

Research Framework Development on the Effect of Intangible Location Attributes on the Values of Residential Properties in Jos, Nigeria

Aliyu Ahmad Aliyu¹, Abdullahi Ali Abdu¹, Rozilah Kasim², David Martin²
1, Department of Estate Management and Valuation, Faculty of Environmental Technology,
Abubakar Tafawa Balewa University, Bauchi, P.M.B. 0248, Bauchi, Bauchi State, Nigeria

2, Department of Real Estate and Facilities Management, Faculty of Technology Management and Business
Tun Hussein Onn University of Malaysia, 86400, Parit Raja, Batu Pahat, Darul Ta'zim, Johor, Malaysia

Correspondence: Aliyu Ahmad Aliyu, Department of Estate Management and Valuation, Faculty of Environmental Technology, Abubakar Tafawa Balewa University, Bauchi, P.M.B. 0248, Bauchi, Bauchi State, Nigeria.

Abstract

Many previous researchers in the field of residential property value focused their attention on many tangible location factors which form the basis of residential property value. A critical look at these existing models and postulations revealed that residential property value is determined by many factors. It could be established that all these theories have some discrepancies as only few look at some intangible location attributes as indicators of land and landed property value. This study is aimed at developing a research framework that incorporate intangible location attributes as factors that determine and influence the values of residential properties in the study area. The research framework gives an insight into the nature of the research, that is, whether deductive or inductive approach is to be employed. It helps in identifying the research gap which the study seeks to fill in. The theoretical and conceptual framework were described and explained so as to have a clear focus in the conduct of the research. The research framework was primarily developed in order to answer all the research questions, objectives and hypothesis that might be used in the later part of the study. It can be concluded that research on the influence of intangible location attributes on the values of residential properties become imperative and essential due to the fact that few and very little research were conducted in this very important aspect of residential property value indicators. This research is absolutely a pioneering study into the effect of intangible location attributes on the values of residential properties in Jos metropolis, Nigeria. Further research efforts need to be carried out in other cities of Nigeria, to ascertain the general application of present findings.

Keywords: Conceptual Framework, Intangible Location Attributes, Residential Property Value, Theoretical Framework and Violence

1 INTRODUCTION

1.1 Background of the Study

Urban violence in the form of ethnic and religious conflicts or crises and even open warfare has been on the increase in many African cities in the recent years. Jos metropolis was established in 1915, as a tin transportation camp and its early history were closely linked to the prosperity of the mining industry. In 1967, it became the capital of the defunct Benue-Plateau State and was transformed into the capital city of Plateau State in 1975. It, thus, become an important administrative and commercial center. From a small town of less than 10,000 in 1930, 20,000 in 1950, the population grew to over 155,000 in 1973 and to over 600,000 in 1991. With a population of about 1,000,000, Jos remains one of the most cosmopolitan cities in Nigeria. It was adjudged the "home of peace" or as the safest city to live in Nigeria (Dung-Gwom, 2008).

It has been an established fact that intangible location attributes affect housing and land in very direct and subtle manner. Directly when, there is a surge in housing values and rents in some parts of the city and fall in housing and land values in others. Subtlety, as violence impacts on the long term attractiveness of a particular city (Dung-Gwom and Rikko, 2009). Magaji (2008) had shown that due to the number of crises in Kaduna and Jos metropolises over the last two decades, there has been a process of residential segregation along religious, native, ethnic, cultural and indigene lines, dividing the city into predominantly Christian and Muslim areas. Cultural and ethnic demarcation and diversity has been a major factor of most notable Nigerian cities, but the spade of ethno- religious violence is embedding the segregation in the city of Jos along religious, native, ethnic and cultural lines.

Many previous researchers in the field of residential property value focused their attention on many tangible location factors which form the basis of residential property value. In the recorded history, the first researchers who dwelled so much in this regard are Ricardo (1817) and Von Thunen (1828). In his assertion,

Ricardo was of the view that the main determinant of land and landed property value is the fertility or quality of land. He therefore concluded that areas that are more fertile command higher value as compare to areas that are less fertile. Von Thunen further supported this theory by introducing transportation as the prime mover of land and landed property value. Their theory was still in use nowadays but they could only be applicable in some areas.

Of the substantial research dedicated to the evaluation of real estate values, some have dwelled and focused on the effect of location or accessibility on property value. As a matter of fact location has long and commonly been regarded as a primary indicator of real estate value. An early empirical study in 1926 explores and addresses the key role that location attribute plays in determining and ascertaining land use and rents (Ridker and Henning, 1967). Location attribute has ever since been looked and examined from diverse aspects. While traditional and primitive location theory has dwelled and focused on issues related to transportation costs instead of specific real estate attributes, frequently the value of physical features or attributes of real estate is hidden or obscured by related values that tenants, renters or owners ascribe to location and to undeviating property amenities. Within the multifaceted bundle of utilities, facilities, services and amenities captured in real estate transactions, many researchers have shown neighbourhood environment to be a major determinant and indicator in the value of the real property package (Brigham, 1965; Kain and Quigley, 1970).

A critical look at the aforementioned models and postulations reveal that residential property value is determined by many factors. It could be observed that all these theories have some discrepancies as only few of them look at some intangible location attributes as indicators of land and landed property value. In a nut shell, the research has critically reviewed and evaluated various models and theories of residential property value indicators. The previous theories on residential property value are tangible in nature and could not be used in every setting. It is therefore against this background that the research developed a research framework on intangible location attributes as factors that determine and influence the values of residential properties in the study area.

1.2 Research Area of Coverage

The research covers Jos North and Jos South Local Government Areas (LGA). These Local Governments, until 1991 were administered as one Local Government Council, but for effective administration they were separated into Jos North and Jos South LGA respectively (Mallo and Anigbogu, 2009). Jos North Local Government Area has Jos Town as its Council headquarters. It has a population of 429,300 based on the 2006 National Census. Jos South is located 15 kilometres south of Jos North, and has Bukuru as the Council headquarters. It has a population of 306,716 based on the 2006 National Census. Jos North and South Local Government Areas are jointly referred to as “Jos” for the purpose of this research (Mallo and Anigbogu, 2009).. Jos is experiencing an urban sprawl as a result of urbanisation and the landscape of the city is changing. The city is conurbating with surrounding rural settlements and this has undermined the previous approved Master Plan which expired in 2001. A new greater Jos-Bukuru Master Plan is currently being designed to accommodate the present state of development and future growth (Mallo and Anigbogu, 2009).

In order to make meaningful and adequate coverage, the research is limited to Jos metropolis. It is also limited to residential properties in the study area. The potential respondents constitute the sample size drawn from the population of the study in both Jos North and Jos South Local Government. The motivating factor behind opting for Jos as the study area is because Jos has a unique feature in terms of the incessant violence that engulfed the city. Unlike other areas in Nigeria where the genesis of crisis is either: political, social, economic or cultural, the Jos crisis is purely ethno-religious in nature. An adequate coverage of all the study area is imperative in order to come up with a well defined outcome. Areas that are not part of the research include all the villages that area not counted as part of the metropolis. The research is solely on residential properties with the exclusion of commercial, industrial, agricultural and mineral properties.

the research, therefore, focuses only on the influence of these intangible or invisible location attributes on the values of residential properties. the research did not take into account the tangible location attributes and their influence on residential property value as numerous researches have been conducted in that regard. the intangible aspects of location in which this research focuses its attention are: safety, religious inclination, cultural identity, native inclination, security, ethnic background, indigeneity, violent free areas, socio-economic background, and violent prone areas. Other intangible location attributes that either positively or negatively influence property value, like race, crime, apartheid and others have not been covered in this research.

The theoretical framework for this research consists of a conceptual scheme which brings together strands of research from various areas of residential property value indicators, to form the theory upon which the research is based. The development of the framework is imperative as it is used as an approach for identifying the impact of intangible location attributes on the values of residential properties in Jos metropolis, Nigeria

After considering in some detail the nature of residential property value indicators, a typology or model was proposed in which intangible attributes of location are classified as factors influencing the values of

residential properties in the study area. Intangible factors of location possess the potential to address the main gaps and other deficiencies of existing research, plus the capacity to provide a coherent analytical framework for studying the indicators of residential property value. The theories were developed by renown scholars in the field of land and landed property value indicators, and from it were derived the conjectures about the influence of intangible location attributes on the values of residential properties in Jos, Nigeria.

2. Ethno-Religious Violence in Northern Nigeria Including Jos Metropolis

Table 2.1 below presents the clashes between Muslims and Christians in northern Nigeria including Jos city from 1980 to 2010.

Table 2.1: Clashes between Muslims and Christians in Northern Nigeria from 1980 to 2010

Location	Date	Nature of Conflict
Kano, Kano State	18th – 20th December, 1980	Islamic Revivalist (the Maitatsine group) attacked every one burnt houses. Over 5,000 people were killed with property worth millions of Naira(#) lost
Maiduguri, Borno Sate	26th -29th October, 1982	Maitatsine riot, over 500 people lost their lives and property worth millions of Naira were lost
Kaduna, Kaduna Sate	25th – 30th October, 1982	Another Maitatsine riot, over 200 people were believed to have died.
Sabon Gari Area Municipality of Kano, Kano State	30th October, 1982	Many houses were burnt to ashes and few people also lost their lives.
Jimeta, Yola, Adamawa State	15th February to 2nd March 1982	The Maitatsine group attacked people. Over 1000 people were killed
Gombe, then in Bauchi State	23rd – 28th April, 1985	Maitatsine uprising, over 300 people lost their lives.
Kafanchan, Kaduna State, Zaria (all in Kaduna State) Katsina, Katsina State.	6th – 12th March, 1987	Fighting between Muslim and Christian students at the College of Education in Kafanchan. The fight later spread to other places as indicated here under location. More than 400 houses were burnt and over 100 people lost their lives.
Kaduna Polytechnic, Kaduna State	8th March, 1988	The Kaduna State Government demolished a Christian Chapel under construction in the Kaduna Polytechnic and paid compensation to the people. This led to religious uprising
Ahmadu Bello University Zaria, Kaduna State	23rd March, 1988	One student was killed in the university during student union government election. People were stoned and maimed. Female were reported to have been raped
Bauchi, Gombe, then under Bauchi State	24th April, 1988	Religious riots in Bauchi State secondary schools. Students attacked teachers and students in GSSS Gombe and GTC Bauchi and other secondary schools in Bauchi State. Some of the teachers and students were badly wounded.
Bauchi, Bauchi State	20th – 23rd April, 1991	Fighting between Muslims and Christians. More than 1000 people lost their lives. Houses and place of worships were also destroyed
Kano, Kano State	14th – 19th October, 1991	The Rein hard Bonke riots- Fighting between Muslims and Christian as people rampaged and protested a planned revival meeting during which a German evangelist Rein hard Bonke was expected to be the guest preacher
Jos, Plateau State	October, 1991	A young man was beaten to death on a field opposite University of Jos during election primaries of the defunct Social Democratic Party (SDP)
Zangon Kataf Local Government Area, Kaduna State	15th 16th April, 1992	What was supposed to be communal riot turned into religious riots between Christians and Muslims. It has spread throughout Kaduna State. Thousands of people lost their lives and many residential properties were burnt.
Kaduna, Zaria, Kaduna State	18th May, 1992	Many houses were burnt and properties worth millions of Naira were destroyed.
Kano, Kano State	17th June, 1992	Many people were massacred and houses were burnt.

