sale price

may have to be reduced,although the property may retain a value in use. Stigma is an intangible factor, which may not bemeasurable in terms of cost to cure, but may affect market value, at least as determined throughthe sales comparison (market) approach. It may be seen as a blight or perceived blemish or stainon a property resulting from real or perceived risk associated with the property (IAAO, 2001).

Residential property value will be affected because marketability would be reduced.A stigma may make property less desirable, even though complete clean-up has beenaccomplished. This creates a situation similar to obsolescence because, if the market will payless for a once contaminated, but now restored property, the value of the property has beendiminished. Stigma can also affect property neighboring previously contaminated areas,especially if regulatory agencies declare the neighboring property to be in a "border zone". Ifthe property owner makes no attempt to overcome the stigma, however, and thereby accepts alower price for the property, this price may not accurately reflect market value (IAAO, 2001).

2.15 Research Work on Environmental Impact of Air pollution onHuman Healthand Property Values

(Baby, 2003) also examine environmental Impact of air pollution on human health andproperty values in Asa Dam areaand stated in his work thatIndustrial revolution and subsequent growth of rapid industrialization have caused serious threatsto sustainable development.

Despite these initiatives, the process of industrialization continues to inflict damages to humanhealth and property values in many parts of the country (Parikh, et al.1994; Barr. O.J. Enemoh, 2018). However, serious analytical studies on the impact of air, especially on the health of the people and on the changes in property values are notavailable. This study attempts to overcome this limitation by undertaking a detailed analysis ofthe economic impacts of air pollution and property values.

Industrial sector in Asa Dam areais one of the major productive and wealth creating sectors.However, it remains as a major polluter, resulting in the degradation of the health of localpopulation and reduction in property values. Air pollution is the 'contamination of theatmosphere by substances that, directly or indirectly, adversely affect human health or welfare. Ifthe emission loads exceed absorptive capacity, pollutants accumulate in the environment(Hanley, et al., 1997), causing damages to

the structures and well-being of the society. One of thepopular approaches to analyze the economic impacts of air pollution on the health of humanpopulation and residential property values is centered on identifying and monetizing the relevantcosts and benefits of an environmental change. (Murty, 2000).

2.16 Research Work on Impact of Industrial Site on Property Values

Industrial sitescause several negative externalities, such as traffic noise disturbance, congestion, and obstructionof view, etc. And the distance to an industrial site has a statistically significant negative effect onthe value of residential properties. However, the effect is largely localized within a relativelyshort distance from the nearest industrial site. (Friso and Henry, 2019). Although thedevelopment of industrial sites in the KwaraState is based on the mono-functional policyconcept of separating industry and housing, residents may be affected by industrial sites due to amultitude of perceived disamenities, such as noise, traffic, congestion, air pollution andobstruction of view (Friso and Henry, 2019).

According to them, people are willing to pay more to reside in locations further locatedfrom perceived disamenities. Their survey confirms that undesirable facilities. There are also ofthe opinion that adverse effects produced by industrial activities diminish with distance, resultingin increased property values as distance from these sites increases. Moreover, these adverseproperty value effects appear to be relatively localized.Disamenities, like the presence ofindustrial land and highway nearness, affect the prices of residential properties negatively.

CHAPTER THREE

3.1   RESEARCH METHODOLOGY

This chapter will include sampling techniques or procedures to be used in this study to achievethe aim and objectives of this study. Sample is the part or fraction of the population from whichinformation is collected, i.e. to use a group of people in order to get information about a largergroup or about the whole population. This chapter will also include data collection techniquewhich is the most crucial operation to achieve the aim and objectives of this study.

3.2 Data Requirement

The data to be employed in this study is rental value and capital value data for about eight (8)years ago till of recent (in order to capture recent rental/ capital values paid for houses in thestudy area) which would be obtained from surveys of estate surveyors and valuers and fromtenants and owners occupying the residential properties located within Asa Dam area of Ilorin, Kwara State

3.3 Study Population

The study population will include Registered Estate Surveyors and Valuers in KwaraState. It will alsoinclude both owners and tenants occupying residential properties within the areas under themanagement of Estate Surveyors and Valuers in Ilorin.

3.4 Sample Frame

The sample frames estimated for the study area are Registered Estate Surveyors and Valuerswithin the study area, which are 69 according to the directory of the Nigerian Institution ofEstate Surveyors and Valuers (NIESV) supplemented with the list of practicing firms inIlorin,KwaraState Branch of NIESV including Household Heads at Asa dam,KwaraState,and the total number of houses of 96 which was obtained by manual counting.

3.5 Total Enumeration Survey

The total number obtained from the directory if the Nigerian Institution of Estate Surveyors andValuers supplemented with the list of practicing firms in Ilorin, KwaraState branch of NIESV are69 and also 96 houses were obtained by manual counting at interval of 1km and 5km was used inall.

3.6 Data Collection Instrument

Observational study: this will involve close observation of the industrial activities taking place inthe study areas in order to note the nature and magnitude of nuisances produced from theoperations of the industries and to make some inferences.

Questionnaire Survey: this will be self-administered questionnaire and will consist of asystematic and comprehensive list of or set of questions which will be designed to

gatherrelevant information, the analysis of which would enable the provision of object answer to theresearch question raised. The questionnaire will be structured or fixed response questionnaireswhich will be that of Five Likert Scale.

Interview Survey: this will include face-to-face interviews with respondents (i.e. tenants, owneroccupiers, industrial workers, and estate surveyors and valuers operating within the study area).

3.7 Method of Data Measurement and Analysis

Ordinal (Likert) Scale: ordinal (likert) scale will be adopted e.g. Strongly Agree, Agree,Indifferent, Disagree, Strongly Disagree questions will be asked through questionnaireadministration.

Ratio Scale: this will be used to show differences between rental values / capital values fromresidential properties considered, i.e. it will be used for measuring the differences between rentalvalues / capital values.

The data obtained will be analyzed by using Descriptive Statistics (i.e., distributive frequency fortabular representation, Graph Diagrams, Inferential Statistics (i.e., simple linear regression modelof Microsoft Excel), and processing of data.

CHAPTER FOUR

4.1   DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

This chapter is devoted to analysis of data collected from respondents and report's findings from field survey. All findings and interpretation stated in this chapter is

based solely onresponses provided by the respondents of this study. Responses were collected from two distinctgroups, and they are residential property users (occupiers/ tenants) located close to Asa Dam, KwaraState, and estate surveyors and valuers which manage residential properties at Asa Dam Road IlorinKwaraState. This Chapter presents the data obtained which were analyzed to addresseach objectives of the study and the findings interpreted and discussed. In the same vein, analysiswill be presented for the groups separately.

4.2 Summary of Data

The field survey was conducted to elicit relevant information for analysis in the studyarea,165 (96-occupiers & 20-estate firms) questionnaires were administered on both estate firmsand occupiers of Asa Dam, KwaraState out of which 116 responded (i.e. 10-estatefirms and 66-occupiers). The summary of data collected in respect of the stated variables of theresearch is presented as follows:

All percentage calculated from the frequency N=60.

Socio Economic and educational ackground of occupiers	Frequency (N)	Percentage (%)
Sex Male	33	55.0
Female	27	45.0
Age Below 30	26	43.3
30 – 40	25	41.7
41 – 50	7	11.7
51 – 60	2	3.3
61 – 70	0	0.0
Marital Status Single	23	38.3
Married	36	60.0
Widow	1	1.7

Educational Background	Frequency N	Percentage %
No of formal Education	0	0.0
SSCE	18	30.0
Tertiary Institution	42	70.0
Occupation Civil Servant	23	38.3
Trader	17	28.3
Apprentice	6	10.0
Student	7	11.7
Others	7	11.7

All percentage calculated from the frequency N=60

Source: Author's Field Survey, 2024

Table 4.2 gives the detail of the socio-economic status of the occupiers. 55.0% of therespondents were male while 45.0% were female. The high percentage (43.3 %) of the tenant inthe area were below the age 30 indicating that occupier in this area were major youth that may bethe workers in the industry, none of the occupier are of the age bracket 61-70years, this is soprobably because the area is not save for old aged. With the high percentage of the married, themajority of those living in this area are young couples while only 1.7% is widow. All those livingin this area are literate with various educational backgrounds, majority of them (70.0%) finishedin the tertiary institution. 38.3% of them were civil servants, 28.3% were traders, 11.7% werestudents and about 21.7% indicated that they are industrial worker and this falls under thecategory of others.

Table 4.3 Socio-economic status of the firm

Socio-economic status of the firm	Frequency N	Percentage %
Sex of respondent: Male	36	72.0

Category	Frequency	Percentage
Female	14	28.0
Educational Qualification: OND	7	14.0
HND	26	52.0
B.Sc.	14	28.0
M.Sc.	3	6.0
Others	0	0.0
Professional Qualification: Graduate	19	38.0
Probationer	19	38.0
Associate	11	22.0
Fellow	1	2.0
PPNIVS	0	0.0
Number of Years in Operation 1 – 5yers	5	10.0
6 – 10yers	13	26.0
11 – 15yers	12	24.0
16 above	20	40.0
Firms that manage any residential property in Ilorin Yes	47	94.0
No	3	6.0
Services rendered Estate Agency	26	52.0
Property Management	16	32.0
Property Valuation	7	14.0
Others	1	2.0

All percentage calculated from the frequency N=50.Source: Author's Field Survey, 2015.

Also the result of the research gives the detail of the socio-economic status of the firmvisited as noted from table 4.3. It is noted from the research work that the majority of the estatesurveyors and valuers in this industrial area were male only few in number were female (28.0%).

The qualification of the respondents indicates that they were not quacks; 14.0% had OND,52.0% with HND, 28.0% with B. Sc. and 6.0% with M. Sc. this profession qualification of therespondents in the firm align with this fact, equal percentage (i.e. 38.0 % each) were graduateand probationer, 22.0% had Associate as professional qualification, 2.0% only were fellowmembers and none in PPNIVS.

