

The Emergence of Dynamic Residential Property Values Owing to Violent Ethno-Religious Conflicts in Jos

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Abstract

The previous models of land and landed property value 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 determining real estate value in violent free areas as indicated in the findings of the study. Socio-economic background (level of education, income, occupation, gender, religion, household size, indignity and the likes) of Jos residents played a vital role in triggering the crisis which eventually influence the values of residential properties in the study area. A combination of self-administered questionnaires and semi-structured interview were deemed most suitable as data collection tools for this research due to the advantages obtained from both approaches. A total of 1000 questionnaires were administered to the respondents. Out of 1000 questionnaires administered to the respondents, 876 valid responses were used to analyse the information pertaining to the effect of intangible location attributes on residential property value in Jos city. Stratified random sampling was also adopted in order to generate data from the professional estate surveyors and valuers. Out of 30 firms, 10 were chosen and 120 questionnaires were administered to them, that is, 12 for each firm. However, out of 120 questionnaires administered to the professional firms, only 110 were retrieved back. . Most of the data presented using simple percentage distribution tables were also complimented with the aid of complete theoretical analysis for some data that are not quantifiable in nature. The research found that highest demand for residential property was found along the inner city of Jos by the Muslims because this is the area where Muslims are in the majority which within the central part of the study area. It was also discovered that the outskirts of the city witness high influx of Christians who have sold their houses in the predominately Muslims areas. There is a proliferation of squatter settlements, suburbs, squalid areas, ghettos and slum areas in the outskirts of Jos. 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 inters of determining the values of residential property but rather is among the intangible location attributes as indicators of residential property value. 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. When carrying out feasibility and viability appraisal, attention must be given to the issue of Intangible location attributes

Keywords: Conflict, Ethno-religious Violence, Residential Property Value, Residential Mobility and Residential Segregation

1. INTRODUCTION

Verburg, Overmars and Witte (2004) reported that accessibility is a second traditional determinant of value and generally serves as a proxy of the social and economic characteristics of the neighborhood of the land parcel. Early studies on residential property value determinants usually consider the distance to the Central Business District as the single important factor (Kau and Sirmans, 1979; McDonald and. Bowman, 1979 and McMillen, 1990).

The empirical literature suggests that residential property values decrease consistently with the distance from the city center. Other measurements of location vary such as distance to airports (Colwell and Munneke, 1999; McMillen 2006), distance to the nearest train station (Taylor, Breston and Hall, 1982; Cervero and Duncan, 2004), and distance from the region boundary (Kowalski and Paraskevopoulos 2003). District dummy variables have also been used (Cervero and Duncan, 2004), to name but a few. Consistently, residential property value is significantly influenced by location. (Anas, 2002; Verburg, Overmars and Witte, 2004)

Guntermann and Colwell (1983) observed that 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 the model (Wilhelmsson, 1998). Some recent studies, benefiting from the

increasing availability of information, consider a wide range of social-demographic attributes (Cervero and Duncan, 2004; Ihlanfeldt, 2007) and economic characteristics (Thorsnes, 2000; McMillen and McDonald 2002) in the effort of modeling residential property value. These factors are found to be helpful in explaining the residential property value determination mechanism in different jurisdictions as a matter of fact (Hansen, 1959). McMillen and McDonald (2002) suggest that factors that affect residential property value include: Physical suitability for development: slopes, soils, hydrology, land availability, legal restrictions, government regulations (zoning and other land use controls), existing land use patterns and location of other residential development. Others are access, including proximity to interstate highways, distance to employment sources, distance to shopping areas, availability of amenities (water, restaurants and shopping, golf, parks), neighbourhood factors, age of surrounding housing stock, schools, crime, hazardous waste dumpsites (Anderson and Crocker, 1972). However, Alba, Denton, Leung and Logan (1995) observed that multiple sites may be suitable when evaluated across the range of criteria, yet one is developed. Further, development may move in a single direction or sector of a city although suitable sites are available in other areas (McMillen, 2004). This suggests that certain factors may be more important than others in determining the location of new projects. McDonald and McMillan (2000) noted that little is known about the spatial patterns of development because data is usually highly aggregated spatially.