Location	Date	Nature of Conflict
Jos, Plateau State	9th February, 1992	A young man was beaten on his way home and houses were also razed.
Jos, Plateau State	12th April, 1994	Fighting between Muslims and Christians over the appointment of one Aminu Mato as Chairman of the caretaker committee for Jos Local Government Area. 16 lives were lost and residential properties were demolished.
Borno State	13th November, 1999	Religious riots as Borno State government muted the idea of not allowing the teaching of some subjects in schools
Kaduna, Kaduna State	27th – 2nd May 2000	Muslims in Kaduna were attacked by Christians on two different occasions as Christian protested against the implementation of Shari'a law in the state.
Jos, Plateau State	7th-12th September, 2001	Christians attacked Muslims immediately after Muslims prayers on Friday. Worshipping places and houses were destroyed. Many lives were also lost. People's business centers were looted. This began when a young woman was said to have crossed a praying ground at the time of prayer
Jos, Plateau State	2nd May, 2002	Attacked was launched against Muslim. Houses were razed to ashes. Many people lost their lives.
Federal Government College Zaria, Kaduna	4th September, 2002	Christian students fought against Muslim students as the Christian students discovered that a Muslim was likely to win the position of Student Union President during student election. Many were killed and several female students were raped
Yelwan Shendam, Plateau State	2nd – 3rd May 2004	Christians from Langtang, Shendam, Pankshing, Garkawa etc launched a war against Muslims of Yelwan Shendam town. More than 700 Muslims were killed. Almost all the houses of the Muslims were razed.
Jos, Plateau State	27th November, 2008	Riots supposedly caused by local government elections results in Jos North. The result was rigged in favour of the Christians who are the minority in the local government.
Jos, Plateau State	17th January, 2010	Unprovoked attacks on Muslims by youth supposedly working on a building site. Many died and many residential properties were destroyed.
Kazaure	21st February, 2010	A traffic incident, led to a mob attacking on place of worships and properties.
Jos, Plateau State	7th March, 2010	Reprisal attacks on 3 villages. Approximately 400 people were killed. Houses and livestock were destroyed.

Source: Kwashi (2011, with some Alterations)

Since the colonial times there have been many incidences of violence in Jos and the Jos Plateau tin mines (Mang, 2008). In the 1940s, the Berom disrupted operations in many mines because they were alarmed at the destruction of their farm lands and lack of compensation (Thiopulus, 1971; Human Rights Watch, 2005, 2006, 2008 and 2009) in 1945, there were crises between the Hausa Fulani and the Igbos on allocation of market stalls (Citizens Monitoring Group, 2010).

Large numbers of Hausa Fulani came to the Jos Plateau at that time as miners (many through the policy of force labour imposed by the colonial government during the Second World War). In the 1940s, there were over 200 mining camps on the Jos Plateau and over 40,000 mine population. The Igbo, Orhobo came into Jos as craftsmen in the mines and for commerce (Ford Foundation, 2009). The Yorubas migrated for commerce. With the rail line extended from Zaria to Jos in 1914, the town started witnessing rapid economic and social development. By independence in 1960, Jos was about the most cosmopolitan town in Nigeria (Donnelly, 2010). Table 2.2 below presents the communal violent ethno-religious conflicts in Jos and Plateau state from 1994-2010.

Table 2.2: Communal, Sectarian and Ethno-Religious Conflicts in Plateau State from 1994-2010

S/N	Date	Scenes and Communities of Violence	Parties Involved
1	April 1994	Jos North LGA	The Berom, Anaguta and Afizeres Christians VS Hausa'Fulani Muslims
2	22 nd February, 1997	Lokmak and Sabon Layi Communal Clash, Langtang North	Taroh
3	10 th April, 1997	Jos South LGA	Berom Christians VS Hausa/Fulani Muslims
4	10 th April, 1997	Mangu LGA	Between the Indigenes themselves
5	27 th March, 2001	Qua'an Pan LGA Kundun in Bakin Ciyawa Kwande district.	Kwall, Tiv Christians and Hausa'Fulani Muslims
6	30 th March, 2001	A spill-over from Qua'an Pan, Shedam LGAs, Gidan Zuru village.	Tiv Christians VS Hausa'Fulani Muslims
7	11 th -15 th April, 2001	Wase LGA	A Taroh Christian and a Bogghom Muslim
8	20 th May, 2001	Reprisal Attack Langtang North	Langtang Christians VS Wase Muslims
9	12 th June, 2001	Barikin Ladi LGA	Between natives
10	7 th -12 th September, 2001	Jos North, Barikin Ladi, Jos South, Riyom and Bassa LGAs	Christians VS Muslims
11	30 th December, 2001	Vom, Jos South LGAs	Berom Christians VS Hausa Fulani/Muslims
12	31 st December, 2001	Vwang district of Jos South LGA, Turu and Chugwi villages, Kwal district in Bassa LGA.	Reprisal attacks by Fulani Muslims ethnic group on the natives Christians
13	11 th February, 2002	Jos Main Market guttered by fire	The suspects are the Christian native because of their envy on the Muslims.
14	May 2002	Kwi, Barikin Ladi	Berom Christians VS Hausa Fulani Muslims
15	2 nd May, 2002	Eto Baba, Jos North LGA	Hausa/Fulani Muslims VS Beroms Christians
16	12 th June, 2002	Kwi, Kassa, Sho, Rakot	Clash between natives
17	22 nd June, 2002	Wong-Barikin Ladi LGA	Hausa/Fulani Muslims VS Berom Christians
18	26 th June, 2002	Yelwa, Shendam, Da'din Kowa, Mabudi, Langtang, Qua'an Pan	Hausa/Fulani Muslim VS Christians
19	27 th June, 2002	Reprisal attacks over Yelwa, Shendam killing in Shendam and Langtang South LGAs	Taroh Christian VS Hausa/Fulani Muslims
20	28 th June, 2002	Wase LGA	Hausa/Fulani Muslims VS Taroh Christians
21	30 th June, 2002	Wase LGA	Muslims and Christians
22	1 st July, 2002	Kadarko, Wadata, Farin Ruwa in Wase LGA	Hausa/Fulani Muslims VS Native Christians
23	4 th July, 2002	A reprisal attack was carried out in Wase after the killing of four prominent Taroh elders. 100 settlements belonging to Tarohs in Kadarko and Wadata were razed.	Taroh Christians VS Hausa/Fulani Muslims
24	5 th July, 2002	Kurmin Gajere, Pako, Mampyen, Bwarat, Yaudara, Kumbur, Timcwal, Chuwi, Barikin Rejiya, Wase and Langtang North LGAs	Hausa/Fulani Muslims VS Taroh Christians, 250 people were killed

S/N	Date	Scenes and Communities of Violence	Parties Involved
25	10 th July, 2002	Zunzukut, Karashi, Gbak, Dabino, Ruwan Corggo, Hamale, Wadata Arewa, Nasarawa, Kuwa, Wase LGAs	Hausa/Fulani Muslims took revenge and attacked the native Christians, Agricultural produce were destroyed, 50 people were killed
26	28 th July, 2002	Four villages in Bachit district in Riyom LGAs were attacked in their houses while attending prayers.	Fulani Muslims herdsmen VS Christian natives
27	11 th August, 2002	An attempt to blow off a colonial bridge in Riyom failed. The bridge built around 1929 in the major link between the community of Rim and Bachit in Riyom LGA. Two of the planted explosives exploded causing damage to the bridge.	The suspects are the natives i=of Riyom
28	21 st September, 2002	Wunko a village in Langtang North was attacked by people suspected to be natives of that area	Most assailant wear Military uniforms
29	4 th October, 2002	Mabur and Kunkwan in Kanam and Langtang North LGAs	Taroh Christian VS Dengi Muslim people
30	4 th -17 th Ocober, 2002	Fagul, Kofai, Yelwa, Bejak Langtang LGA	Over two hundred armed ethnic militia from neighbouring countries of Nigeria
31	16 th October, 2002	Ibi LGA in Taraba State and Wase/Langtang in Plateau State.	Fulani Muslims VS Akwangawas and Taroh Christians.
32	23 rd October, 2002	Fifty people were arrested over an attack on Maza in Jos North	Anaguta Christians VS Hausa/Fulani, of those arrested were Christians and Muslims.
33	24 th October, 2002	Fajui, Langtang South LGA	Natives believed to be in company of mercenaries, killed fourty persons, raped women and ambushed 17 policemen sent to quell the attack.
34	8 th December, 2002	Jos North, three area were ransacked including Rikkos, 'Yan Dankali and Rafin-Pa.	Police raided suspected people in that area
35	12 th December, 2002	Vwang district of Jos South LGA, Turu and Chugwi Kwal Bassa LGA.	Suspected ethnic native malitias
36	4 th April, 2003	Fobur-Jos East LGA	Ethnic native malitias attacked and killed one woman.
37	13 th and 16 th April, 2003.	Timshat, Fajul and Langtang South.	Hausa/Fulani Muslims VS Taroh Christian mercenaries, 64 persons were killed.
38	3 rd June, 2003	Limun in Bwarat district of Langtang North LGA	Hausa/Fulani Muslims VS Taroh Christians
39	10 th June- November, 2003	Hamale, Wase LGA	Displaced native returnees were reconstructing their burnt houses. Some people raided and burnt down all the houses.
40	8 th February, 2004	Native returnees from Langtang North to Yaudawa Village along Wase Langtang road.	Hausa/Fulani Muslims VS Yargam Christians.
41	9 th February, 2004	Wase LGA	One Mr Lipdo Wapven was killed in cold blood by some youths in that area.