With the level of experience, the high percentage (40 %) of these respondents had 16years of experience and above, 26% had 6-10 years while only 10% had 1-5 years of experience.

This connotes that the level of experience of estate surveyors and valuers in the vicinity is highand commendable. The percentage that manages residential properties in Asa Dam is94.0% while 6.0% of estate firm in the vicinity does not manage it. As regards the services beingrendered, estate agency had the highest percentage of 52.0%, 32.0% goes to propertymanagement, property valuation had14.0% while 2% goes to 'others' category implying thatmost of the estate firms engaged mostly in estate agency and property management.

4.5 Examining the Impact of Industrial Land Use on the Rental Values of NeighbouringResidential Property Values.

Table 4.4: Examination of the properties located in the study area

No of years in which occupiers have been living in Geri Alimi	Frequency (N)	Percentage (%)
1-4 years	17	28.3
4-8 years	17	28.3
8 - 12 years	15	25.0
12 - 20 years	11	18.3
Others	0	0.0
Type of property		
2 -3 bedroom flat	19	31.7
3 - 4 bedroom bungalow	11	18.3

Category	Frequency	Percentage
Self-contained	3	5.0
Detached house	6	10.0
Others	2	3.3
Description of the composition of neighbourhood		
Very satisfied	6	10.0
Satisfied	37	71.7
Fairly Satisfied	17	28.3
Dissatisfied	0	0.0
Effect of industrial land use on rent paid.		
Strongly	4	6.7
Agree	36	60.0
Undecisive	9	15.0
Disagree	6	10.0
Strongly disagree	5	8.3
Effect of industrial land use on rent Excessively High	6	10.0
High	13	21.7
Moderate	36	60.0
Low	5	8.3
Benefit from the industrial land use Strongly Agree	1	1.7
Agree	30	50.0
Indecisive	9	15.0
Disagree	15	25.0
Strongly disagree	5	8.3
Distance of the Industry to residence		
0-1KM	12	20.0
2 - 3 KM	23	38.3

3 - 4 KM	1	5	2	5	.	0
4 - 5 KM	1	0	1	6	.	7

All percentage calculated from the frequency N=60.

Source: Authors Field Survey, 2024.

The property located in the study area in Table 4.4 is examined through distributivefrequency amongst respondents. The highest percentage (25 %) goes to the occupiers that hasbeen staying in the study area for 12 years; majorities of the occupiers (28.3 %) have being in theestate for close to 8 years while only 18.3% covers 12-20 years. Majorities of the occupierswhich is also the highest percentage (31.7 %) lives in tenement buildings and 2-3-bedroom flat,18.3% lives in 3-4-bedroom bungalow while only 10% lives in detached house, which impliesthat it is the middle and high class households that occupies this type of residential properties inthe area. The highest percentage (81.7 %) of the occupiers opined that they were satisfied withthe composition of the neighborhood, 28.3% were fairly satisfied while none of the occupantswere dissatisfied about it. Close to 66.7% of the occupier claimed that industrial land use hasimpact on the prevailing rent, 15.0% are indifferent about it while about 18.3% were dissatisfied.

60.0% of the respondents believed that the effect of industrial land use on rent paid is moderate;about 31.7% held that it is high while only 8.3 % claimed that it is low. Concerning the benefitsderivable from industrial land use, about 51.7% has benefited from it, 15% are indifferent whileclose to 33.3% disagreed. In relation to the distance, the highest percentage (38.3 %) of therespondents were of the opinion that the distance of industry to their residence is 2-3 KM, 25.0%chose 3-4 KM while 20.0% had 0-1K. The implication of the above is that the population of theoccupiers reduces as the property move away from the industry; this was due to the increase in

rental value and probably because industrial workers living in this area want to live close to theirplace of work and that they might not be able to afford the relatively high rent being paid foroccupying properties that are located further from the industrial sites.

Table 4.5: The impact of the environment problem on the rental value

Impact on Residential Values.	Strongly Negative Impact N (%)	Fairly Negative Impact N (%)	Minor Negative Impact N (%)	No Negative Impact N (%)	Positive Impact N (%)
Reduction in rental values of properties	4 (8.0)	27 (54.0)	9 (18.0)	5 (10.0)	5 (10.0)
Prolong period to let or to sell.	5 (10.0)	16 (32.0)	16 (32.0)	7 (14.0)	5 (10.0)
Unable to sell or let.	3 (6.0)	19 (38.0)	16 (32.0)	9 (18.0)	3 (6.0)
Decrease in demand for residential properties in the neighborhood.	6 (12.0)	10 (20.0)	19 (38.0)	9 (18.0)	6 (12.0)
Stigma Effect.	3 (6.0)	13 (26.0)	18 (36.0)	12 (24.0)	4 (8.0)

Source: Author's Field Survey, 2024.

It is generally agreed by the almost 82.0% of the firm respondents that industrial landuse of Asa Dam road fairly affect residential property values. From the analyticalresult stated in table 4.5, it disseminates the impact of the environmental problems on the rentalvalue. 54.0% of firm respondents declared that reduction in rental values of properties had fairlynegative impact on the rental value, from the table is observed that prolong period to let or to sellhas fairly negative impact on the rental value as review by the about 74.0% of the estate firmrespondents. The stigma effect also has no impact on the rental value but 36.0% review that ithas minor negative impact. The implication is that even though there is the presence of industrialactivities operating relatively close to residential properties located close to them in Asa Dam Road IlorinKwaraState, the effect on rental values of such residential properties is not pronounced or minimaland doesn't really affect residential property values in the neighborhood and there is no stigmaeffect. Also, some of the

result gotten from the estate firms indicated (as seen from 4.5, column6), that the Asa Dam Road has a positive effect on residential properties located closeto them, these result of positive effect recorded (9.2%). This may be inferred to mean thatnearness to industrial properties (sources of employment) will increase rental values ofresidential properties located close to them as people will want to locate where they can easilysecure employment and they will want to locate or reside close to their place of work.

Ranking the impact caused by environmental problem on the nearby residential rental value.

The impacts of environmental problems on residential value are ranked. The result fromthe research is analyzed using Relative Important Index method to determine the relativeimportance of the various impacts. A five point likert scale ranging from 1 (Positive Impact) to 5(Strongly Negative Impact) is adopted and transformed to relative importance indices (RII) forthe impact as follows:

$$RII = \frac{\sum TWR}{A*N} \qquad 0 \leq RII \leq 1$$

Where TWR is the Total Weight of Responses, A is the highest weight (i.e. 5), N is the total number of respondents (i.e. 50), and MR is Mean of Responses.

Table 4.6 Ranking the impact on the residential values.

Impact on Residential Values.	TWR	MR	RRII	RANK
Reduction in rental values of properties.	130	2.60	0.520	4
Prolong period to let or to sell.	141	2.98	0.596	1
Unable to sell or let.	138	2.76	0.552	3
Decrease in demand for residential properties in the neighbourhood.	149	2.82	0.564	2
Stigma Effect.	121	2.54	0.484	5

Source: Fieldwork, 2021.

From table 4.6, In assessing the impact on the residential property values,

the fairly negative impact which ranked the highest is on prolonging period to sellor let which ranked 1st, followed by decrease in demand which ranked 2nd followed by unable to sell which ranked 3rd, the next is reduction in rental valueswhich ranked 4th, and stigma effect had the least fairly negative impact on the residentialproperty values in the neighborhood as a result of industrial activities. The implication is thateven though there is the presence of industrial properties in Ikot Ebido area operating relatively close to residential properties located close to them, the effect onrental values of such residential properties is not much or small and doesn't really affectresidential property values in the neighborhood, and, there is virtually no stigma effect as itranked 5th on the table.

4.6 Examination of Environmental Problems Posed on Residents by Industrial Activities

Table 4.7: The environmental problem posed on residents by industrial activities

Environmental Problems	No Environmental Problems N (%)	Little Environmental problems N (%)	High Environmental Problems N (%)	Very High Environmental Problems N (%)
Offensive odour (i.e. from chemicals and industrial waste).	15 (25.0)	29 (48.3)	11 (18.3)	5 (8.3)
Dust particles	6 (10.0)	26 (43.3)	22 (36.7)	6 (10.0)
Noise pollution from factory plants and machinery and generators.	8 (13.3)	26 (43.3)	20 (33.3)	6 (10.0)
Water pollution	29 (48.3)	27 (45.0)	4 (6.7)	0 (0.0)
Open dump site for disposal of industrial solid waste.	33 (55.0)	23 (38.3)	4 (6.7)	0 (0.0)
Overstressed of infrastructural facilities.	29 (48.3)	20 (33.3)	11 (18.3)	0 (0.0)
Obstruction of view as a result of smoke.	10 (16.7)	20 (41.7)	23 (38.3)	0 (0.0)
Industrial emission as a result of burning fossil fuels from factory plants and machinery and	10 (16.7)	20 (33.3)	30 (50.0)	0 . 0
Indiscriminate sewage disposal	30 (50.0)	23 (38.3)	7 (11.7)	0 (0.0)
Gas flaring	14 (23.3)	17 (28.3)	27 (45.0)	2 (3.3)

Source: Author's Field Survey, 2024.

The environmental problem posed on residents by industrial activities in Table 4.4revealed that the highest percentage of the respondents (48.3 %) were of the view

of littleenvironmental problems, 25% opined that there are no environmental problems while just 26.6%claimed high environmental problems. As for dust particles, 43.3% indicated little environmentalproblems, practically 46.7% of the respondents' recorded high environmental problems whileonly 10% claimed no environmental problems. On noise pollution, the percentage (43.3 %)indicated little environmental problems finds uniformity with the percentage that claimed highenvironmental problems while just 13.3% embraced no environmental problems. As regardswater pollution, the highest percentage (48.3 %) claimed that no environmental problems exist;only 6.7% rated it high while 45.0% indicated little environmental problems.