According to the urban economic theory, the accessibility improvements due to transportation will influence the residential property value in a particular area (Mendelsohn, Hellerstein, Huguenin, Unsworth and Brazee, 1992). But accessibility is not the only determinant of residential property value (Anas and Xu, 1999). This will also depends on the housing inner characteristics (surface area, equipment, type of dwellin and so on) and external characteristics such as environment quality, school proximity, and other public facility (Menchik, 1972 and Yinger, 1979).

McDonald and McMillan (1998) completed research that most directly impacts on residential development pattern. They studied the choice of development location for different forms of land use (industrial, commercial and residential) in the Chicago metropolitan area. It was for this reason that Xie, Parsa and Redding (2002) became convinced and concluded that for residential development, they found that proximity to commuter rail stations, highway interchanges and suburban employment nodes had negative effects on residential development (Pollakowski, 1982; Pogodzinsky and Sass, 1990). He buttressed that these variables were all specified as the inverse of distance to allow the marginal effect of each variable to decline rapidly.

In another development, Evans (2000); Tay and Ho (1992) contended that distance to downtown and to O'Hare Airport also had negative and statistically significant coefficients. The author concluded that residential development is more likely at greater distances from an interchange, and that commuter rail and employment sub center have no effect on residential locations (Marlon and Chalermpong, 2001). As a result, the pattern of residential development is scattered. This finding was confirmed by the work of Quigley (1985) who established that the results may reflect the already built-up nature of some sites, the high value of such sites and the negative externalities associated with such sites as suitable residential location choices. Because of these negative externalities, households desire to locate where they have access to these locations but are not so close as to be negatively impacted by the externalities as a matter of fact (Peiser, 1989 and Anas, 2009).

The findings of this research is, therefore, not in conformity with the findings of some researchers who challenge 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 inters of 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 determining real estate value in violent free areas as indicated in the findings of the study.

In other words, the research findings, 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 lande 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 a matter of fact.

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 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 cardinal point for this movement was as a result of intangible location attributes.

2. THEORETICAL UNDERPINNING

2.1 Previous Studies on Factors Influencing the Value of Residential Property

Coffin (1989), Herbert and Stevens (1960); Hughes and Sirmans (1992 and 1993), Li and Brown (1980) as well as Lin and Evans (2000) identified several factors that determine residential property value which include amount of commercial and industrial land, employment in the urban districts in which the residential property is located, population density per square kilometer in the respective urban district in which the residential property is located, site area and distance in kilometers of the residential property from the Bund (the central business district of Shanghai). The work of Lin and Evans (2000) and Thorsnes and McMillen (1998) concluded that factors influencing residential property value include plot or parcel size, location or accessibility, date of transaction, quality of neighbourhood, nature of facilities, utilities and services in the area, environmental quality, structural attributes, distance to central business district, transportations cost, zoning regulations and planning restrictions.

The effect of apartment complex location and amenities (such as square footage, number of bedrooms, and so on) on house prices and rent has long been the subject of real estate research (for reviews, see Benjamin and Sirmans, 1994; Isaksson, 1997; Pennington, Topham and Ward 1990; and Sirmans, David and Emily, 2006). Some features have been shown to be determinants of real estate prices and rents; the value that owners and tenants attach to other features, however, has not uniformly been established. Of particular interest, for example, is the effect on rent of security measures such as restricted access.

Research on urban property values has determined that factors such as zoning and distance from the city center significantly affect rents and property values (see Ball, 1973; David and Peter, 1974; Howley, 2009 and Peter and Carolyn, 2002). Several models have found that fundamental physical characteristics and location explain more than 90% of the variation in the selling prices of properties (Miller, 1982). Neighborhood-specific characteristics of urban housing, was shown by one study, and this explain between 15% and 50% of the variation in urban housing market values (Linneman, 1980).