S/N	Date	Scenes and Communities of Violence	Parties Involved
42	12 th February, 2003	Border villages of Duwi, Yaudara Kirim, Hamale and Tsamiya in Wase LGA were attacked	Ethnic militias dislodged the heavy security in those places.
43	15 th February, 2004	Shimakar Shendam LGA, there was an unusual movement of strange faces and goods noticed by the locals who reported to the police.	Four of the police men sent to investigate the reports later became victims of the attack
44	22 nd February, 2004	Fulani herdsmen in pursuit of cattle completely Shendam in LGA.	Rustlers raced down Yemini village. Fulani Muslims VS Christian natives.
45	20 th -24 th February, 2004	150 houses burnt including Nshar village that gave birth to Yelwa. Over 250 were killed including the village head of Yemini and over 1000 people displaced.	Duben, Yemini, Tumbi and Yelwa. Hausa/Fulani Muslims VS Taroh Christian.
46	24 th February, 2004	Eight places of worship were completely razed down and 48 people were slaughtered in Yelwa Shedam town	Hausa/Fulani Muslims VS Christian natives.
47	26 th February, 2004	Fighting in Garkawa, Mikang LGA. Over 200 people reportedly killed and over 300 injured.	Involving the Youm, Taroh Christian and Hausa Fulani Muslims
48	12 th March, 2004	Njaju Dolon and Ndualak villages sacked	Hausa/Fulani Muslims and Yargam Christians
49	15 th March, 2004	Yelwan Shendam	3 women were killed when they went to retrieved their belongings.
50	30 th March, 2004	Yelwan Shendam	3 Igbo traders returning from Garkawa to Shendam were killed and their Pick-up destroyed.
51	2 nd April, 2004	Yelwan Shendam	Clashes between natives and Muslims
52	3 rd April, 2004	Yelwan Shedam reprisal attack by the Christian natives from surrounding areas.	Hausa/Fulani VS Christian natives
53	23 rd April, 2004	Durka Bakin Ciyawa, Biem-Biem, Rafin Baba (Hambang)	Several houses burnt including local government secretariat.
54	30 th April, 2004	Karbang, husband and wife were killed	Karbang
55	2 nd May, 2004	Two women were murdered in Yelwan Shendam while making attempts to return back to their homes.	This led to the Yelwa religious crisis on 2 nd and 3 rd May, 2004
56	3 rd May, 2004	Reprisal attack carried out by a combine team of the Akwagawas of Shendam, the Tarohs from Langtang North/South and the Garkawa people of Mikang LGA, all neighbouring LGAs to Yelwan Shedam. Houses belonging to the Hausa/Fulani were completely razed down and more 600 Muslims were killed	Hausa/Fulani Muslims VS Akwagawas and Taroh Christians
57	Tuesday May 18 th , 2004	Sabon Gida, Makera, Ngat, Jirim, Sabon Gida, Saminaka	Militia men from Atiri and Azara villages in Nasarawa State. Attack was carried out on the day the State of Emergency was being declared
58	Thursday May 20 th , 2004	Qua'an-Pan LGA	Suspected herdsmen insurgents killed 30 people
59	Sunday May 23 rd , 2004	Tenewed fighting in five Gamai villages of Qua'an-Pan LGA	Casualty figures reach 74 people.
60	Tuesday May 25 th , 2004	Lyangjit village in Wase	Five persons were killed

S/N	Date	Scenes and Communities of Violence	Parties Involved
61	9 th July, 2004	A Station-Wagon taxi purportedly driven by a Yelwa resident carried five men and three women. They were on their way to Shendam and other neighbouring towns of Aji Kamai, Yemini enroute Yelwa. The driver diverted to Yelwa where the men and women were abducted. The men were killed and their private parts removed. While the women were beaten drugged and repeatedly raped by 4 men for 8 days (July 9 th -16 th , 2004)	About 40 people dressed in security uniforms with arms whose identity is uncertain carried out the attack.
62	20 th June, 2004	Two people feared killed and five others seriously injured	Mabudi, Langtang South LGA
63	27th Nuvember, 2008	Jos, Plateau State	Riots supposedly caused by local government elections results in Jos North. The result was rigged in favour of the Christians who are the minority in the local government.
64	17th January, 2010	Jos, Plateau State	Unprovoked attacks on Muslims by youth supposedly working on a building site. Many died and many residential properties were destroyed.
65	7th March, 2010	Jos, Plateau State	Reprisal attacks on 3 villages. Approximately 400 people were killed. Houses and livestock were destroyed.

Source: Bagudu (2004, with some Modifications)

Christelow (1985) stated that the indigenous people were hostile to foreign mining interest and did not join the mines nor moved into the mining camps to settle. This led to the colonial masters adopting different administrative systems for the Christians (so called natives) and the Muslims (who are termed settlers by the native community) in the mining camps and towns. It has been asserted in Global Post (2010) that this was to lay the seeds for the rivalry and friction between the natives and the settlers, which over time has metamorphosed into open violence between the two groups (Muslims and Christians).

3. RESEARCH FRAMEWORK DEVELOPMENT

3.1 Concept and Theory in Research

A model is a symbolic representation of a set of concepts, which is created to depict relationships. On the other hand, a concept is an image or symbolic representation of an abstract idea. Chinn and Kramer (1999) define a concept as a “complex mental formulation of experience”. Concepts are the major components of theory and convey the abstract ideas within a theory”. A theory is a set of interrelated concepts, which structure a systematic view of phenomena for the purpose of explaining or predicting a phenomenon. A theory is like a blueprint, a guide for modeling a structure. A blueprint depicts the elements of a structure and the relation of each element to the other, just as a theory depicts the concepts, which compose it and the relation of concepts with each other. Chinn and Kramer (1999) define a theory as an “expression of knowledge....a creative and rigorous structuring of ideas that project a tentative, purposeful, and systematic view of phenomena”.

Basically, theory, which is derived from the literature reviews and syntheses, is a set of interrelated concepts that provides a systematic view of a phenomenon under study. It guides practice and a research that enables testing of theory, and generates questions for theory building and practice guidelines. Theories are located on the ladder of abstraction relative to their scope. However, in this research, each term is being distinguished from the other on the basis of whether the researcher is creating the structure or whether the structure has already been created by someone else. Generally, each of these terms refers to a structure, which will provide guidance for research. If it is a *conceptual framework*, it is a structure of concepts and/or theories which are pulled together as a map for the study. If it is a *theoretical framework*, it is structure of concepts which exists in the literature, a ready-made map for the study

Conceptual frameworks in this research act like maps that give coherence to empirical inquiry. Because

conceptual frameworks are potentially so close to empirical inquiry, they take different forms depending upon the research question or problem. A conceptual framework is used in this research to outline possible courses of action or to present a preferred approach to residential property value indicators. Theoretical frameworks are obviously critical in this research because it is deductive, theory-testing sorts of study. In this kind of study, the theoretical framework is very specific and well-thought out. The theoretical framework in this research is supposed to help the reader make logical sense of the relationships of the variables and factors that have been deemed relevant or important to the problem. It provides definition of relationships between all the variables, so the reader can understand the theorized relationships between them

3.2 Reason for Adopting Conceptual and Theoretical Framework in this Research

The main reason for using one or more theories in this research is that it allows for the prediction of future events as well as the prediction of the absence of future events. Importantly, without a theoretical framework it is not possible to observe and reason the absence of future events, because then events simply do not happen. McClintock, Brannon and Maynard-Moody (1979). stress only with preconceived expectations can non-events be identified. Surprisingly, theoretical frameworks are also important in exploratory studies (Cavaye, 1996), where you really don't know much about what is going on, and are trying to learn more. There are two reasons why theoretical frameworks are important in this research.

First, no matter how little a researcher think he knows about a topic, and how unbiased he thinks he is, it is impossible for a human being not to have preconceived notions, even if they are of a very general nature. For example, some people fundamentally believe that tangible attributes of location are the main factors that influence the values of land and landed properties, and individual have kept his intellect about himself to avoid being conned. These fundamental beliefs about indicators of land and landed property value affect how he looks at things when doing personnel research. In this sense, he is always being guided by a theoretical framework, but he does not know it. Not knowing what his real framework is can be a problem. The framework tends to guide what a researcher notices in real estate field of study, and what he does not notice. In other words, he does not even notice things that do not fit his framework. The research task cycle in this study can be depicted in figure 3.1 below:

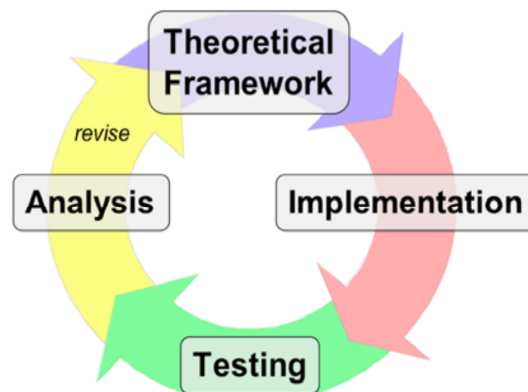


Figure 3.1: Research Tasks Cycle, (Creswell, 1994)

The cycle illustrates the tasks that are used for each individual aspect of the overall approach in the research. The development of the research framework is very imperative because it will pave way for the implementation of the proposed new model upon which the research is based. The next step after implementation is testing the hypothesis in order to accept or reject it. This is essential because hypothesis needs to be tested so as to draw conclusion. After testing the hypothesis, the subsequent step is to analyse the data and make conclusion and recommendations based on the findings.

3.3 Method and Approach for Research Framework Development

In this study, the development of the theoretical framework is derived from one line or method of reasoning or thinking, that is, deductive reasoning or approach.

3.3.1 Elements of the Research Process

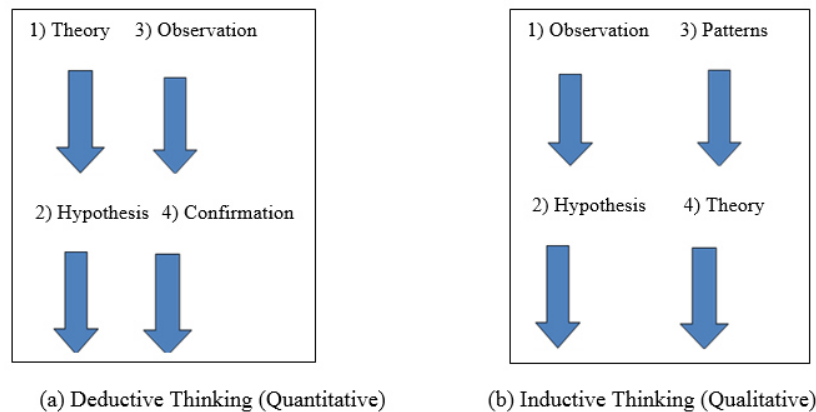


Figure 3.2: Deductive and Inductive Reasoning, (Trochim and Donnelly, 2006)

As it can be seen from Figure 3.2 above, deductive reasoning, which is also known as a top-down approach, works from more general to more specific thinking of area or topic of interest and is concerned with testing hypotheses (Trochim and Donnelly, 2006). It can be deduced that inductive reasoning is a study in which theory is developed from the observation of empirical reality. In other words, inductive reasoning, which is also known as a bottom-up approach according to Trochim, works from specific observations to broader generalisations and theories, and is more exploratory in nature. In this research, deductive reasoning is adopted to gain issues that emerged from the relevant literature searches. In other words, this method is used to generate links between practice, theory and research in the development of a framework.