The effect of open dump site for disposal of industrial solid waste is not greatly felt as thehighest percentage (55.0 %) recorded no environmental problems, 38.3% indicated littleenvironmental problems while just 6.7 % rated it high. From the result, the highest percentage(48.3 %) opined that infrastructural facilities were not overstressed, 33.3% indicated thatinfrastructural facilities were overstressed minimally while only 18.3% indicated highoverstressing of infrastructural facilities. Regarding obstruction of view as a result of smoke, thehighest percentage (41.7 %) indicated little environmental problems, 38.3% was of the opinionthat environmental problems is high while just 16.7% embraced no environmental problems.50.0% of the respondents opined that environmental problems as a result of industrial emission ishigh, 33.3 % held that environmental problems are little while only 16.7% claimed that theywere not affected. The highest percentage (50.0 %) of the respondents claimed that noenvironmental problems exist, 38.3% indicated little environmental problems while only 11.7%indicated high environmental problems. Conclusively, the highest percentage (48.3 %)practically indicated high environmental problems, 28.3% indicated little environmentalproblems while just 23.3% were of the opinion that no environmental problems exist. Theimplication is that there is little environmental problem generally from the occupiers' view.However, environmental problems such as dust particles, noise pollution, and obstruction ofview as a result of smoke from industrial emission were high. Also, there was no water pollution,open dump site, and overstressed of infrastructural facilities.
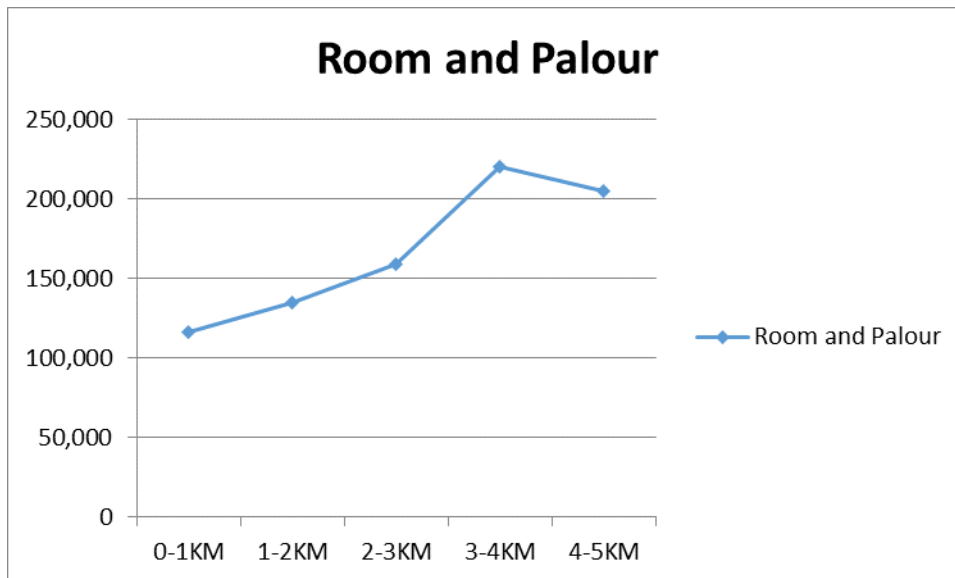
4.7 Examination of the rental value of the residential properties at varying distance from the industries.

Table4.8 Average rental value at varying distance

Distance from industrial sites	0 - 1 KM ₦	1 - 2 KM ₦	2- 3 KM ₦	3 - 4 KM ₦	4 - 5 KM ₦
Room and Palour	116,000	135,000	159,000	220,000	205,000
2-3 Bedroom Flats	223,000	265,000	356,000	323,000	358,000
3-4 Bedroom Bungalow	321,000	352,000	382,000	421,000	461,000
Detached Houses	463,000	500,000	550,000	610,000	666,000
Semi Detached Houses	440,000	478,000	519,000	554,000	619,000
Self-Contained	109,000	154,000	147,000	166,000	186,000

Source: Author's Field Survey, 2024

This section presumes the rental value of the residential properties as the distance is awayfrom the industrial area. 82.0% of the estate firm visited believed and agreed that nearness toenvironmental problems posed by the industrial sites affects rental values when placing value onresidential properties in the neighborhood and 84% said prospective tenants normally considernearness to environmental problems posed by Asa Dam area when aspiring to becometenants in the neighborhood. The study of varying distance in kilometer (KM) reveal that theaverage rental value per annum of these residential property types are as shown below in table4.7. From the average rental values of the different residential properties within the areaobtained, the trend in the properties values were obtained in figures below.
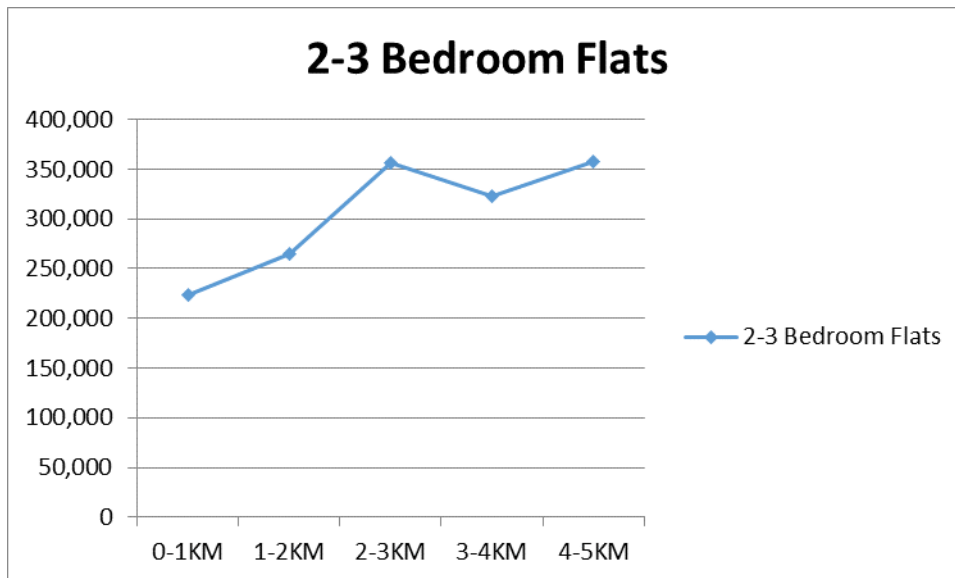
Source: Author's Field Survey, 2024.

From Fig. 1, the graphical representation shows that rental values of room and parlor(tenement properties) increases with increase in the distance of the residential properties from theindustries from 0-3 km away from the industrial sites but it increases sharply from 3-4 km awayfrom industrial sites. But drops in value as it tends toward 4-5KM away from industrial land use.This implies that people did not want to locate close to industrial sites and this also could be as aresult of the kind of property in terms of facilities and finishes of the properties and the occupier.

The increases in rental values from 0-3km away from the industrial sites can be inferred to meanthat rental values of Room and Parlor increases as they are located further away from theindustrial sites. The sharp increase in rental values for Room and Palor located 3-4 kilometersaway from the industrial sites may be as a result of the finishes and modern facilities provided inthem. And the relative decrease in rental values of Room and Palor located at 4-5 km away fromindustrial sites may be as a result of the finishes and facilities provided in the properties whichwere not up to standard as the one provided in Room and Palor located at the distance of 3-4 kmand the ones located at a distance of 0-3km away from industrial sites.

Fig 2: Trend in 2-3 Bedroom Flats

2-3 Bedroom Flats

Source: Author's Field Survey, 2024.

From Fig 2 the rental values of 2-3 Bedroom Flats increases from 0-2km as they werelocated further away from the industrial sites which explains the effect of industrial activities onthe rental values of these properties. Also, the rental values of 2-3 bedroom flats increases moresharply from 2-3km away from the industrial sites probably as a result of the physicalattractiveness as a result the finishes as well as facilities provided in them. However, the rentalvalues of 2-3 bedroom flats drop in value from 3-4km away from industrial land use and thismay be inferred to mean that the finishes and facilities provided in them were not up to standardas the ones provided in that of 2-3 bedroom flats located at a distance of 0-2km and 2-3km awayfrom the industrial sites. And lastly, the rental values of 2-3 bedroom flats located at a distant of4-5km away from industrial sites continues to be on increase after the drop in value experiencedin the rental values of 2-3 bedroom flats located at a distance of 3-4km away from the industrialsites.

Fig. 3: Trend in 3-4 Bedroom Bungalows

3-4 Bedroom Bungalow
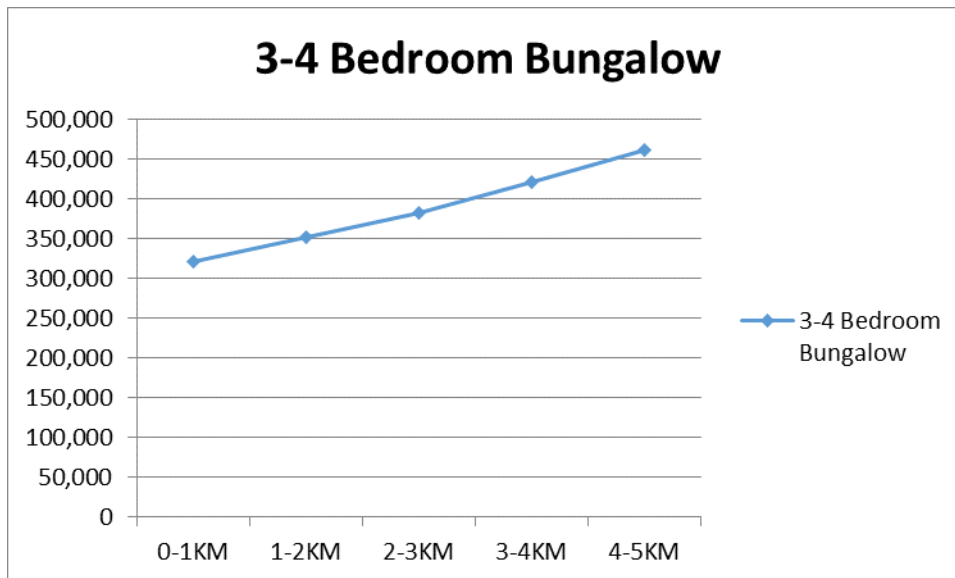
Source: Author's Field Survey, 2024.