Location choice has often been examined in terms of the trade-off between commuting and land consumption (Wheaton, 1977). Location produces services of convenience and exposure for the owner or tenant. Location factors such as travel time and distances as well as neighborhood features such as proximity to schools or shopping centers have been examined in the literature, but few studies have examined and drawn conclusions about the impact of intangible locations attributes on residential property values or rents (see Abraham and Hendershott, 1993; Collins and Margo, 2003 and Linneman, 1980).

Turning the focus of discussion to plot or parcel size, a number of researchers like Cervero and Duncan (2004) and Thorsnes and McMillen (1998) concluded that residential property value is greatly influenced by plot or parcel size gradient. They also established that subdivision regulation, zoning regulation environmental protection laws and others positively and negatively influence the values of land and landed property in a given neighbourhood (Muth, 1961 and Peter and Arthur, 1979). However, the findings of the above researchers have some shortcomings because they only used limited number of data which are not sufficient enough to draw conclusion and make generalisation.

There is possibility of being biased in their research due to the limited number of sample employed in their research (Wyatt, 1995). They only concentrate their efforts by looking at the tangible aspects of location without incorporating other indicators of land and landed property value like the invisible attributes of location. Other researchers who did well in this aspect include: Anas and Chausie (2004), Colwell and Carolyn (2002), Gronow, (1988) and Thornes and McMillien (1998). But their findings fall short of need because they did not look at the intangible attribute of location as another determinant of landed and landed property value in other settings.

Buttressing on the same issue, Lin and Evans further affirmed that land and landed property value is a function of plot or parcel size. The findings of Colwell and Munneke (1999), Lin and Evans (2000) and Stephen, Gregory and Richard (1998) deserve academic credit and worth to be mentioned in this aspect of research. They used data in highly urbanised cities like Taiwan and Japan However, there findings could only be applicable in some areas due to the peculiar nature of one city to the other. Plot or parcel size could be categorised under tangible location attributes as it has a direct relation with distance to central business district, accessibility, and transportation and so on and so forth (Vreeker, Groot and Verhoef, 2004). Tangible attributes of location could only be taken into consideration in areas that are categorised as violent free neighbourhoods and could, therefore, not be a yardstick for determining the worth or price of land and landed property in areas that are prone to violence.

3. RESEARCH METHODOLOGY

3.1 Sampling Technique

In order to arrive at a reliable sample and data collection instrument, there is a need to investigate the purpose of undertaken a research (Creswell, 1994 and Crotty, 1998)). Stratified random sampling was also employed in order to generate data from both Muslim's and Christian's residential neighbourhoods as it could be seen in table 1 as well. In a broader perspective, data were collected by field survey, interviews, self-administered surveys through questionnaire and direct observation. Data on property value were obtained from consultancy firms because records of sales and rents transactions are kept in their archives.

3.2 Instruments for Data Collection

A combination of self-administered questionnaires and semi-structured interview were deemed most suitable as data collection tools for this research due to the advantages obtained from both approaches. The questionnaire was designed in such a way that all questions directed to the respondents were consistently phrased, therefore allowing objective judgement of outcome while interviews allow the respondents chance to convey views more lengthily than would be achievable with a closed-ended questionnaire. Furthermore, the interviews allowed elucidation of matters in the questionnaire by the investigator in areas where some respondents may not be totally conversant.

Two types of questionnaires (Questionnaires I and II) were administered. Questionnaire I was addressed to the respondents or occupiers of residential properties, while Questionnaire II was administered to consultancy firms. Out of the questionnaires administered to the respondents, 88% were able to retrieved back. On the part of the consultancy firms, 92% responses were gotten from the survey. Details could be found in table 3.1.

A total of 1000 questionnaires were administered to the respondents. Out of 1000 questionnaires administered to the respondents, 876 valid responses were used to analyse the information pertaining to the effect of intangible location attributes on residential property value in Jos city. Stratified random sampling was also adopted in order to generate data from the professional estate surveyors and valuers. Out of 30 firms, 10 were chosen and 120 questionnaires were administered to them, that is, 12 for each firm.