3.3.2 Deductive and Inductive Reasoning

The choice between the deductive or inductive research paradigms has been discussed by a number of authors (Cavaye, 1996; Hussey and Hussey, 1997; Perry and Cavaye, 2001). Hussey and Hussey (1997) defined deductive research as a study in which a conceptual and theoretical structure is developed which is then tested by empirical observation; thus particular instances are deduced from general influences. See figure 3.3 below:

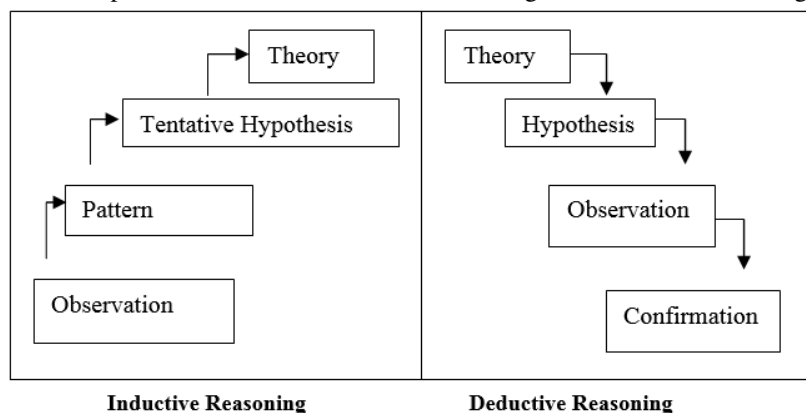


Figure 3.3: Deductive and Inductive Reasoning, (Trochim and Donnelly, 2006)

Deductive research is a study in which theory is tested by empirical observation. The deductive method is referred to as moving from the general to the particular. In a nut shell in deductive research, variables are conceived *a priori* and research question/hypothesis comes first. Inductive research is a study in which theory is, “developed from the observation of empirical reality; thus general inferences are induced from particular instances, which is the reverse of the deductive method since it involves moving from individual observation to statements of general patterns or laws”, (Hussey and Hussey, 1997). In inductive research, there are no preconceived assumptions. The researcher must suspend all his beliefs. The patterns emerged from the collected data *after the fact*

Cavaye (1996) does not exclude the combined use of both inductive and deductive approaches, saying they can both be used in the same study. The possibility of using both inductive and deductive approaches in the same case study has also been discussed by Perry and Cavaye, (2001). He describes a continuum from pure induction (theory-building) to pure deduction (theory-testing). He advocates taking a middle-ground of a balance between the two, striking the position of what he calls “theory confirming/disconfirming” approach. In this study, a mainly deductive approach has been used, with the emphasis on an exploratory approach to improve the understanding of the influence of intangible location attributes on the values of residential properties in the study area which was being investigated, with particular emphasis on the use of theories and models as knowledge

sharing practices.

3.4 Research Framework Development using Deductive Reasoning

How this deductive reasoning led to the development of a framework for identifying the impact of intangible location attributes on the values of residential properties in the study area is illustrated in Figure 3.4 below:

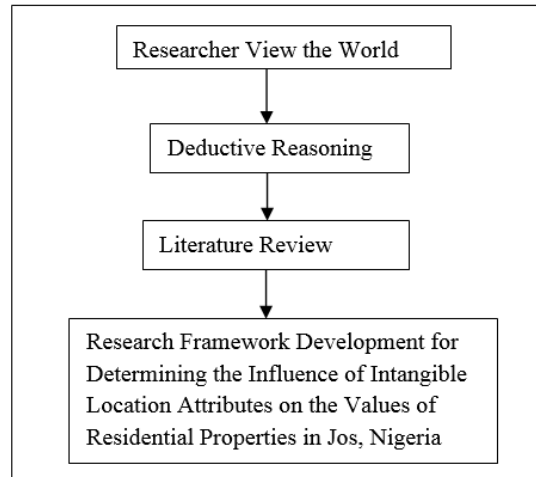


Figure 3.4: Research Framework Development using Deductive Reasoning, (Trochim and Donnelly, 2006)

From figure 3.4 above, it could be realised that the research process starts by a researcher's preconceived knowledge regarding the subject matter. This preconceived idea needs to be accepted or debunked through the formulation of hunches, guess or intuitions. In other words there is a great need to formulate hypotheses that will guide the researcher in achieving and realising his goal and objectives. Having this in mind, the next step is to know the method and approach that would be adopted in order to develop the research framework. This could be either deductive or inductive approach.

This research adopts the deductive way of reasoning due to the fact that there are many established theories on the subject matter. The next line of action was achieved through extensive review of related literature on the subject matter. This is imperative due to the fact that it paves way in identifying the research gap that needs to be filled. The last step is the development of the research framework which serves as a guide for the researcher throughout the conduct of the research. At the end of the research, the findings obtained would enable the researcher to either validate or invalidate the preconceived knowledge he has, prior to the conduct of the research.

3.5 Subjective and Objective Research

Another significant choice which exists in the research paradigm to be adopted is the extent to which the researcher is subjective (involved in or has an influence on the research outcome) or objective (distanced from or independent) in the execution of the fieldwork (empirical work). Easterby-Smith, Thorpe and Lowe (1991) discussed the traditional assumption that in science the researcher must maintain complete independence, if there is to be any validity in the results produced or obtained."

As a matter of fact, deductive research paradigm is, by its very nature, objective. The use of this paradigm necessarily requires complete independence in both real world circumstances as well as the involvement (sometimes directly) of the researcher himself. It is accepted that such an objective approach, as used in the research, requires the recognition of any influence or limitation such subjectivity may have on the conduct or findings of the research. What is important here is to recognise the fact that phenomenological research certainly involves a subjective approach, which should be recognised in the analysis and interpretation of the data gathered. Attention was paid to this aspect in this study.

3.6 Deductive Approach: Literature Surveys and Results

After reviewing all the relevant literature on the indicators of land and landed property value, the proposed model was postulated. The brief literature reviews that led to the deduction of the various models of residential property value indicators were mainly from different areas as discussed in the next subheading (i.e. summary of findings from the literature review). Therefore, deductive approach was employed in order to propose a framework. Intangible attributes of location were considered as the proposed framework for ascribing residential property value in Jos metropolis.

This is, therefore, an extension of the existing models of residential property value indicators. The findings from the existing literatures did not capture intangible attributes of location as among the indicators of

housing value in the study area. It can be deduced from the available findings of the existing literature that intangible attributes of location are factors that need to be investigated independently from the other tangible location attributes of residential property value indicators in order come up with a well balanced result.

3.7 Summary of Findings from the Literature Review

Invisible attributes of location is not being considered in its entire ramification by the previous researchers when determining real estate value. As earlier mentioned, location is of two type, namely: Tangible location attributes (accessibility, transportation, closeness to CBD, component or element of a building, community infrastructural facilities, utilities and services, demand and supply and so on and so forth) and intangible location attributes (ethnic background, cultural identity, native inclination, frequency of violence, violent free areas, violent prone areas, safety, religious inclination, security, indignity and the likes). This research therefore extends the existing body of knowledge on the theories or models of residential property value indicators by adding intangible location attributes as among the indicators of land and landed property value. See table 3.3 below.

Table 3.3: Findings from the Literature Review

Proposed Model	Existing Models
Deductive Approach: Intangible location attributes (violent free areas, violent prone areas, religious inclination, security, ethnic background, native inclination cultural identity, safety, ethnic background, socioeconomic background, crime, racism, skin colour, apartheid indigeneity and so on) as factors that influence the values of residential properties in Jos, Nigeria Research Hypotheses i) There is no relationship between residential property value and intangible location attributes in the study area. ii) There is no relationship between residential property value (dependent variable) and the independent variables (ethni background, cultural identity, safety, religious inclination, indigeneity, violent prone areas, security of life and property, violent free areas, socio-economic background and native inclination) in the study area.	Land Rent Attribute
	Locational Advantages
	Household Location
	Accessibility Attribute
	Transportation
	Parcel Size Attribute
	Physical Component and Element Of A Building Structure
	Community Facilities, Utilities and Services
	Principle of Bid Rent Function
	Central Business District
	Zoning Regulations, Building Codes, Subdivision Regulation, Environmental Protection Laws and Planning Restrictions
	Demand and Supply
	Population Size of the Region
	Waste Dump Sites
	Race or Skin Colour
	Crime
Apartheid	

Source: Literature Survey (2011)

From table 3.3 above, it could be deduced that intangible location attributes are the proposed phenomena which needs to be investigated independently from the existing models of land and landed property value indicators. Therefore, the proposed model extends the current body of knowledge on the factors that influence the values of residential property in the study area. All the tangible or visible attributes of location of location are of paramount importance in determining the worth of land and landed properties.

However, in Jos metropolis, the story is entirely different as the main indicators of land and landed property value are mostly governed by the intangible and invisible attributes of location in areas that are labeled as unsafe zones. The tangible location attributes dictate the value of residential properties in some areas of Jos metropolis where sectarian violence and civil unrest are not manifesting. The research, therefore, extends the previous finding of scholars regarding the factors and indicators that influence the worth of land and landed properties in the study area and other similar cities and metropolis.

3.8 Summary of the Existing Models of Residential Property Value Indicators

From the foregoing, all these models are very significant when determining the worth of land and landed property. However, there is a need to also look at the other intangible attributes of location when ascribing value to a property. The table below presents the current body of knowledge in this regard.