In figure 3 the rental values of 3-4 Bedroom Bungalow continue to be on increase at thesame rate from the distance of 0km-5km away from industrial sites without any drop in value.

This may be implied to mean that the rental values of this type of property in Asa Dam areaincrease in value as they are located further from the industrial sites or industrial land use. Theuniformity in the increase in values at varying distances (i.e. 0-5km) from the industrial sites canbe inferred to mean that all these type of residential properties in Asa Dam are well finished andprovided with good facilities which suit the taste of their occupiers even though they might notof equal standards.

Fig. 4: Trend in Detached houses property
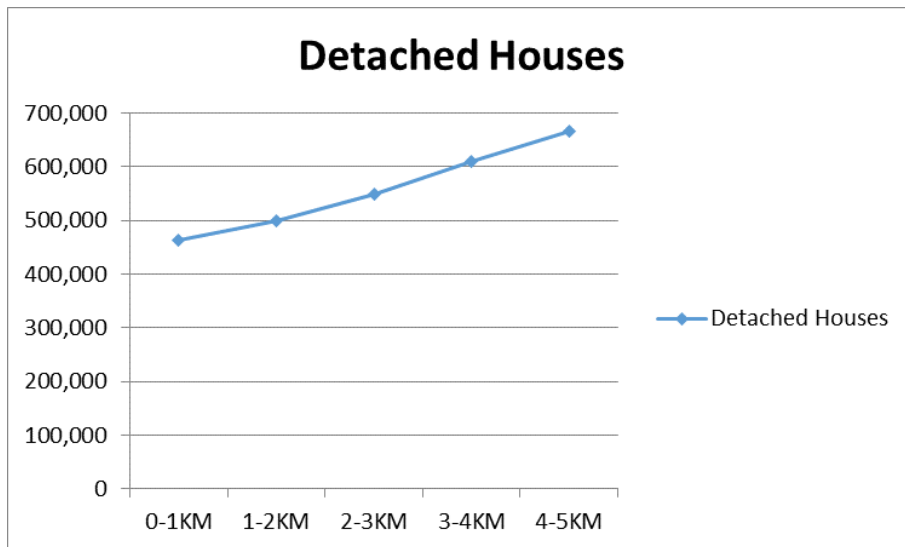
Detached Houses

Source: Author's Field Survey, 2024.

From figure 4 the graph shows a continuous increase in the rental values of DetachedHouses as they were located further from the industrial sites or industrial land use from 0-5km,this may be due to the fact that occupiers may not want to live close to industrial activities andwant to live further away from industrial activities and causes the demand for this type ofproperties to continue to be on the increase with increase in distance of the location of this typeof properties from the industrial sites. And as the demand for this type of properties continues tobe on the increase at various distances from the industries, the price (rental values) of this type ofproperties continues to increase at varying distances.

Also in figure 4, the rental values of Detached Houses continue to be on the increase atequal rate as they were located further from the industrial sited from 0-5km, this implies that allthis type of property in Asa Dam area, Ilorin were well finished and physically attractive and thefacilities provided in them were up-to-standard as they were developed or designed to beoccupied by the middle and high class house-holders.

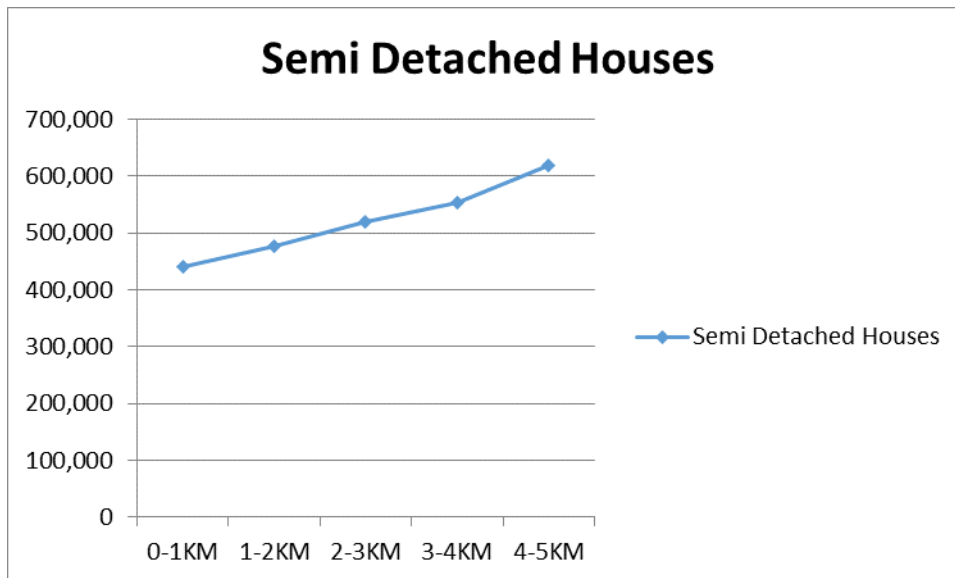**Fig. 5: Trend in Semi Detached Houses property**

Source: Author's Field Survey, 2024.

From figure 5 the graph shows a continuous increase in the rental values of SemiDetached Houses as they are located further from the industrial sites or industrial land use from0-5km, this may be due to the fact that occupiers may not want to live close to industrialactivities and want to live further away from industrial activities and causes the demand for thistype of properties to continue to be on the increase with increase in distance of the location ofthis type of properties from the industrial sites. And as the demand for this type of propertiescontinue to be on the increase at varying distances from the industries; the price (rental values) ofthese type of properties continues to increase at varying distances.

Also in figure 5, the rental values of Semi Detached Houses continue to be on theincrease at equal rate as they are located further from the industrial sited from 0-4km, thisimplies that all this type of property in Asa Dam area, Ilorin are well finished and physicallyattractive and the facilities provided in them are up-to-standard as they were developed ordesigned to be occupied by the middle and high class house-holders. However, the rental valuesof semidetached houses located at the distance of 4-5km from Asa Dam inIlorinarea, Ilorin increases slight sharply than those located at a distance of 0-4 km awayfrom the industrial site, this may be that the finishes and the facilities provided in them is higherthan those provided the ones located at a distance of 0-4km away from the industry.

Fig.6: Self-contained property.
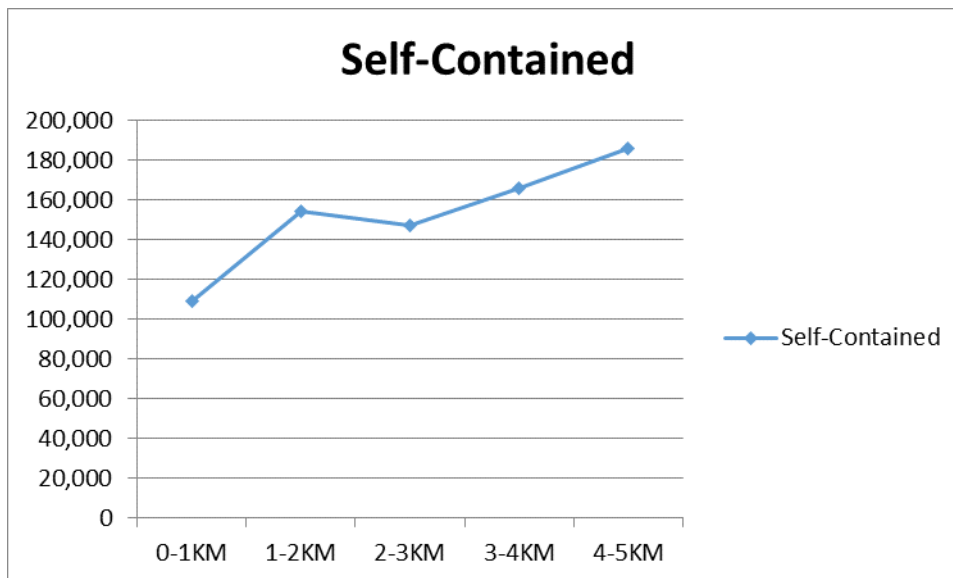
Source: Author's Field Survey, 2024.

In Fig. 6 the graph shows that the rental values of Self- Contained type of property firstincreases sharply as they are located further from the industrial sites at a distance of 0-2km, andlater drop in value at a distance of 2-3km away from the industrial sites. However, the rentalvalues for this type of property continue to be on the increase at the same rate at a distance of 3-5km from the industrial sites this may be as a result of the finishes and facilities provided in themwhich may be less in standard than those provided in the one's located at a distance of 0-2kmaway from the industries and greater in standard than those provided in the ones located at adistance of 2-3km. For the self-contained type of property located at a distance of 0-2km awayfrom the industrial site, which experience sharp increase in rental values, it may be inferred thatit may be as a result of such properties increases in value as they were located further from theindustrial sites and that the finishes and facilities provided in them are of modern and up-to-datetype which makes their demand to be on the increase and pushed the rental value up. Also, thedecrease in rental values of self-contained property type located at 2-3km away from theindustrial sites may be inferred to mean that the finishes and facilities provided in them were notup to standard as the ones provided in the residential properties (self-contained type) located at adistance of 0-2km away from the industrial land use.