However, out of 120 questionnaires administered to the professional firms, only 110 were retrieved back. This is necessary to achieve a reasonable spread in the location of interviews and questionnaires to be able to obtain a cross-section of data regarding the impact of intangible location attributes on residential property value in the study area. This is also imperative because of local variations in the metropolis.

Table 3.1: Questionnaires Administered to Respondents

S/N	Type	Respondents	Number of questionnaires administered	Number of questionnaires returned	Response rate (%)
1	Questionnaire I	Occupiers of residential properties	1000	876	88
2	Questionnaire II	Estate surveyors and valuers	120	110	92

Source: Field Survey (2011)

3.3 Method of Data Analysis

Pictures were taken to depict how houses, shops, market, hospitals, places of worships etc were burnt and razed to ashes in the study area. This is imperative because it helps in displaying how the intangible location factors affect the value of residential properties in the study area. Most of the data presented using simple percentage distribution tables were also complimented with the aid of statistical graphs. For example histogram was employed to analyse some of the data in the research.

4. RESULTS AND DISCUSSION

4.1 Duration of Time which the Respondents Live in an Area

Table 4.1 below shows the number of years by which the respondents live in their present place of abode. It ranges from one year to twenty years and above. These table eventually indicates whether violent ethno-religious crisis force people to leave there former place of abode because of insecurity of life and properties.

Table 4.1: Duration of Time the Respondents Live in an Area

Number of Years	Number of Respondents	Percentage
For the past one to four years	472	53.9
For the past five to ten years	203	23.2
For the past eleven to fifteen years	137	15.6
For the past sixteen to twenty years	54	6.2
More than twenty years	10	1.1
Total	876	100

Source: Field Survey (2011)

Table 4.1 above clearly indicates how intangible location attributes force people to relocate to other areas referred to as violent free neighbourhoods or safe zones. For instance, out of 876 respondents administered with the questionnaires, about 54% left their former places of abode from about one to four years ago, while about 24% of the respondents relocated to other places between five and ten years ago. Only about 8% were relocated to their new place of abode between sixteen and twenty years and above. This finding confirms the fact that intangible attributes of location is the major indicator of land and landed property value in the study area. It can be concluded therefore, that majority of the respondents prefer to stay where their life and properties are guaranteed.

4.2 Reasons for not Intending to Own Residential Accommodation in Former Place of Abode

Table 4.2 below presents vividly the various reasons why the respondents are no more interested in owning residential accommodation in their former place of abode. These reasons range from intangible location attributes, low level of income, and high price of residential accommodation to activities of middle men and other reasons.

Table 4.2: Reasons Why not Intending to Own Residential Accommodation in Former Place of Abode

Reasons	Number of Respondents	Percentage (%)
Intangible location attributes	589	67.2
Low level of income	180	20.5
High price of residential accommodation	97	11.1
Activities of middle men	8	1.0
Other reasons	2	0.2
Total	876	100

Source: Field Survey (2011)

A critical look at table 4.2 above reveals that majority of the respondents could not go back to their former place of abode because of fear of outbreak of another ethno-religious crisis. For instance, out of the 876 respondents administered with the questionnaires, about 68% confessed that intangible attributes of location hindered them from owning residential accommodation in where they were formerly resided. However, only 21%, 1% and 11% indicated that low level of income, activities of middle men and high price of residential accommodation respectively as the main indicators for not owning residential accommodation in their former neighbourhoods as indicated above.

It can be deduced, therefore, that in the study area, intangible location attributes (ethnic background, religious inclination, security of life and property, cultural identity, native inclination, violent free areas, violent prone areas and safety, indigene ship and socioeconomic background of the respondents) are the main determining factor of residential property value. This finding is also in conformity with the finding of Dung-Gwom and Rikko (2009) in their analysis on residential segregation in Jos metropolis where they discovered that intangible location attributes are the prime movers in determining residential property values in Jos metropolis.

4.3 Reasons Why Opting to Stay in New Place of Abode

From the forgoing, it is apparent that majority of the respondents opted to stay in an area where their life and property is not in danger. Looking at the table below, one can easily notice that people choose to stay in an area because of the following reasons, that is, intangible location attributes, convenience and comfort ability, tangible location attributes and ethnic, native, cultural, indigene and religious factors.