Table 3.4: Existing Models of Residential Property Value Indicators

Model	Residential Property Value Determinants	Advocates of the Theory
Model 1	Land Rent Theory	David Ricardo (1817)
Model 2	Locational Theory	Kowalski and Paraskevopoulos (2003), Ridker and Henning (1967), Von Thunen (1826)
Model 3	Household Location	Alonso (1964) and Wingo (1961)
Model 4	Accessibility Attribute	Ball and Kirwan (1977), Hansen (1959) Smith and Deyak (1975), Song and Knaap (2004), Thibodeau, (1990)
Model 5	Transportation	Henneberry (1998)
Model 6	Parcel Size Attribute	Colwell and Munneke (1991); Lin and Evans (2000), Thorsnesl and McMillen (1998)
Model 7	Physical Component and Element of a Building Structure	Ball (1973) and Kohlhase (1991)
Model 8	Toxic and Hazardous Waste Dumpsites, Community Facilities, Utilities and Services	Goodman (1977) and Ketkar (1992)
Model 9	Principle of Bid Rent Function	Hurd (1903) and Ratcliff (1965)
Model 10	Central Business District	Kau and Sirmans (1979); McMillien (1990), Pollakowski and Wachter (1990)
Model 11	Zoning Regulations and Planning Restrictions	Brownstone and Van (1991); Cervero and Duncan (2004), Ihlanfeldt (2007), McMillen and McDonald (1993), Pogodzinski and Sass (1991).
Model 12	Demand and Supply	Ball and Kirwan.(1977), Brown (1972), Brown and Kain (1971)
Model 13	Population Size of the Region	Pollakowski (1982). Quigley (1973) and Rosenbaum 1996

Source: Literature Survey (2011)

Table 3.4 above presents the existing models, theories, indicators and factors that influence the values of land and landed properties. Each model has its own shortcoming which makes its inappropriate to some extent in the study area. The proponents of these models and theories deserve academic credit because all the new models of land and landed property value that were developed later had their root from the previous models. Their application to all settings has some restriction as each city has its own unique feature which makes its distinct from the other city or metropolis. Table 3.5 below gives a brief description of the previous models.

Table 3.5: Brief Description of the Models of Residential Property Value Indicators

Existing Model	Description of what the Model Entails
Location Attributes	These are factors associated with the location of the property. They include: accessibility measures – access to the CBD, ease of commuting to and from amenities measured by travel distance; socio-economic class; racial composition, aesthetic attributes; proximity to local amenities and view.
Physical Component and Element of a Building Structure	These are property specific. They include: number of rooms and bedrooms; age of the property; lot size; facilities and services.
Community Facilities, Utilities and Services	These factors are divided into: Socio-economic variables which include: Social class of the neighbourhood – whites, non whites and tribal affinity (sentiments) Occupation of the inhabitants Local governments/municipal services which includes: Schools, Hospitals, Places of worship Externalities this includes: Crime rate, Traffic noise, Airport noise, Rate of pollution, Shopping centres, Planning Restriction
Land Rent Theory	Attributed high value (rent) to a particular land based on the fertility of the land. If all land had the same properties, if it were unlimited in quantity and uniform in quality, no change could be made for its use, unless where it possessed peculiar advantages of situation
Household Location	House hold chooses the residential location which minimizes the sum of transportation costs plus land cost associated with the amount of land being consumed. Individual household's choice of location will depend on its income budget for other goods, housing and distance to work site.
Accessibility Attribute	The use of accessibility in residential property value functions is essentially an attempt to capture the social and economic environment of the residential accommodation. Although measurement such as distance to CBD is a good proxy of these factors, it is always preferable to quantify these factors directly in an equation.
Parcel Size Attribute	Parcel size is traditionally recognised as an important determinant of residential property values. In other words, the larger the plot the more valuable it would be.
Transportation	Residential property value is a function of ease to places of work, worship, shopping malls, schools, recreational activities and the likes.
Principle of Bid Rent Function	This model is almost similar with David Ricardo's land rent theory. It is a modification of the previous model
Central Business District	Residential properties located near the Central Business District command more value than those located far away from the CBD. The more closer a house is to the CBD the more it will attract more value and vice versa
Zoning Regulations and Planning Restrictions	An area enjoys relative advantage over others if it is designated for a use that attract high demand from people and vice versa
Demand and Supply	According to this model, the higher the demand of a particular residential property, the more valuable it would be, all things being equal and vice versa. The higher the supply of a particular residential property the lower the value of that property, all things being equal and vice versa.
Population Size of the Region	The higher the population of an area, the higher the value of residential properties and vice versa.

Source: Literature Survey (2011)

Table 3.5 above gives a brief description and overview of the previous models of residential property value indicators. As it could be seen each model or theory affects the values of land and landed property either positively or negatively. All these models could be classified as tangible in nature because they look at the visible attributes of location as a prime mover that indicate the value and worth of land and landed property. It is indeed imperative to explore the intangible attributes of location and determine their impact on the value of land landed property so as to add to the existing frontier of knowledge on the factors that influence the values of land and landed properties.

3.9 Location Factors as Indicators of Residential Property Value

All the current body of knowledge in this important aspect of land and landed property value indicators focused their attention on the tangible or visible aspect of location. These are very important when ascribing value to a property. However, there is a great need to also explore on the intangible attributes of location because of their great importance in terms of ascribing value to land and landed property in some areas. They form the basis for conducting this research. The figure below throws more light on this very important aspect of real estate profession. The figure below also clearly indicates that location attributes as indicators of residential property value could be categorised into either visible or tangible and invisible or intangible location attributes.

Based on the review of related literature, it has been realised that most of the previous researchers focused their attention on the tangible aspect of location.

Very few researches were carried out on the intangible location attributes. The few ones that were carried out on intangible location attributes touched on issues like impact of crime on residential property value, race and residential mobility and relocation, skin colour and choice of residential accommodation, residential segregation among white and black in US metropolitan cities, the dynamic of racial residential segregation, spatial inequality and residential segregation and the likes. Other intangible attributes of location like ethnicity, religious inclination, safety, cultural background, security, native inclination, indigene ship and others need to be investigated. Figure 3.5 further shades more light regarding the location attributes as factors indicating property value.

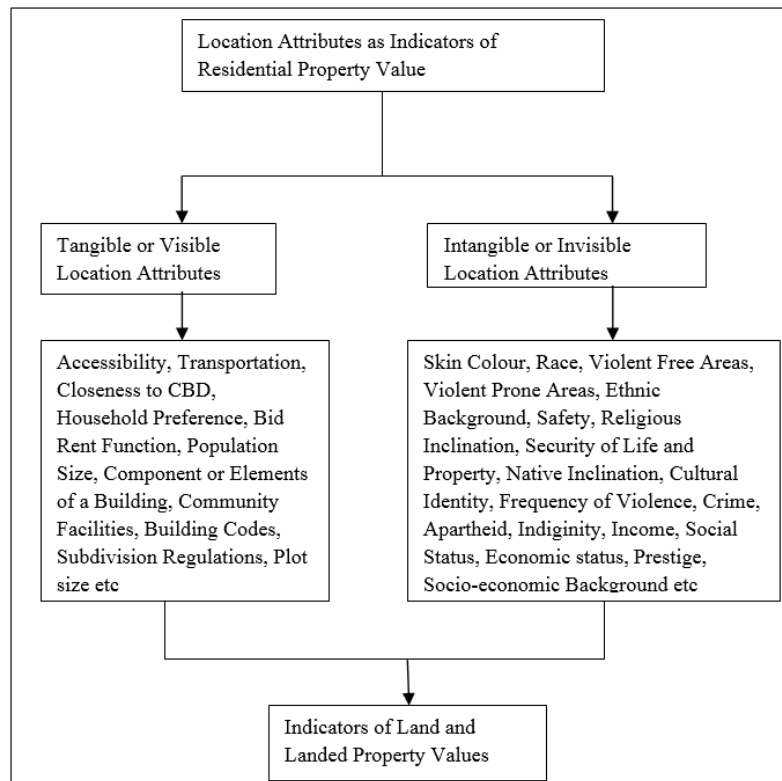


Figure 3.5: Tangible or Visible and Intangible or Invisible Location Attributes, (Extensive Literature Review, 2011)

Figure 3.5 above form the framework which guide and direct the research in order to achieve the ultimate aim and objectives. Research questions, research objectives and hypotheses were formulated based on the above figure. The research as earlier mentioned is not exploratory in nature but rather deductive because it extend the previous knowledge on the subject matter by uncovering another aspect of residential property value indicator that was given little attention in the past. The framework highlights the key issues that form the back bone upon which the research is conducted. It gives a general direction and guidance throughout the conduct of the research as mentioned earlier in order to avoid deviation from what the research is intended to achieve.

3.10 A Research Framework to Investigate the Influence of Intangible Location Attributes on the Values of Residential Properties in Jos, Nigeria

The development of a framework should either be from the summary of findings of the issues from the literature or from the existing models. In this study, the development of the framework was from both the existing models and review of the existing literature. The figure below represents the framework upon which the study is based. The model identifies two types of location attributes which influence the values of residential properties. They

are the tangible or visible location attributes and intangible or invisible location.

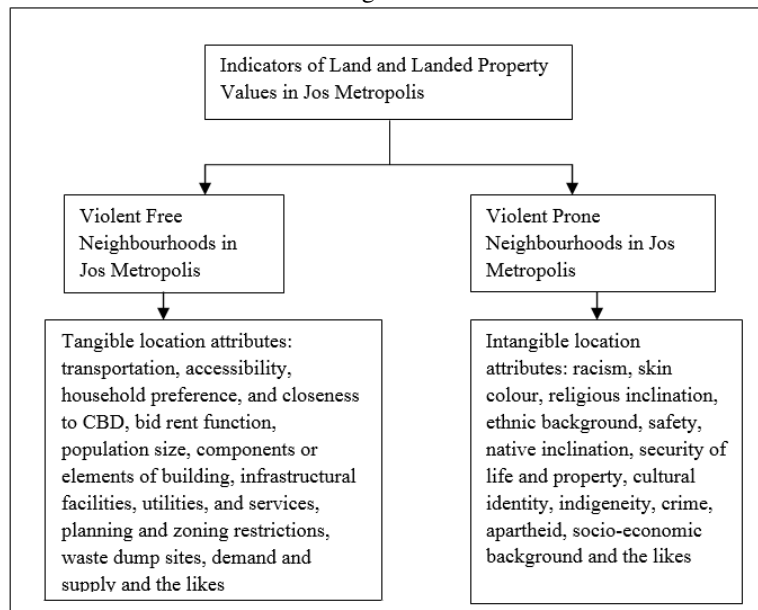


Figure 3.6: Indicators of Land and Landed Property Values in Jos Metropolis, (Extensive Review of Related Literature, 2011)

Details on how the framework works and how the intangible location attributes influence residential property value in Jos metropolis are summarised in the table below. The key elements that form the development of the framework are further classified into four main areas of investigations as illustrated in table 3.6 below.