Generally, from the graphical representation stated above, the rental value increases withincrease in the distance of the residential properties from the in industries only just tenements(room and parlor, 2-3 bedroom flats, and self-contained) which drop in value at some specificdistances but other property especially 3-4 Bedroom Bungalow, Detached houses and Semi-Detached houses all increases in rental value as it moves further away from the industries. Thiscould be as a result of the kind of property in terms of facilities and finishes of the properties andthe occupier. In that the property that does not drastically increases, might be a sub-standard orthe demand for such property is low when compared to those that increases with the increase indistance. As result of this, it is observed from the research that virtually 80.0 % firms visitedrelayed that they review the rental value every 2-3years.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENSATION

5.1 **Introduction**

The primary focus of this dissertation is to examine the critical analysis of industrial estates on residential residence. In the previous chapter, data have been analyzed based on the information obtained from the field survey based on the stated objective. This section summarizes the findings of the research work carried out which was the central focus of this study, and to make essential recommendations and conclusion based on the study.

5.2 Summary of Findings

Location of Industries

Asa Dam road area, Ilorin is specifically zoned for industrial purpose however, there are rows of residential properties located close to them which was physically observed through field survey or inspection. And the pattern of the industrial sites or industrial land use is Dense or Compacted (i.e. located close to one another in the neighborhood). The effect is that the environmental problems produced by these industries which are densely located will be enormous on properties located close to them and the effect will decrease as residential properties are located further away from them (i.e. at varying distances). The industrial activities in Asa Dam road include printing, cement factory, large scale poultry and livestock production, fisheries and horticulture, chemical and pharmaceuticals, welding, construction and engineering, etc. However, the predominant activities in this area are manufacturing.

Environmental Problems Posed on the Residents by the Location of the Industries

The study investigated the reaction of the occupiers to the problems posed by industrial location on residential property values in Asa DamIlorin as it affects their stay in the neighborhood and consequently residential property values. Such

environmental problems include offensive odor, dust particles, noise pollution, obstruction of view, industrial emission, gas flaring, etc.

From table 4.4 most of the respondents (occupiers) perceived offensive odor to be little (48.3%), and some opined that there is little offensive odor (25%), dust particles are relatively high (36.7%) as compared with the view of some respondents that claimed that dust particles are little (43.3%). Noise pollution is also relatively high (33.3%) as compared with the views of other respondents that claimed that there is no noise pollution (43.3%), water pollution is very minute or the problem of water pollution is inconsequential. There are relatively little open dump sites according to respondents (45%) as against the view of most respondents who claimed that there is no open dump site (48.3%). Obstruction of view is high (38.3) according to respondents as against the response of most respondents that obstruction of view is low (41.7%), Industrial emission is high (50%), the environmental problem of indiscriminate sewage disposal is very small according to respondents. And gas flaring is high (45%) as a result of emission of gas from industrial plants. On overall environmental problems 48.3% of the respondents indicated high environmental problems, some of the respondents indicated 28.3% for little environmental problems which indicates that environmental problem is high.

Impact of the Environmental Problems on the Rental Values of Residential Properties

In table 4.5, the impact of environmental problems on residential rental values in Asa DamArea is 54.0% according to responses of the estate firms. They declared that reduction in rental values of residential properties had fairly impact on the rental values. For reduction in rental values, the effect of environmental problems is very little as it doesn't really affect rental values of residential properties obtainable in the area probably as a result of nearness to sources of employment opportunities, the effect of environmental problems on the sale or letting of residential properties in Asa Dam is very small and minor as such environmental problems doesn't prevent people from buying and occupying affected properties probably because it is located close to sources of employment opportunities. The environmental problems don't prevent estate firms from selling or letting the properties they manage in Asa Dam. Even though there is presence of environmental problems, estate firms who manages

residential properties located close to Asa Dam Industrial area have not been experiencing decreases in demand for residential properties in the area either for letting or for sale according to their responses. According to the estate firms who manages residential properties located close to industrial properties in Asa Dam area, there is virtually no Stigma effect. On the part of the occupier, 60.7% claimed that industrial land use has impact (moderate impact) on prevailing rent being paid and 60% of the occupiers who responded believed that the effect of industrial land use on rent paid on residential properties located within Asa Damis moderate. More so, only few estate firms (9.2%) opined that Asa Damarea has positive impact on neighboring residential property values.

Rental Values of Residential Properties at Varying Distances from the Industries

In table 4.6, according to responses of estate firms managing residential properties located close to Asa Dam, majority of the estate firms visited believed and agreed that nearness to environmental problems posed by the industrial sites affects rental values when placing value on residential properties in the neighborhood and 84% opined that prospective tenants normally considers nearness to environmental problems posed by industrial estate when aspiring to become tenants in the neighborhood.

Generally, according to fig 1-7 in chapter four, rental values increases with increases in distances of residential properties from the industrial sites and just only Room and Parlor, 2-3 Bedroom Flats, and Self Contain drop in value at some specific probably because there might because there might be little demand for such properties as compared with other properties especially 3-4 Bedroom Bungalow, Detach and Semi Detach Houses which increase in rental values as they are located further away from the industries at varying distances.

5.3 Conclusion

There is concentration of industries in Asa Damand they are densely located or compacted (located close to one another), and the prevailing activities in the industry is manufacturing. Overall environmental problems according to the research result

based on the views of the respondents indicated high environmental problems, some of the respondents indicated little environmental problems which indicates that environmental problem is high in Asa Dam according to the views of the occupiers especially environmental problems such as dust particles, noise pollution, and obstruction of view as a result of smoke from industrial emission is high. However, there is no water pollution, no open dump site, and no overstressed of infrastructural facilities.

According to responses of estate firms the environmental problems posed by industrial sites does not really affect residential property values (i.e. can't reduce rental values of the affected property) as a result of relatively high demand for such properties in the neighborhood probably because it is located close to sources of employment opportunities and/ or probably it is located close to where desired goods and services can be easily obtained at cheaper prices by the occupiers. Even though residential properties are located close to Asa Dam, according to responses of estate firms, it has not been causing any delay or prevention in the sale or letting of the affected properties. Lastly, Majority of the estate firms who responded claimed that property values increases in rental values with increase in distances but some properties such as room and parlor, 2-3 bedroom flat, and self-contain increase in rental values at varying distances but drop in value as it tends towards some specific distances probably because there might be relatively little demand for such properties as compared with other types of properties and that the facilities and finishes of such properties might be below modern standard.

5.4 Recommendations

Based on the findings of this study, it is therefore recommended that government should regulate the emission levels of industries through its agencies. There should also be cleaning up of contaminated environment emanated from industrial activities which must be made compulsory by government through its agencies to be performed by industrialists. Also, residential properties should not be approved for development by town planners in the areas that is zoned for industrial purpose. And finally, both government and private investors should endeavor to locate their manufacturing industries in areas that are less developed for rural development, industries can also use modern equipment that is environmentally

friendly and that will cause little emission or that will remove harmful substances from gases (pollutants) and release harmless gases into the atmosphere.

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APPENDIX 1

DEPARTMENT OF ESTATE MANAGEMENT

KWARA STATE POLYTECHNIC, ILORIN

KWARASTATE, NIGERIA.

TO BE COMPLETED BY ESTATE FIRMS

Dear Respondent,

This questionnaire is designed to collect information for a HND research work titled "the critical analysis of industrial estates on residential residence " with a view to identifying the environmental problems posed on residents by the location of industry and to examine the impact on the rental values of residential properties in Asa Dam, Ilorin, KwaraState, Nigeria.

I assure you that the information provided will be used strictly for academic purpose and kept confidential. Kindly complete the blank spaces and tick the appropriate boxes as applicable.

Thank you.

(Please fill and tick where appropriate)

SECTION A

1.   Name of Firm: ....

2.   Office Address ....

3. Number of Years in in Operation: a) 1 - 5 [   ] b) 6 -10 [   ] c) 11 - 15 [ ]
d) 16 and above   [   ]

4. Does your firm manage any residential property around Champion Breweries? a)
    Yes [   ]   b) No   [   ]

5. If yes, how many residential properties in Champion Breweries does your firm
    manage? ....

6. What are the services you render? a) Estate Agency   [   ]   b) Property
    Management   [   ]   c)   Property   Valuation   [   ]   d)   Others(Specify)
    ....,.

7.   Sex of respondent: a) Male   [   ]   b) Female   [   ]

8. Educational Qualification: a) OND   [   ]   b) HND   [   ]   c) B.Sc [
    ] d) M.Sc [   ]   e) others (specify)   ....,.............,.

9. Professional Qualification: a)   Graduate   [   ]   b)   Probationer   [   ]

c) Associate   [   ]   d) Fellow [   ]   e) PPNIVS   [   ]

SECTION B

10. Does Industrial land use of Asa Dam affect residential property values?   a)
    Strongly Agree [   ]   b) Agree   [   ] c) Undecided   [   ]   d)
    Disagree   [   ]   e) Strongly Disagree   [   ]

11. How does an environmental problem posed at Asa Damhave Impact on nearby
    residential rental values?

Impact on Residential Values.	Strongly Negative Impact	Fairly Negative Impact	Minor Negative Impact	No Negative Impact	Positive Impact
Reduction in rental values of properties					

Prolong the period to let or to sell.					
Unable to sell or let.					
Decrease in demand for residential properties in the neighbourhood.					
Stigma Effect.					
Others (Specify)					

12. How often do you review rent passing on residential properties in Asa Dam? a) Every 4 years [   ] b) Every 3 years   c) Every 2 years [   ] d) Every year   [   ]

SECTION C

13. Do you consider nearness to environmental problems posed by Asa Dam Sites when placing value on residential properties in the neighborhood?   a) Yes[ ] b)No   [   ]

14. Do prospective tenants normally consider nearness to environmental problems posed by Asa Damwhen aspiring to become tenants in the neighborhood? a) Yes [   ]   b) No [   ]

15. If yes to question 14 above, kindly fill the rental values for the following residential properties managed by your firm a distance from Asa Dam.