Table 4.3: Reasons Why Opting to Stay in New Place of Abode

Reasons for Staying in New Place of Abode	Number of Respondents	Percentage (%)
Intangible location attributes	456	52.1
Conveniency and comfortability	20	2.3
Tangible location attributes	45	5.1
Ethnic, native, cultural, indigene and religious factors	355	40.5
Total	876	100

Source: Field Survey (2011)

From table 4.3 above, it could be seen that the main reason why opting to stay in new place of abode is whether an area is violent free or violent prone. This is followed by ethnic, native, cultural and religious factors which occupy a central position in dictating people's choice of staying in their new place of abode. Ethnic, native, cultural, indigene and religious factors are very imperative. They are almost synonymous. At a glance of an eye one can easily conclude that other determinants of residential property value have little or no role to play in the study area, For instance, about 53% and 41% of the respondents were of the view that intangible location attributes and ethnic, native, cultural and religious factors respectively are the main reasons why they opted to reside in their new place of abode.

Only about 8% of the respondents choose other reasons different from the aforementioned. It is not regrettable to state that in Jos metropolis and in other similar areas that have the same antecedents, intangible location attributes, accessibility, community infrastructural facilities, utilities and services, component or elements that form part of a building, demand and supply, transportation, closeness to central business district, building code, sub-division regulation, planning and zoning regulation and the likes have little or no importance in determining residential property value in violent prone areas in the study area.

It is also discovered that this massive movement of people from one neighbourhood to the other is persisting and sky rocketing until serious measures are put in place. From the questionnaires administered to the respondents, almost two-third disclosed that they have resided somewhere else. From the findings of the table above, it could also be noticed that majority of the respondents stayed somewhere other than where they are living now.

4.4 Reasons Why Leaving Former Place of Abode

As indicated from the previous paragraph that most of the respondents stressed the fact that they are no more living in their former houses. This may be attributable to so many factors. Some of the reasons for the relocation may include: convenience and comfortability, intangible location attributes, ethnic, indigene and native background, tangible location attributes or cultural and religious factors. Table 4.4 below presents the various reasons why the respondents left their former houses.

Table 4.4: Reasons Why Leaving Former Place of Abode

Reasons for Leaving	Number of Respondents	Percentages (%)
Intangible location attributes	389	44.4
Tangible location attributes	45	5.1
Convenience and comfortability	37	4.2
Cultural and religious factors	287	32.8
Ethnic, indigene and native background	142	16.2
Total	876	100

Source: Field Survey (2011)

At a glance of an eye, one can jump into conclusion that in table 4.4 above, the most fundamental reasons why the respondents left their former areas are: intangible location attributes, followed by cultural and religious factors and lastly ethnic, indigene and native background. These three reasons are interrelated and interwoven. They can be merged as one reason called intangible location attributes. Only very few respondents in the study area disclosed that lack of convenience and comfortability as well as lack of community facilities, utilities and services are the reasons why they left their former houses.

For instance, out of 876 respondents administered with the questionnaire, about 45%, 3% and 5% stated that intangible attributes of location, cultural and religious factors and ethnic, indigene and native background respectively are the prime movers behind their relocation from their former neighbourhoods. Only about 7% of the respondents reveal that other factors other than the aforementioned are responsible for their relocation. From the foregoing therefore, people in Jos metropolis placed high value to areas that enjoy relative peace and security of life and property to the disadvantage of areas that are prone to sectarian violence and civil unrest. This eventually led to the creation of safe zones in the study area.

4.5 Main Point of Concern when Selecting Residential Accommodation

In the past, researchers focused their attention on certain tangible location factors as the main determinants of residential property values. These factors include: accessibility, transportation, demand and supply, population of a given area components and elements of a building, community public utilities, facilities and services, parcel size, closeness to central business district, building codes, sub-division regulation zoning restrictions and so on. However, there is a significant departure from the existing models of residential property value based on what is being experienced in the study area because intangible aspect of location plays a major role in ascribing value to land and landed property. As it can be seen in table 4.5 below, the previous models of residential property value are not applicable in the study area.