Table 3.6: A Summary of Framework to Investigate the Impact of Intangible Attributes of Location on the Values of Residential Properties in Jos, Nigeria

Area of Investigation	Strategies	Task Required	Purpose/Aim	Methodology Adopted for Data Collection	Methodology Adopted for Data Analysis
Socio-economic characteristic of the residents and its influence on residential property value in the study area.	Study should cover: their role in triggering violence; their involvement in determining residential property value; their view on how to proffer solution to the identified problems	To identify the age, gender, marital status, number of children, tribe, religion, occupation, origin, household size, education, income; source of finance, where to obtain loan, demands and claims of the people	To answer research objective 1: Examine the socio-economic characteristics of the residents in the study area.	Questionnaire, personal interview	Simple percentage distribution tables, thematic network analysis, charts, narrations and discussions
Influence of intangible location attributes on residential property value in the study area.	Through administering questionnaire to the respondents and involvement in face to face interview with them, all the necessary information required will be gathered.	To determine the main point of concern in choosing accommodation, present and former place of abode, reason for leaving the former, percentage of income sacrifice for accommodation, yardstick for valuing accommodation, monthly rent paid, ratio of Muslim/Christian in your area, root cause of this drastic change, residential segregation, most occurring type of violence	To answer research objective 2: Determine whether intangible location attributes are among the factors that influence residential property value in the study area	Questionnaire, personal interview, field survey, observation	Regression analysis, chi-square, simple percentage distribution tables, cross tabulation, thematic network analysis, charts, narrations and discussions
Conditions of the existing neighbourhood facilities before and after the conflicts, and how intangible location attributes affect the	Their availability, maintenance, provision and the impact of intangible location attributes on the provision of these community facilities, utilities	To investigate the condition of neighbourhood facilities, utilities and services before and after the conflicts; reasons for the above marked problems, intangible location attributes and provision, availability	To answer research objective 3: Investigate the condition of the existing neighbourhood facilities before and after the conflicts	Questionnaire, personal interview, field survey, document review and observation	Multiple regression analysis, chi-square, cross tabulation, simple percentage distribution

provision, availability and maintenance of neighbourhood facilities in the study area.	and services, their effect on residential property value before and after the conflicts, Level of damage to neighbourhood facilities, ways of overcoming the identified problems	and maintenance of neighbourhood facilities, type of neighbourhood facilities in the study area, exact time when problem of purchasing or renting residential accommodation started, purpose of undertaken property development,	and how intangible location attributes affect the provision, availability and maintenance of neighbourhood facilities		tables, and charts
Implication of intangible location attributes on residential property value and to proffer solutions based on the identified problems observed in the study area	Critical analysis of the existing models; their application in the study area; short comings of the existing models; applicability of the proposed new model in the study area, trends in the sales and rental values of residential properties and cost of land in the study area	To identify indicators considered when assessing the calmness in an area, intangible location attributes relative to other indicators, reasons for developing or not completing accommodation, if not developed, how and when to develop, occupying or rent it out after completion, investigation prior to development, purpose of development, problem in buying a house and when, frequency of occurrence of sectarian violence and civil unrest, time taken to rent or buy a house, assessment of the procedure of purchasing or renting a house. Others are: requirements for the loan, problems encountered when seeking loan, loan sufficient enough to complete the building, interest rate for the loan, possible ways of overcoming the identified problems, suggestions, recommendations, conclusions, nature of residential pattern in Jos metropolis.	To answer research objective 4: To investigate the implication of intangible location attributes on residential property value and to proffer solutions based on the identified problems observed in the study area	Questionnaire, personal interview, field survey, document review, observation	Regression analysis, cross tabulation, simple percentage distribution tables, thematic analysis, charts, narrations, pictures and photographs

Source: Literature Survey (2011)

From table 3.6 above, it could be seen that, intangible location attributes are new phenomena that need to be investigated in order to extend the existing body of knowledge on theories of residential property value indicators. The proposed research framework as illustrated above is significant to determine the influence of intangible attributes of location on the values of residential properties in Jos metropolis.

By using this research framework, intangible or invisible attributes of location would be identified as factors influencing the values of residential properties in the study area and other cities that have similar antecedents. Lastly, the proposed framework as illustrated in figure 3.7 below is significant to determine residential property value in Jos Metropolis. The framework is further applied and tested for Jos metropolis case study. By using this research framework, the impact of intangible attributes of location on the values of residential property value in Jos is identified.

The independent variables, also known as the predictor or explanatory variables, are the factors that individuals think explain variation in the dependent variable. In other words, these are the causes. In this research, the independent variables are- violent free areas, violent prone areas, security, religious inclination,, safety, cultural identity, frequency of violence, native inclination, indigene ship, socio-economic background and ethnic background. The dependent variable in this research is residential property value.

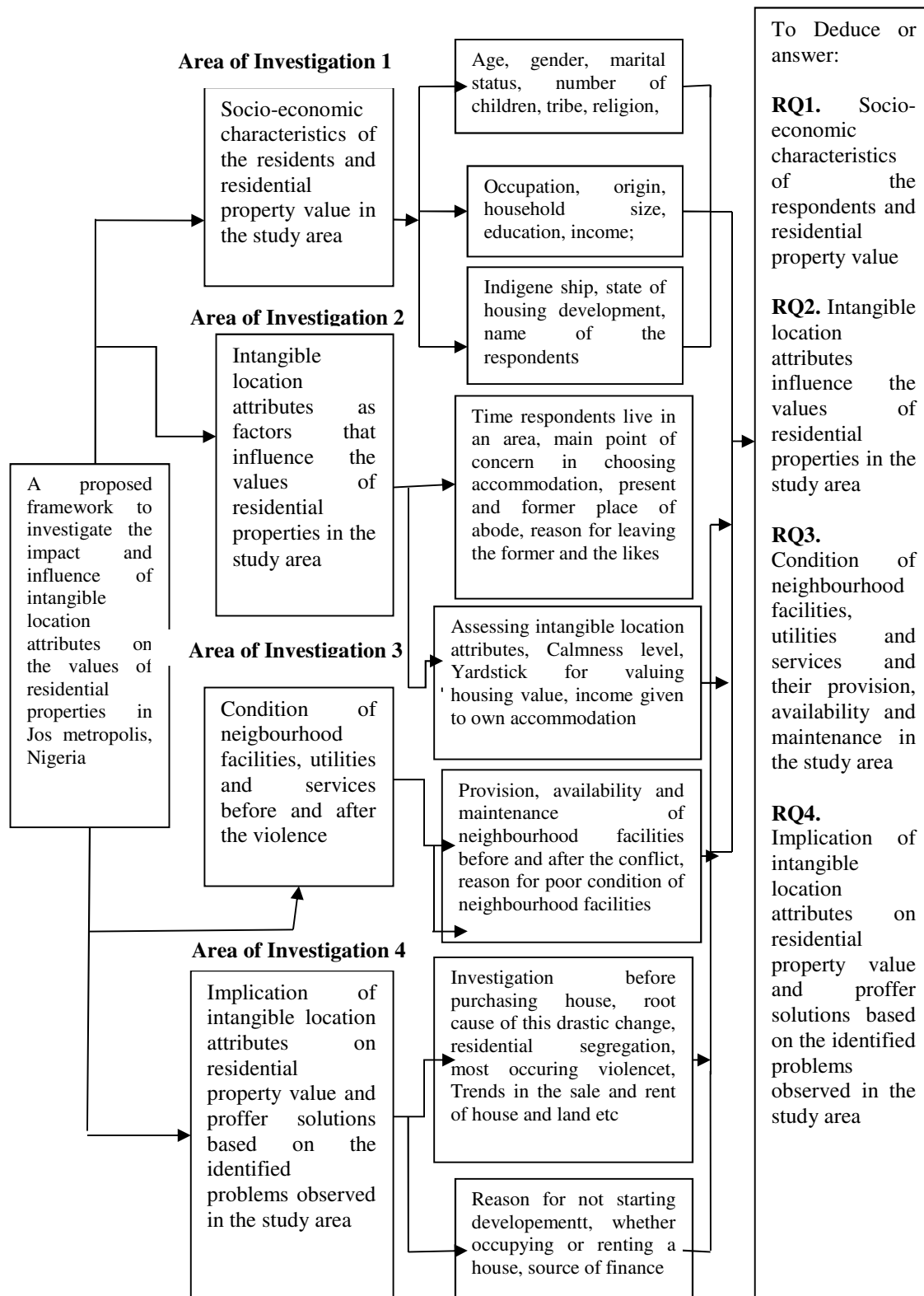


Figure 3.7: A Research Framework to Investigate the Impact of Intangible Location Attributes on Residential Property Value in Jos Metropolis, Nigeria
 Source: Author (2011)

Figure 3.7 above present the research framework which was developed in order to help in achieving the stated aim and objectives of the research. It explains in great length how the research is going to be conducted and the information and data needed in order to explore each area of investigation. The framework was developed in order to simply the rigorous activities and works needed to be carried out so as to achieve the ultimate goal of the research. Each area of investigation was further classified into smaller unit of investigation

in order to ease the difficulties that could be encountered in achieving each area of investigation. The smaller units of investigation were all incorporated in order to formulate research questionnaire and interview questions needed to answer the research questions.

4. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

In order to incorporate intangible location attributes as other determinants of residential property value, this research proposes on examining the effect of intangible location attributes as factors that determine the value of residential properties in Jos metropolis, Nigeria. The research framework uncovered that intangible location attributes play a major role in determining the value of residential accommodations in the study area. Land and landed property value could be determined through many indicators as revealed by the existing literature. However, these indicators could be either tangible or intangible in nature. Tangible or visible indicators of land and real estate values include: accessibility, transportation, household preference, and closeness to central business district, nearness to community facilities, utilities and services, closeness to central business district, demand and supply and the likes.

Others are closeness to waste dump sites, elements or components that form part of a building structure, population of a given area, subdivision regulation, building codes, planning restrictions, environmental protection laws and zoning regulations. On the other hand, the value of land and landed property could also be arrived at by taken into consideration the intangible or invisible location attributes. These intangible location attributes include: ethnic background, safety, religious inclination, security of life and property, native inclination, cultural identity, violent free areas, violent prone areas, race, skin colour, socio-economic background and the likes. It has been established through the findings of this research that; intangible location factors are the main indicator of land and landed property value in the study area.

The findings of this research is, therefore, not in conformity with the findings of some researchers who challenges all the existing models of residential property value by looking at safety as another indicator of land and landed property value. This research however negates this assertion because safety or security of life and property is not a different phenomenon when determining the values of residential property but rather is among the intangible location attributes as indicators of residential property value. It is sufficed to state that the previous models or theories of land and landed property indicators are of two types, viz: tangible and intangible location attributes. In the case of Jos, the intangible attribute of location is the prime mover of residential property value indicators in areas that are prone to violence while tangible location attributes are the main factors that determine real estate value in violent free areas or safe zones.