Distance from industrial sites	0 - 1 KM	1 - 2 KM	2- 3 KM	3 - 4 KM	4 - 5 KM
Room and Palour					
2-3 Bedroom Flats					

3-4 Bedroom Bungalow		56			
Detached Houses					
Semi Detached Houses					
Self Contained					
Others (Specify)					

Thank you for your kind gesture in completing this questionnaire. The time spent is highly appreciated.

DEPARTMENT OF ESTATE MANAGEMENT

KWARA STATE POLYTECHNIC, ILORIN. NIGERIA.

TO BE COMPLETED BY THE OCCUPIERS

Dear Respondent,

This questionnaire is designed to collect information for a HND research work titled "The Impact of Industrial Property Location on Residential Property Values in Ilorin" with a view to identifying the environmental problems posed on residents by the location of industry and to examine the impact on the rental values of residential properties inAsa Dam Ilorin, KwaraState, Nigeria.

I assure you that the information provided will be used strictly for academic purpose and kept confidential. Kindly complete the blank spaces and tick the appropriate boxes as applicable.

Thank you

(Please fill and tick where appropriate)

SECTION A

1. Sex   a)   Male   [   ]   b)   Female   [   ]

2. Age   a) Below 30   [   ]   b)   30 - 40   c)   41 - 50   d)

   51 - 60 [   ] e) 61 - 70   [   ]

3. Marital Status   a)   Single   [   ]   b)   Married   [   ]   c)

Widow   [   ]

4. Educational Background   a) No formal education   [   ]   b)   SSCE

[   ]   c) Tertiary institution   [   ]

5. Occupation   a) Civil Servant   [   ]   b) Trader   [   ]   c)   Apprentice [

     ]

d) Student   [   ] e) Others (Specify) [   ]

SECTION B

6. How long have you been living in Asa Dam?   a)   1 - 4 years [   ]

 b) 4 - 8 years   [   ]   c)   8 - 12 years [   ]   d)   12 - 20 years [   ]

 e) Others (Specify)...........................

7. What type of property do you live in?   a) Room and Parlor   [   ]   b) 2 -3
    bedrooms flat   [   ]   c)   3 - 4 bedroom bungalow   [   ]   d) Self contained
    [   ] e) Detached house   [   ]   f) others (specify).................................

8. How would you describe the composition of your neighborhood?

a) Very Satisfied   [   ]   b) Satisfied   [   ] c)   FairlySatisfied [   ]   d)
Dissatisfied   [   ]

9. Does the industrial land use have any effect on the rent you pay?

a) Strongly Agree [   ]   b) Agree   [   ]   c)   Undeceive   [   ]

d) Disagree   [   ]   e) strongly disagree [   ]

10. What kind of effect does the industrial land use have on the rent paid?

a) Excessively High   [   ]   b) High   [   ]   c) Undeceive [   ]   d)   Moderate [
    ]   e) Low [   ]

11. Do you benefit from the industrial land use? a) Strongly Agree [   ] b) Agree
    [   ]   c)   Undeceive [   ]   d) Disagree [   ] e) Strongly
    disagree [   ]

12.   How   much   are   you   paying   for   rent   in   your   apartment?
     ....

13.   How far is the Industry to your residence?

a) 0 - 1 KM   [   ] b) 2 - 3 KM   [   ]   c)   3 - 4 KM   d)   4 - 5 KM   [
    ]

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14. What are the environmental problems posed on residents by industrial activities
and to what degree?

Environmental Problems	No Environmental Problems	Little Environmental problems	High Environmental Problems	Very High Environmental Problems
Offensive odour (i.e. from chemicals and industrial waste).				
Dust particles				
Noise pollution from factory plants and machinery and generators.				
Water pollution				
Open dump site for disposal of industrial solid waste.				
Overstressed of infrastructural facilities.				
Obstruction of view as a result of smoke.				
Industrial emission as a result of burning liquid fuels from factory plants and machineries and generators.				
Indiscriminate sewage disposal				
Gas flaring				

Thank you for your kind gesture in completing this questionnaire. The time spent is highly appreciated.

CHAPTER ONE

1.0   INTRODUCTION

1.1   BACKGROUND OF THE STUDY

A well located product can often survive economically even if development is poorly planned and managed. A project that is not well

located may fall even though it has the best planning and management and even design, Cassiay (2005).

Today, many investors in real estate have no regret for taking a wise decision in site section while many still regret choice of bad location.

The relative location of a parcel of land is what determines it value. This, the place, this refers to the nature of the road network i.e. rough, smooth undulating to other use wise. All these inquires have been observed in order to make alteration where necessary and avoid future occurrence, hence considering the work in respect of the effect of location of tertiary institution on property value.

1.2 STATEMENT OF PROBLEM

This project critically examines or gives an understanding of the effect of location on property value. These projects also gives an understanding on how to choose or to locate a suitable site for a property and adequately to know the present property value so as to have a fruitful business and allows the people in the institution have a befitting and credible knowledge and accommodation.

Some estate surveyors find it difficult to know the value of a property in some selected area. So in these cases, some research topics have been treated by scholars to the effect of location on property value. These dissertation as therefore aimed at bringing to limelight the fact that

property value is an important aspect of utilizing a property through which enormous problem of valuation could be tracked if necessary attention is given appropriately.

Research questions

➢ What is the general effect of location of tertiary institution on the property value in the study area?

➢ What are the different types of property within the study area.

➢ What is the level of development in the imam Hamzat College of Education in study area?

➢ What is the recommended possible solution to the effect caused by location on property value.

Aim and objectives of the study

The aim of this study is to examine the **Effect of Location of Tertiary Institution on Property Value.**

Objectives of the study are:

➢ The establishment of education institution is as diverse in its effect of rental value of residential property and it serves as platform to encourage.

➢ A well located product can often survive economically, even if development is poorly planned.

➢ To identify the trend of rental values of property market located close to higher institution to achieve this residents.

➢ To determine the impact of tertiary institution on house rental value in developing of hosing policy with aim of achieving the objectives of obtaining the optional used.

➢ The objectives of the study are to analyze and determine the relative roles of location and neighbourhood characteristics in the determination of residential.

1.5   SCOPE OF THE STUDY

This project deals with the effects of location on property value but the scope of the study shall be restricted to a tertiary institution which is **Imam Hamzat College of Education** located at Oko-Olowo Express Way Ilorin Kwara State and its environment. We shall be focusing on how location can affect property value and how the problems can be solved.

1.6   LIMITATION OF THE STUDY

Though, it is the intention of this research to present a comprehensive and detailed study on this subject matter (the effect of location of tertiary institution on property value). Nevertheless the following constraint to limit this laudable intension.

❖ insufficient textbooks in relation to the work for the purpose of literature review

❖ financial constraint which directly or indirectly affects he gathering of information and data being used.

❖ Lack of previous studies in the research area which is an important part of any research because it helps to identify the scope of works that have been done so far in research area.

❖ Scope of discussions: there isn't many years of experience of conducting researches and producing academic paper of such a large size. Individually the scope and depth of discussions in this research is compromised in many level compared to the works of experience scholars.

❖ Methods/instruments/techniques used to collect data the way or manner in which the data was obtained.

❖ Insufficient sample size for statistical measurement:- it is important to have a sufficient sample size in order to identify significant relationships in the data.

❖ Short time required in completing and producing the dissertation not withstanding the above short comings, everything is possible to ensure a comprehensive dissertation was undertaken.

1.7 STUDY AREA

Imam Hamza College of Education was established in September 2018 after a provisional approval was granted by NCCE. The institution was founded by a recognized Islamic Cleric, **FADHILAT SHEIKH IMAM HAMZA YUSUF ABDULRAHEEM.**

The objective that leads to the establishment of this Institution is to promote research and development that contribute to the production of professionally skilled, academically sounds and intellectually fit teachers that would propel the Nigeria educational system to higher height that would meet up with the dynamics of the society and global expectation.

The college has a governing council made up of eighteen (18) members, the councils is responsible for general supervision and control of the college. There is a provost, who is he administrative and academic head of the college. He is responsible for the execution of policy decisions of the councils. The provost is assisted in his schedule of duties by a deputy provost appointed by the governing councils.

The college register, Bursar, Liberian and Director of works are the other Principal Officers of the college appointed by the college councils, they assist the provost in the running of the affairs of the college. The college has an academic board with provost as chairman. The college was granted provisional approval by the National Commission for Colleges of Education (NCCE) Abuja in 2018.

The Institution is privately owned and founded by **FADHILAT SHEIKH IMAM HAMZA YUSUF ABDULRAHEEM ARIYIBI, ARIYIBI** Compound, Oke-Apomu in Ilorin Kwara State, He is an extra ordinary Islamic cleric, a philanthropist and God fearing achiever. His track records as a lover of education (both Arabic and Western) loom

large and wide through his Islamic training Institute (Kuliyyah Imam Hamza Littalivail Arabiy Wad-Dirasahl Islamiyah) and secondary school is known as **IMAM HAMZA GROUP OF SCHOOLS.** It is reputed for consistent academic excellence, handwork and integrity, have occupied top positions in the SSCE examinations in Kwara State.