Table 4.5: Main Point of Concern when Selecting Place of Abode

Main Point of Concern	Number of Respondents	Percentages (%)
Intangible location attributes	597	68.2
Building code, subdivision regulation, parcel size, and zoning regulation	27	3.1
Accessibility and transportation	79	9.0
Community public utilities, facilities and services	17	1.9
Components and elements of a building	89	10.2
Environmental protection laws and Planning restriction	37	4.2
Nearness to core centre of a city	30	3.4
Total	876	100

Source: Field Survey (2011)

Table 4.5 above clearly shows that, the respondents' most point of concern in selecting residential accommodation is intangible location attributes. In other words, all the other determinants of residential property value in Jos metropolis are less important. This leads to the creation of safe zones in the study area. For example, about 69% of the 876 respondents disclosed that violent free or violent prone areas are the main point of concern when selecting place of abode in the situation or event of incessant ethno-religious violence.

Only few respondents stated that other residential property value determinants are their main point of concern in the event of chaos. The null hypothesis which states that there is no relationship between intangible location attributes and residential property value is therefore rejected. From the findings, it can be deduced that intangible location attributes are the order of the day in Jos metropolis. It can also be concluded that in the study area, people can give whatever they own in order to secure an accommodation in an area designated as safe zone.

4.6 Percentage of Annual Income given in Order to Secure Safe Accommodation

Income plays an important role in determining a man's position in a society as well as the type of residential accommodation needed to satisfy his desire and make him live a comfortable life. According to Frishman (1977), in a normal setting, people sacrifice 20-30% of their annual income in order to acquire a decent, magnificent, splendid and astonishing residential accommodation as a matter of fact.

However, in Jos metropolis, the story is completely and entirely different because people are ready to sacrifice a lion share out of their income just to acquire an accommodation in an area that is not prone to incessant violence. Table 4.6 below throws more light on how the respondents sacrifice huge amount of their annual income in order to get safe accommodation in the study area.

Table 4.6: Percentage of Annual Income given in Order to Secure Safe Accommodation

Percentage of Annual Income	Number of Respondents	Percentages (%)
10-20%	75	8.6
21-30%	151	17.2
31-40%	209	23.9
41-50%	387	44.2
Above 51%	54	6.1
Total	876	100

Source: Field Survey (2011)

From table 4.6 above, it is evident that in the study area, the respondents could sacrifice a reasonable amount of their annual income just to get house in the safe zones. This period of saving is indeed frustrating to so many people wishing to acquire residential accommodation in the violent free areas. But according to many respondents administered with the questionnaires, they consider doing so as the last option if they want their life and property to be protected. The percentage of annual income that is considered by many respondents as reasonable is between 31%-40% and 41%-51%. As it can be seen from table 4.6 above, those respondents that

can only save between 31%-40% and 41%-50% are represented by a large percentage (that is, about 24% and 45% respectively).

Greater portion of the respondents in the study area as highlighted earlier were saving most of their earnings in order to get accommodation in the chaos free neighbourhoods. Other findings revealed that those respondents who save little amount of their income were living in an abject poverty, while others seldom stay in their houses. This allows the research to conclude that in violent prone areas, the respondents take into cognisance intangible location attributes as the factors influencing land and landed property values in the study area. In the study area, all the respondents indicated that their main point of concern in selecting where to reside in the situation of incessant ethno-religious turmoil is intangible attributes of location.

Observations have shown that because of the individual interest, sentiments and values attached to the houses in the safe zone areas, purchasing residential accommodation has always been difficult, protracted and frustrating affair which is worth mentioning here. It is because of this, in addition to the earlier reasons that landed property transaction in the study area become problematic and cumbersome. Furthermore it is because of these reasons that landed property transaction has to vary considerably from place to place. The attractive quality (intangible location attributes) of a place where landed property is situated could also influence the speed of purchasing.