In other words, the research outcome, therefore, uphold the findings of the previous researchers by looking at tangible location attribute as the main indicator of residential property value in the violent free areas in Jos metropolis. On the other hand, the value of land and landed property in the violent prone areas could only be appraised when intangible location attribute is taking into consideration. It can be documented through the outcomes of this research that the research extends the existing body of knowledge by looking at intangible location attribute as another indicator of land and landed property value. The outcome of the research, therefore, did not challenge the existing models or theories of land and landed property value indicator but rather extend the frontier of knowledge by incorporating intangible location attributes as indicators of land and landed property value in Jos metropolis. This is true because location could not be detached from among the indicators of residential property values in its entire ramification as discussed earlier.

The previous researchers concluded that tangible location factors such as accessibility, location, structural quality, neighbourhood attributes etc are the best in terms of determining residential property value. However, in the study area, it was discovered that intangible location attributes are the prime mover in determining the worth of a residential property. The outcome of this research framework on the effect intangible location attributes on the values of residential properties using Jos as a study area reveals that majority if not all of the respondents in the study area had in one time or the other relocated from their former place of residence or abode to where they are living at present. It was discovered that the fundamental reason for this movement was as a result of intangible location attributes.

Relating this to rental values of residential properties, Dung-Gwom and Rikko (2009) observed that the rental values of such properties maintains a steady upward increase since when these conflicts started in the study area. Same goes to sales value of the residential properties which also increase persistently in the areas that are not prone to violence. The implication is that the intangible location attributes have direct influence on rent passing and sales value on residential properties in the study area (Dung-Gwom and Rikko, 2009). The analysis showed that all the residential properties in the study area have rental increased. In other words, the rental and sales value are always increasing in areas that enjoy relative peace and security. This is the commonest in the study area with indication that high price and rental values are associated with how secured the area is in terms of safety or security of life and properties. This incidence is corroborated by concentration of large number of

people that have been competing for space within the highly secured and peace living neighbourhoods. This has partly accounted for high price and rental incomes in such locations (Dung-Gwom and Rikko, 2009).

4.2 Recommendations

Some of the recommendations emanate from the Human Right Watch on communal clashes and sectarian violence in Jos and its environs. However, they are also relevant to addressing inter-communal conflicts in other parts of Nigeria and throughout the globe in general. Based on findings of the research and to ascribe value to land and landed property as well as to reduce the incidences of ethno-religious violence in Jos, the following recommendations are advanced in order to point the way forward:

There is a need on the part of the investors and property developers before embarking into building construction to take into consideration intangible or invisible factors of location in order to avoid wasting of capital in the study area. Many faith organisations and CBOs have to encourage the people affected by the violent crises not to sale their properties and move out of the localities, as they see this as resulting into ethnic cleansing. They should therefore render financial support to such people to repair or rebuilt their houses. A number of households should move back to their former houses.

There is a need to resolve the lingering issue of *indigenes* and *settlers* in Jos. The struggle for land ownership and control of Jos is the remote cause of repeated crises that have occurred in Jos over time, but government has not done much in resolving this issue. Since this is a constitutional matter, the state and federal governments should work together to address the issue and clearly define the rights and privileges of indigenes and others which guarantees their basic fundamental rights and addresses the fears of the minorities. Cordial intergroup relations should be promoted by residents of Jos (Dung-Gwom and Rikko, 2009). This can be achieved by the activities of traditional, religious and political leaders. Government and Non-Government Organisations should also collaborate in promoting intergroup harmony and peaceful co-existence. The various ethnic groups have to be convinced to partake in peace conference the like of 2004, which they fail to endorse at the end to resolve contending matters, rather than to boycott it.

There is need for Government to ^{implement} the recommendations of Judicial Commissions of Inquiry into the causes of ethno-religious and political crises that have occurred in Jos over time. Perpetrators of violence should be punished irrespective of their socio-political status in the society. This will go a long in forestalling the reoccurrences of such crises in Jos. Good urban governance can be achieved by addressing the needs of the poor, disadvantage and ethnic peculiarities. Youth empowerment should be embarked upon so that idle youths who are often taken advantage of these crises and also mobilised by high placed individuals to achieve their selfish gains will be engaged in meaning economic activities and have a sense of belonging in the society. There is need for land reform so as to improve on the current cumbersome procedures of getting access to land for all kinds of development in Jos in particular and in Nigeria at large. This can be achieved through a constitutional amendment that will allow for divorcing the Land Use. Act from the Constitution of the Federal Republic of Nigeria, so that its provisions can be reviewed to accommodate changing circumstances.

Provision of urban infrastructure at the inner city and peri-urban areas is very important. This can be achieved through public private partnership and community participation. There should be programme for vigorous slum upgrading to improve the living conditions of people in such areas which are very prone to violence. Crime Control through Environmental Design is a strategy that has been employed in cities very prone to crimes and violence, and appropriate design strategies should be adopted in Jos. To control and manage the incidences of violence, particularly communal violence in Jos, there is a need for a holistic approach which addresses judicial processes, human rights, poverty and corruption.

When carrying out feasibility and viability appraisal, attention must be given to the issue of Intangible location attributes (for instance, religious inclination, ethnic background, safety cultural identity, native inclination, indigene ship, socioeconomic background and security of life and property). Invisible attributes of location must be given consideration as part of appraisal report when forming valuation opinion and investment appraisal, assessed quantitatively rather than relying on intuition. It suffices to emphasise that estate surveyors and valuers must consider intangible location factors, which actually deliver greater value, as major issue in valuation of residential properties in the study area for their opinion of value to be reliable. The research has reinforced the importance of invisible attributes of location for developers and investors wishing to embark on real estate development. The developers and investors should be conversant with the level of security of the proposed area which such development would take place. Decision on the location of such development project should be based on a pragmatic approach such that selected locations would bring the highest return that is adequate and sufficient to compensate investors in such projects.

Intangible attributes of location, therefore, become a tool useful to estate surveyors and valuers in expressing valuation opinions, and predicting residential property values especially in feasibility and viability appraisal. However, a tool may not be useful until it is put into proper use. It is recommended that practical approach be taken to adopt the models and assist in making reliable judgments that would stand the test of time.

This research has shown that intangible attributes of location is an important variable in determining residential property value and its impact, in the presence of other variables, on residential property values in the study area is great.

Governments at all levels should consider the construction, maintenance, and rehabilitation of infrastructural facilities, utilities and services in the study area to be of great essence. This is because land and landed property/buildings are measure of wealth of a nation and enhanced value through provision of good utilities, facilities and services will be worthwhile. The Plateau State Government should increase its funding of building improvements including the construction, maintenance, and rehabilitation of the affected residential accommodations in the study area. Once there are improvements in these variables, residential property values would be enhanced.

Those who resort to violent means of resolving seemingly political disputes must be summarily apprehended and prosecuted as a deterrent to further outbreaks. Perpetrators of violence and their sponsors should also be made to pay due compensation to the victims of such attacks. The government should make justice a priority. This is to ensure that the individuals responsible for organising and carrying out the violence in Jos are identified, arrested, charged, and tried promptly, according to international fair trial standards.

There is a need to publish the findings of all commissions of inquiry set up by the federal and state governments on the violence in Jos, Plateau state from 2001 to date. Government should ensure an adequate security force presence in areas of likely tension in the study area, and improve mechanisms to obtain reinforcements rapidly should the need arise. Efforts should be made to anticipate and prevent violence, rather than just reacting after violence has already begun.

5. OPPORTUNITIES FOR FURTHER RESEARCH

This research is absolutely a pioneering research into the effect of intangible location attributes on the values of residential properties in Jos metropolis, Nigeria. Further research efforts need to be carried out in other cities of Nigeria, to ascertain the general application of present findings. In addition, there are other modes of violent conflicts, which definitely would have various impacts on residential property value, commercial property value, industrial property value, and agricultural property value and the likes. It is therefore important to further ascertain the influences of the phenomena (intangible location attributes) on other categories of property values in Nigerian cities. Similar research exercise may be carried out on the impact of intangible location attributes on commercial and industrial development to ensure a robust professional advice on property values in all part of the city and the country in general (Oni, 2009).

From this research, opportunity for further research also exists in using other techniques to analyse extent and impact of intangible attributes of location on property values jointly with professionals in the fields of real estate management. This will reduce the laborious steps involved in graph theoretic analysis and simplify the technique for determining residential and other property value indices for the use of estate surveyors and valuers and development appraisers in Nigeria. This will become handy in feasibility and viability appraisal and site selection process for development projects in areas that are not vulnerable to violence (Oni, 2009).

6. IMPLICATION FOR PRACTICE

The findings and methodological approach in this research could benefit and contribute to the implication for practice. Similar research of this kind may be replicated in other towns within the country and in other locations in other part of the world. Therefore, this research which examines the effect of intangible location attributes on the values of residential properties in Jos metropolis, Nigeria, provides the indicators to overhaul or adjust the problem as a whole in order to guard against detected shortcomings.

In other words the lesson learnt would be of considerable value for a more efficient value determining of residential property of similar metropolises in other areas. The findings of the research serve as a reference material for future researchers. It will also assist housing policy makers to formulate good polices on housing in the study area and other similar neighbourhoods. It is suggested that to apply this framework to other properties other than residential property, it would require further investigation, as additional research objectives and questions will emerge on the suitability of the framework to the areas (Oni, 2009). The methodological approach in this research could be adopted by practitioners or researchers for similar studies in other areas.

7. REFERENCES

- Alonso, W. (1964), *Location and Land Use: Towards a General Theory of Land Rent*, Cambridge: Harvard University Press.
- Aliyu, A. A. (2012), Impact of Intangible Location Attributes on Residential Property Value in Nigeria, Unpublished PhD Dissertation, Department of Real Estate, Universiti Tun Hussein Onn Malaysia. http://eprints.uthm.edu.my/2913/1/ALIYU_AHMAD_ALIYU_1.pdf
- Ball, M. J. (1973), Recent Empirical Work on the Determinants of Relative House Prices. *Urban Studies*, 10(4), pp. 213-233.
- Ball, M. J., & Kirwan, R. M. (1977), Accessibility and Supply Constraints in the Urban Housing Market. *Urban Studies*, 14(7), pp. 11-32.