The College is lying at its permanent site located at Oko-Olowo Area, along new Jebba Express way Bode-Saadu, it connects Kwara State with Niger State, which is Moro Local Government. Moro is a Local Government Area in Kwara State, it has area of 3,272km^2 and a population of 108,792 at the 2006 census, the Local Government was created out of Ilorin native authority in 1976; the city which lies along Lagos, Kaduna Highway was founded in the 18th century by the Duo of Afonja – Are - Onakakanfo, a Yoruba warlord and Sheikh Alimi and Islamic scholars. It is the one of the largest cities in Nigeria and its capital is Kwara State. As of year 2009 it had a population of 847,882 people but increase to 958,693 at 18th of January 2013. The overall goal of the college is summed up in its motto "Morals and Religious Values"

1.8 DEFINITION OF TERMS

There are some relevant terms used in this topic which needs to be neatly and well understood these are:

1. **Property**: according to Mckay, John P(2004) property can be defined as any physical or tangible entity which is owned by a person or

group of people or an entity like a corporation. Depending on the nature of the property a owner of a given property has the right to consume, sell, rent, mortgage, transfer, exchange or even to destroy it.

ii.   **Institution**: according to G.M. Hodgson (2006), institution can be defined as an establishment, foundation or organization created to pursue a particular type of endeavour or goal e.g. school by a academic institution, banking by a financial institution.

iii.   **Location**:-the term "Location" according to Gersinen P.(2008) in geographical are used to notice or identify a print of an area on the earth's surface or elsewhere. The term "location" generally implies a higher degree of certainty then "place" which often has an ambiguous boundary relying more on human and social attributes of place identify and sense of place than and geometry.

iv.   **Value**: this has different meaning according to different scholars but Ban bright, (1937) said that value is been to define the importance of business and economic undertaking. It implied the capacity of a commodity to satisfy wants, it can also be related to political, social and religious issues.

v.   **House**: according to (stanchack, John(2000) civil war geographical hard book, house can be defined as a place of residence or refuge, when it refers to a building, it is usually a place in which an individuals or a

family can live and store personal property such as single family "detached home or an apartment".

CHAPTER TWO

2.0   LITERATURE REVIEW

2.1   HISTORICAL BACKGROUND OF THE STUDY

The first edition of property valuation was published some thirty years ago not two long after one of these market correction that despite their inevitability see always to catch a new generation of investors and developers by surprise, indeed, notice that as each new edition has been published there has been plenty of evidence of the frequency of these up and down.

Now with the publication of this fifth edition after thirty years ad the evitable transition from the vitality of youth to the fining of old age. It seems fitting that the authorship of property value should now move into entirely of editions (Green O.K) (1979)"Real Estate Appraisal Handbook".

Real Estate Appraisal "Valuation" is very complicated expensive and time consuming activities in carrying out these activities. The implementation of a comprehensive due diligence process to determine the feasibility of any proposed project is essential(Thomas T. 2006) "property valuation publisher" although property issues vary from to province land.

2.2   GENERAL PRINCIPLE OF PROPERTY VALUE

Property valuation principle comprises of significant component of total australism economic output in making the kind of appraisal called valuation. The subject property should first be classified as investment property, marketable non-investment or services property. An investment property can be valued only by the sales analysis method and a services and a service property. The value usually sought is the property's market value. Appraisal are need because compared to say corporate seats real estate transactions occurs very infrequently, not only that but every property is different from the next and a factor that doesn't affect asset like Corporate Stocks (Henry A Babcock June, 1975).

Furthermore, all properties differ from each other in their location while is important factor in their valuation so a centralized auction setting can't exist for the trading of property asset. Such as exists to trade corporate stock (i.e. a stock market/exchange) usually however, most countries or regions require that appraisals be done by a licensed or certified appraised (in many countries knows as a property valuer or land valuer and in British as "Valuation Surveying").

2.3   PROBLEMS ASSOCIATED WITH PROPERTY VALUE

One of the major problems of property valuation is finance. The focus of this study is to examine the problems that are associated with the really property valuation finance in Nigeria. The study attempt to explore the various sources of finance that are available for real estate property

with a view to determining the problem that bafus effective flow of pounds to achieve this, some estate surveyors and valuers that engage in real property valuation recommends among others the Nigeria government should try to solve it economic the problem that hinder the financing on property valuation.

2.4 METHODS OF PROPERTY VALUATION

There are different methods through which time which include:

1. Direct comparison

Direct comparison: is the most widely used method as well as other nature markets. The property under consideration is directly compared with similar properties which have been sold recently and a valuation is arrived on the basis of comparison.

The reason behind this method is that the best evidence of value is the price paid for similar properties. This method works well in a publicized property market but if and only if the market works reasonably rationally.

Direct comparison is also quick and straight forward, and is the best method for valuating standardized units in housing estate. Even if a value uses other methods he will invariably have recourse to the method or comparison as well (Udechuckwu, C. ((2000) "Introduction to Valuation Trem Nigeria Limited".

(ii) Appraisal or valuation

By literal Chinese translation is normally referred to as "price guessing" but the word valuation implies the objective is to assess "value", not to find "price" such as a translation does no help very much is defining the exact rationale of appraisal. Appraisal is a process of collecting market data, analyzing that variables and making a judgment that investment approach is a valuation method that requires property professionals to be well versed in the process.

In its simplest form, the investment approach means the summation of all future (discounted) rental income. This is a very logical assertion of property value as no one will buy a property at a price that is higher than the total income it can generate. On the other hand, no owner will sell at a price that is smaller than the total income the property can generate or he may as well keep the property for rental income himself.

The process of summation is called capitalization which takes the present values of these future rental incomes into consideration, in an inflationary economy, it is normally expected that a dollar receivable this time next year is worth less than the same dollar today. (George, C.K. (1999) "Basic principle and method of valuation, Lagos-Library Book"

2.5   CONCEPT OF LOCATION

Concept of location is primarily concerned with the origin and early development of that concept in ancient geography. It as also concerned with the significance of the concept today. In the twenty

century geographers have been almost continuously of environmentalism and landscape of regional geography yet it contains one of the least well defined terms in the vocabulary of geographical studies, largely a negative theme and a tool for critism, descriptive concept (Lukeman (2000). "effect of location and space"

It is from these perspective that classical geographical well be examined if today location is the measure of all thins. Geographical. The unquestionable possession of our science, our very own, that can be called "geographical". In their case with a higher right than any other elements then it must be the central theme of the earliest geography as well.

CHAPTER THREE

3.0   RESEARCH METHODOLOGY

3.1   INTRODUCTION

This chapter is based on the process of arriving at a dependable solutions to the problem intended to be solved by this project topic **"EFFECT OF LOCATION OF TERTIARY INSTITUTION ON PROPERTY DEVELOPMENT " A CASE STUDY OF IMAM HAMZA COLLEGE OF EDUCATION**

It is described with special focus on the study population, data collected, responses as well as the process of data collection

3.2   SOURCES OF DATA COLLECTION

The data collection phrases of research investigates draws on two main sources information which is distinguished as primary sources and secondary source.

i.   primary source

ii.   secondary source

I.   Primary sources: these are original data gathered specifically for the specific project at hand. They are information that is originated directly as a result of the particular problem under investigation.

ii.   **Secondary source**: these are data collected which requires existence in an accessible form and merely have to be found. Information

collected from these sources is from the manager and dealer of the concerned institution.

3.3 METHODS OF DATA COLLECTION

In carrying out investigation for data collection, many avenue were explored for information sourcing, there sources include information from.

i.   Oral interview

ii.   Questionnaire administration

iii.   Direct or visual observation

i.   **Oral interview**: oral interview is used as supplement to these questions. It is used to further investigate and follow up answers, given by the respondent which at the time of preparing the question where not anticipated.

ii.   **Questionnaire administration**: the questionnaire is an instrument for gathering data beyond the easy physical reach of the research. It consists of a set of question designed to gather information for analysis. The result of which are used to answer the research question or used for the last of relevant hypothesis. The questionnaire designed in line with the above principal were used primarily to obtain information from people like lecturers, staffs and even the students

iii.   **Direct or visual observation**: this involves physical inspection of the location in order to observe different types of people available in the

area/level of development available in the case study disrepair and possible obsolescence.

3.4   SAMPLE SIZE

The sample size of this research work is based on **IMAM HAMZA COLLEGE** Ilorin, which the researcher studied the population of both the student and the developers in the study area.

3.5   METHOD OF DATA ANALYSIS

The information gathered for this dissertation were presented and analyzed through distribution represented by way of tables

CHAPTER FOUR

4.0   DATA PRESENTATION

4.1   INTRODUCTION

This research work was conducted to shed more light on the **EFFECT OF LOCATION OF TERTIARY INSTITUTION ON PROPERTY VALUE**, A case study of **IMAM HAMZA COLLEGE OF EDUCATION ILORIN, KWARA STATE**.

This chapter contain the analysis and interpretation of collected data and opinion of respondents, they are tabulated, analyzed and interpreted using simple percentage system chosen by the researcher and some data presented. The information gathered is presented in a tabular form and interpreted briefly accordingly for the purpose of academic convenience.

TABLE 1 DISTRIBUTION OF RESPONDENT

Variables	Numbers of respondents	Percentage
Student	30	63.82
Landlords	17	36.17
TOTAL	**47**	**100**

Source: Field Survey, 2023

From the above table, it can be see that 63.82% of the respondents are students while 36.17% are landlords.

4.2 LAND USE PATTERNS IN THE STUDY AREA

The land use pattern of an area means the various ways and manners that is available land parcels are utilized in that area or society. One of the most fundamental characteristics of land is its fixed location in space. This fixed location factor of land makes it easy for man to establish and exercise ownership right over surface units of the earth. But in exercising of his ownership right, men most at the same time use land where he finds it. He has no alternative of moving low value and to a location.

There is no comprehensive statistics about the land uses within this area as approved land use map to give the sizes of area covered by different land uses. The data from the surveyed conducted during the research work shows that land use in the area can be grouped into the following.

(a) Residential

(b) Commercial

(c) Agricultural

(d) Vacant land

The location of this institution i.e. **IMAM HAMZA COLLEGE OF EDUCATION** within the neighbourhood have attracted large population into its neighbourhood. This has further lead to increase in its demand for landed properties hence, a rise in property value. However,

before the shift in land uses, large population of land were being used mainly for residential purposes which are now being reduced daily as they are converted to other uses to meet the needs of the growing/developing area in terms of more residential, commercial and other uses.

4.3 TRENDS IN REAL PROPERTY VALUED WITHIN THE CASE STUDY

Since the establishment and location of the institution (**IMAM HAMZA COLLEGE OF EDUCATION**) in this locality values of landed property especially residential have witnessed unprecendented increase. This is due to demand and supply factors. Generally speaking, the various types of accommodation or building, especially in the area which have proved in adequate to cater for the upsurge in population that has risen mainly as a result of the movement of both student and staffs of the institution to the area.