- Brown, H. J. and Kain, J. K. (1971), Moving Behavior of San Francisco Households. *Supporting Empirical Studies*, 2(1), pp 6-26.
- Brown, H. J. (1972), Empirical Models of Urban Land Use: Suggestions, on Research Objectives and Organization, *Exploratory Report*, 6(3), pp. 175-184.
- Brownstone, D. & Van, A. (1991), Zoning, Returns to Scale, and the Value of Undeveloped Land. *Review of Economics and Statistics*, 73(4), pp. 699-704. New York: National Bureau of Economic Research.
- Cavaye, A. (1996), Case Study Research: A Multi-Faceted Approach for IS, *Information Systems Journal*, 6(2), pp. 227-242.
- Cervero, R. & Duncan, M. (2004), Neighbourhood Composition and Residential Land Prices: Does Exclusion Raise or Lower Values? *Urban Studies*, 41(2), pp. 299-315.
- Chinn, P. L., & Kramer, M. K. (1999), *Theory and Nursing: Integrated Knowledge Development*. 5th Ed. Mosby: St. Louis, MO.
- Christelow, A. (1985). Religious Protest and Dissent in Northern Nigeria: From Mahdism to Quranic Integralism. *Journal of the Institute of Muslim Minority Affairs*, 6(2), pp. 375-393.
- Citizens Monitoring Group (CMG) (2010a), Plateau Under Attack, Jos Crisis 2010, Eyewitness and Survivor Accounts; February 2010. [<http://www.scribd.com/doc/28479137/>].
- Colwell, P. F. & Munneke, H. J. (1999). Land Price and Land Assembly in the CBD, *Journal of Real Estate Finance and Economics*, 18(2), pp. 163-180.
- Creswell, J. (1994). *Research Design: Qualitative and Quantitative Approaches*, London: Sage Publications, Inc.
- Bagudu, N. (Ed.) (2004), *Recrudescence Civil Disturbances and Human Rights: The Jos and State Wide Crises*. Jos: League of Human Rights.
- Brigham, E. F. (1965), The Determinants of Residential Land Values. *Journal of Land Economics*, 41(1), pp. 325-334.
- Donnelly, E. (2010), *Violence in Jos, Nigeria: Bloody Agendas and Hidden Hands*. Chatham House, 10 March, <http://www.chathamhouse.org.uk/media/comment/jos/-/1047/> – Accessed 13 October 2010.
- Dung-Gwom, J. Y. (2008), *The Nature of Peri-Urban Development in Jos, Nigeria*. Paper Presented at the XXXVIIAHS World Congress on Housing Science, National Housing Programme. New Vision. November. 3-7, 2008 at Kolkata, India. pp. 194-200.
- Dung-Gwom, J. Y. & Rikko, L. S. (2009), *Urban Violence and Emerging Land and Housing Markets in Jos, Nigeria*. Paper Presented for the ISA Housing Conference, Glasgow, 1-4 September 2009, .pp. 291-311.
- Easterby-Smith, M., Thorpe, R. & Lowe, A. (1991), *Management Research: An Introduction*, London: Sage Publications.
- Ford Foundation, (2009), Citizenship and Identity Politics in Nigeria, *Conference Proceedings CLEEN FOUNDATION, Lagos, Nigeria*, sponsored by Ford Foundation First published in 2009. pp. 8-21.
- Global Post, (2010), Opinion: Text Messaging as a Weapon in Nigeria. *Global Post*, 22 September, <http://www.globalpost.com/dispatch/africa/100916/text-messaging-weapon-northern-nigeria> – Accessed 19 October 2010.
- Goodman, A. C. (1977), A Comparison of Block Group and Census Tract Data in a Hedonic Housing Price Model. *Land Economics*, 53(4), pp. 483-487.
- Hansen, W. G. (1959), How Accessibility Shapes Land Use. *Journal of the American Institute of Planners*, 25(2), pp. 67-72.
- Henneberry, J. (1998), Transport Investment and House Prices. *Journal of Property and Valuation Investment*, 16(2), pp. 144-158.
- Human Rights Watch (2005), *Revenge in the Name of Religion: Cycles of Violence in Plateau and Kano States* New York: Human Rights Watch.
- Human Rights Watch (2006), *They do not Own this Place: Government Discrimination Against Non-indigenes in Nigeria*. New York: Human Rights Watch.
- Human Right Watch (2008), *Nigeria: Arbitrary Killings by Security Forces in Jos*, <http://www.hrw.org/en/news/2008/12/19/nigeria-arbitrary-killings-securityforces-> Jos (December 19, 2008)
- Human Rights Watch (2009), *Arbitrary Killings by Security Forces: Submission to the Investigative Bodies on the November 28-29, 2008 Violence in Jos, Plateau State, Nigeria*. <http://www.hrw.org/node/84015> – Accessed 15 October 2010.
- Hurd, R. M. (1903), *Principles of City Land Values*. New York Real Estate Record Association: The Record and Guide Publishers.
- Hussey, J. & Hussey, R. (1997), *Business Research*. Palgrave: Basingstoke.
- Ihlanfeldt, K. R. (2007). The Effect of Land Use Regulation on Housing and Land Prices, *Journal of Urban Economics*, 5(8), pp. 214-225.
- Kain, J. F. & Quigley, J. Q. (1970), Measuring the Value of Housing Quality. *Journal of the American Statistical Association*, 65(1), pp. 532-548.
- Kau, J. B. & Sirmans, C. F. (1979), Urban Land Value Functions and the Price Elasticity of Demand for Housing. *Journal of Urban Economics*, 6(1), pp. 112-121.
- Ketkar, K. (1992), Hazardous Waste Sites and Property Values in the State of New Jersey. *Journal of Applied Economics*, 24(6), pp. 647-659.
- Kohlhase, J. E. (1991). The Impact of Toxic Waste Sites on Housing Values. *Journal of Urban Economics*, 30(1), pp. 1-26.
- Kowalski, J. G. & Paraskevopoulos, C. C. (2003), The Impact of Location on Urban Industrial Land Prices, *Journal of Urban Economics*, 27(1), pp. 16-24.
- Kwashi, B. A. (2011). Nigeria and Religious Liberty, A Paper Presentation. <http://www.cswng.org/files/NIGERIA%20AND%20RELIGIOUS%20LIBERTY.pdf>
- Lin, T. & Evans, A. W. (2000), The Relationship between the Price of Land and Size of Plot when Plots are Small, *Journal of Land Economics*, 76(3), pp. 386-394.
- Magaji, J. S. (2008), *The Effects of 2000 and 2002 Religious Crisis on Residential Mobility and Location Preferences in*

- Tudun Wada District of Kaduna Metropolis*. Department. of Geography and Planning, University of Jos, Unpublished M.Sc Thesis.
- Mallo, D. M. & Anigbogu, N. (2009), Housing Quality Between Residential Neighbourhoods in Jos, Nigeria. Department of Building, Faculty of Environmental Sciences, University of Jos, Nigeria.
- Mang, H. (2008), *Discussions on the Sectarian Violence of the 28th of November to the 1st of December in Jos, Plateau State, Nigeria*. Unpublished paper.
- McClintock, C. C., Brannon, D. & Maynard-Moody, S. (1979), Applying the Logic of Sample Surveys to Qualitative Case Studies: The Case Cluster Method. *Administrative Science Quarterly*, 24(4), pp. 612-629.
- McMillen, D. P. (1990), Consistent Estimation of the Urban Land Value Function. *Journal of Urban Economics*, 27(3), pp. 285-293.
- McMillen, D. & McDonald, J. (1993), Could Zoning Have Increased Land Values in Chicago? *Journal of Urban Economics*, 33(1), pp. 167-188.
- Perry, C. & Cavaye, A. (2001), *How to Identify an Appropriate Method for My Thesis*, Southern Cross DBA Workshop, 12-14 October 2001, Coolangatta, Queensland.
- Pogodzinsky, J. M. & Sass, T. R. (1991), Measuring the Effects of Municipal Zoning Regulations: A Survey. *Urban Studies*, 28(7), pp. 597-621.
- Pollakowski, H. O. (1982), *Urban Housing Markets and Residential Location*. Lexington MA: Lexington Books.
- Pollakowski, H. O. & Wachter, S. M. (1990), The Effects of Land-Use Constraints on Housing Prices. *Land Economics*, 66(9), pp. 315-324.
- Quigley, J. M. (1973), *Influence of Workplaces and Housing Demand in the Short Run: An Analysis of Polytomous Choice*. Paper Prepared for the Winter Meetings of the Economy.
- Oni, A. O. (2009), *Arterial Road Network and Commercial Property Values in Ikeja, Nigeria*, Unpublished Ph.D Thesis. Department of Estate Mangement, Covenant University, Ota, Ogun State, Nigeria.
- Ratcliff, R. U. (1965), *Modern Real Estate Valuation: Theory and Applications*. Don Mills, Ontario: Clintwood Printing.
- Ricardo, D. (1817), *On the Principles of Political Economy and Taxation*. New York: Prentice Hall.
- Ridker, R. G. & Henning, J. A. (1967), The Determinants of Residential Property Values With Special Reference to Air Pollution. *Review of Economics and Statistics*, 49(2), pp. 246- 257.
- Rosenbaum, E. (1996), The Influence of Race on Hispanic Housing Choices. *Urban Affairs Review*, 32(3), pp. 217-244.
- Smith, V. K. & Deyak, T. A. (1975). Measuring the Impact of Air Pollution on Property Values. *Journal of Regional Science*, 15(3), 277-288.
- Song, Y. & Knaap, G. J. (2004). Measuring the Effects of Mixed Land Uses on Housing Values. *Regional Science. and Urban Economics*, 34(6), pp. 663– 680.
- Thibodeau, T. G. (1990). Estimating the Effect of High-Rise Office Buildings on Residential Property Values. *Land Economics*, 66(4), pp. 402-08.
- Thiopulus, K. D. (1971), An Early Nigerian Civil Disturbance: The 1945 Hausa-Ibo Riot in Jos. *The Journal of Modern African Studies*, 9(2), pp. 297-305.
- Thorsnes, P. & McMillen, D. P. (1998), Land Value and Parcel Size: A Semi-Parametric Analysis. *Journal of Real Estate Finance and Economics*, 17(3), pp. 233-244.
- Trochim, W. M. .K. & Donnelly, J. P. (2006), *Research Methods Knowledge Base*. Cincinnati, OH: Atomic Dog Publishers.
- Von Thunen, J. H. (1828), *Isolated State; An English Edition of Der Isolierte Staat*. Oxford: Pergamon Press.
- Wingo, L. (1961), *Transportation and Urban Land*. Baltimore, Maryland: The Johns Hopkins University Press.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:

<http://www.iiste.org>

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Academic conference: <http://www.iiste.org/conference/upcoming-conferences-call-for-paper/>

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