Consequently, demand for accommodation and land for building was far above supply. This has succeeded in sky –rocketing the rental and capital value of few available properties. Also, landlord and land speculators capitalized on the above situations to demand very exorbitant rent/prices on real properties.

4.4 TABLE 2 DISTRIBUTION OF RESPONDENT BY SEX

Option	Frequency	Percentage
Male	28	59.57
Female	19	40.42
TOTAL	47	100

Source: Field Survey, 2023

Table 2 shows that 459.57% of the students are male while 40.42% were females this indicates majority of the respondent were male.

4.5   TABLE 3 HOW LONG HAVE YOU BEEN IN THE INSTITUTION

Option	Frequency	Percentage
0-1 years	12	25.5
2-3 years	18	38.3
4 years & above	17	36.2
TOTAL	47	100

Source: Field Survey, 2023

Table 3 shows that 25.5% of the student has been in the institution for 1 year while 38.3% are within 2-3 years and 17 people has been in the area for more than 4 years.

This indicates that there is an influx within the last 3 years which is as a result of the school establishment in the case study.

4.6   TYPES OF PROPERTIES

TABLE 4

Option	Frequency	Percentage
Tenement	12	25.5
Bungalow	15	31.9
Private hostel	20	42.6
Others	-	-
TOTAL	**47**	**100**

Source: **Field Survey**, **2023**

Table 4 above shows the types of property within the study area, which states that 25.5% of the property are the tenement and 31.9% of the properties are bungalow, 42.6% are hostel and none of the respondent choose others. This shows that tenement, bungalow and private hostel are the types of properties within the study area.

4.7   TABLE 5

Rent passing within the study area before the establishment of the institution

Years	Tenement	Flat single room	2 bedroom	3bedroom
2014	12,000P.A	24,000P.A	40,000P.A	50,000P.A
2015	18,000P.A	30,000P.A	50,000P.A	60,000P.A
2016	18,000P.A	30,000P.A	50,000P.A	70,000P.A

2017	24,000P.A	36,000P.A	60,000P.A	70,000P.A

The table above shows that the rental value in the area before the institution was established. On tenement building, the rent in 2014 was #12,000P.A. and between 2015 and 2016 was #18,000P.A. while 2017 was #24,000P.A

The table also shows that the rent on single room in 2014 was #24,000P.A. and between 2015 and 2016 was #30,000P.A. while 2017 at the rate of #36,000.

The rent on 2 bedroom flat in 2014 was #40,000P.A. and increases to #50,000P.A. between 2015 and 2016 while in 2017 at the #60,000P.A. On 3 bedroom flat in 2014 was #50,000 P.A. then in 2015 it increases to #60,000P.A. and end between 2016 to 2017 increase to #70,000P.A.

TABLE 6

Rent passing within the study area after the establishment of the institution till present.

DATE Years	(P.A) Tenement	(P.A) Single room	(P.A) 2 bedroom	(PA) 3bedroom
2020	24,000P.A	36,000P.A	60,000P.A	72,000P.A
2021	24,000P.A	36,000P.A	72,000P.A	84,000P.A
2022	36,000P.A	42,000P.A	72,000P.A	90,000P.A

2023	36,000P.A	42,000P.A	90,000P.A	102,000P.A

Source: Field Survey, 2023

The above table shows the present value between the year 2020 and 2021 was 24,000P.A, while 2022 till date was increased to #36,000P.A for tenement.

The rent for single room flat in 2020 and 2021was #36,000P.A. and was increased to #42,000P.A. from 2022 till present date.

On 2 bedroom flat in 2020 was #60,000P.A. while in 2021 to 2022 was #72,000P.A. and was later increased in 2023 to #90,000P.A.

The rent passing within the study area on 3bedroom flat in 2020 was #72,000, in 2021 it was increased to #84,000P.A in 2022. It was #90,000P.A. while it was increased to #102,000P.A. in 2023.

4.8   EFFECT OF INSTITUTION ON POPULATION (TABLE 7)

OPTION	FREQUENCY	PERCENTAGE
Positive	35	74.5
Negative	12	25.5
TOTAL	47	100

Source: Field Survey, 2023

TABLE 9

Years	A plot	2 plots
2013	1000,000	200,000

2014	100,000	200,000
2015	120,000	240,000
2016	130,000	260,000
2017	150,000	300,000

Source: **Field Survey**, **2023**

The table indicates that a plot of land was sold within year 2013-2017 between 100,000 to 150,000 while two (2)) plots ranges from 200,000 to 300,000 respectively, this is so because many people considered this area to be out sketch of Ilorin which is very far from town then also underdeveloped.

TABLE 10

Years	A plot	2 plots
2019	400,000	800,000
2020	400,000	800,000
2021	550,000	1,100,000
2022	700,000 – 800,000	1,400,000 – 1,600,000
2023	800,000 – 900,000	1,600,000 – 1,800,000

Source: **Field Survey**, **2023**

The above table shows the amount which land is sold in the study area 2019 to 2020, a plot was sold at the rate of #400,000 and increase to #550,000 in 2021 while it increases to #700,000 to #900,000 between

2022 and 2023. The table shows that 2 plots was sold in the study area between 2019 and 2020 at the rate of #800,000 while in 2021 was sold at the rate of #800,000 while in 2021 was sold at the rate of #1,100,000 and increases to #1,400,000 to #1,800,000 in 2022 and 2021.

This increase was as a result of high demand of land for development purpose (residential and commercial purpose) and other purposes like educational because increase in population will lead to creation of other facilities like clinics, recreational centre, nursery & primary schools and also secondary schools.

TABLE 11

LEVEL OF DEVELOPMENT BEFORE INSTITUTION CAME INTO EXISTENCE

Options	Frequency	Percentage
Fully developed	2	4.3
Developed	5	10.6
Under developed	40	85.1
TOTAL	47	100

Source: **Field Survey**, **2023**

The table shows the level of development in the study area. 4.3% of the respondent says the properties were fully developed. 10.6% says they were partially developed and 85.1% says it is under developed. This

shows that the level of development in the area is low before the establishments of the institution, majority of land are underdeveloped.

TABLE 12

PRESENT LEVEL OF HOUSING DEVELOPMENT IN THE STUDY AREA

Options	Frequency	Percentage
Very high	15	31.9
High	16	34.0
Average	10	21.2
Low	6	12.8
TOTAL	**47**	**100**

Source: Field Survey, 2023

The table above shows that is respondents which represent 31.9% indicates very high level of development and 16 which represent 34.0% shows high level of development in the area and 10 respondents which represents 21.2% indicates that the level of development is average while 6 of the respondents says the level of development in he study area is still low.

TABLE 13

CONTRIBUTION OF GOVERNMENT TOWARDS HOUSING DEVELOPMENT IN THE AREA

Options	Frequency	Percentage
Yes	12	25.5
No	35	74.5
TOTAL	**47**	**100**

Source: Field Survey, 2023

The table above shows that 25.5% of the respondents says government have been contributing to housing development in the study area while 74.5% says the governments have not been contributing to housing development in the study area.

CHAPTER FIVE

5.0   SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1   SUMMARY OF FINDINGS

The Research carried out on the **Effect of location of Tertiary Institution on Property Value with A case study of Imam Hamza College of Education,** having summarize which comprises both positive and negative are hereby noted. It was discovered that;

➤ The establishment and location of the institution within the area and hence, hastened its rapid development

➤ That the location of the institution has tremendously to highlighting and improving the social economic, cultural and historical future of the area and as such impressing upon the area in the scheme of things in   as a whole.

➤ That physical development of the area in the term of improved accessibility resulting from increasing real property development and real property value has the considerably been enhanced. And this is attributed to the location of the institution within the area.

➤ There commercial activities such as trading, operating cybercafé (interest service) & business centre and improved due to concentration of higher population of student in the area.

- That the relationship between the levels of the institutional development and residential property values is a very strong one. For instance, it has been revealed from the research that the astronomical improvement or increase in the value of various categories of residential properties in the area was brought a bond either directly or indirectly as a result of the establishment and location of the institution within this locality and negatively it was found.

- That the rate of crime, juvenile delinquency and other social maladies have increased considerably consequences upon the location of the institution.

- There is no serious shortage of residential accommodation in the area and the few available real properties. Especially residential are commending rental as a result of the fact that demand are by far outweighs by supply which will eventually leads as overcrowding if care is not taken.

5.2   CONCLUSIONS

The purpose of the research work has been to assess and determine chiefly, the profound effects which the establishment of the institution **IMAM HAMZA COLLEGE OF EDUCATION** within the area, have had in residential property values in the whole. In also intended

to appraise its social economics (both positive and negative on the quality of lives of the area.)

And from the summaries of findings f it research work. The positive impact of the establishment and location of this institution with the neighbourhood outweighed and the negatives effects. Some recommendations have been made which helps at least mitigate the negative effects.

This again will not only enhance the quality of life but also the safety, good health and convenience of both the preset and future people within this neighbouthood of case study in particular.

5.3   RECOMMENDATIONS

Having considered the fact summarize above and supports the law of the governments revocation of land for overriding public interest cap 167 of act 1958. The following recommendations are therefore made:

1. Government should make sure that the acquire land are full and properties utilized for the purpose for which the land as been acquired to avoid a crisis from the acquired land.

2. For effectiveness and efficiency of valuation of various property there is need for the employment of adequate professionally qualified value (i.e) qualified Estate Surveyors & Valuers and other professional that can aids effectiveness and of property development

3. Appropriate legislation, conflicts, misuse and disuse of property (Land) needs to be enacted.

4. Who fail to develop there plots within the statutory period should have their right of occupancy revoked.

5. There should be a sound enlighten program for the public on the effect and importance of property value to the people and their properties and the nation at large so that people will maintain and manage their properties.

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