4.7 Yardstick or Criteria Used when Determining Residential Property Value in the Study Area

The above result is quite revealing in an area bedeviled with frequent ethno-religious fracas. The most important factor/criteria used in determining where to live and/or not to live in the study area is safety/security. Worthy of note is the fact that what determines how much a residential plot or accommodation will command depends on how the people perceive their social security in question.

People in the affected areas do not consider location in terms of proximity to place of work or accessibility to social amenities as the informing factor in determining where they should live. The findings, therefore, compel the research to reject the null hypothesis which stated that there is no relationship between residential property value and intangible location attributes in the study area as indicated in table 4.7 below.

Table 4.7: Yardstick or Criteria Used when Determining Residential Property Value in the Study Area

Yardstick/Criteria	Number of Respondents	Percentage (%)
Intangible location attributes	512	58.5
Transportation and accessibility	71	8.1
Components and elements of a building	107	12.2
Community utilities, facilities and services	165	18.8
Others	21	2.4
Total	876	100

Source: Field Survey (2011)

Table 4.7 above shows the criteria used by the respondents in determining residential property value in the study area. Almost 59% of the respondents contended that intangible location attributes (ethnic background, native inclination, cultural identity, indignity, religious inclination, security, violent free areas, violent prone areas and safety) is the main yardstick used in determining where to live or not to reside.

Going by this assertion, it has been discovered that about 39% of the respondents disclosed that other criteria apart from intangible location attributes is their main determinants of residential property value. This finding also allows the research to reject the null hypothesis which states that there is no relationship between intangible location attributes and residential property values in the study area.

It was also discovered through the interview conducted with the respondents that about two-third left their former place of residence because of intangible location attributes. Furthermore, about one-tenth relocated because of tangible location attributes. In the same vein, about one-sixth changed their place of residence because of convenience and comfortability. Similarly, about one-third relocated from their former place of residence to present place of residence because of religious and cultural identity. Finally, one-quarter also indicated that they relocated because of indignity, ethnic and native background. It is evident that intangible attributes of location are the major consideration for determining where people live in the study area. Tangible attributes of location like transportation, accessibility, closeness to CBD are not given much attention as revealed by the research.

4.8 Indicators Taken into Account when Assessing the Level of Calmness in the Study Area

There are many factors that are taking into consideration when assessing security of a particular area. It varies from area to the other, depending upon the context in which it is used and the circumstances under which it is considered. To some people, availability of security men in the form of police, military, watch man, vigilant group and the likes is the men factor that determines the security of an area.

However, in an area where sectarian violence and civil unrest is on the increase, the main factors considered in

assessing land and landed property value includes: cultural and religious factors, safety, ethnic and native background, security, non-indigene settlement, and whether an area is violent free or violent prone. Table 4.8 below shows how these factors play an important role in determining security of an area.

Table 4.8: Indicators Taken into Account when Assessing the Level of Calmness in a Place of Abode

Indicators Taken into Account	Number of Respondents	Percentage (%)
Cultural and religious factors	479	54.7
Ethnic and native background	321	36.6
Political, social and economic status	54	6.2
Tangible or visible location factors	22	2.5
Total	876	100

Table 4.8 above shows the factors being taken into account when assessing or appraising the level of calmness in the study area. The findings uncovered that cultural and religious factors are the main indicators taking into account when assessing the calmness of an area which is about 55%. This is followed by ethnic and native background which is about 37%. The third indicator taken into account is political and economic status which is about 7%. The fourth indicator of value is tangible or visible location factor which is about 3%. This is a clear indication that intangible location attributes influence the values of residential properties in the study area.

4.9 Assessment of the Effect of Intangible Location Attributes on the Values of Residential Properties in the Study Area

To assess a phenomenon of this kind, there is bound to be varying opinion since it is not possible to have the same opinion/experience in respect of intangible location attributes compare to other indicators of residential property value in the study area. Parameters of strongly agree, agree, disagree and strongly disagree is therefore adopted for easy reference point of assessment. In table 4.9 below, the questionnaires administered to the respondents addressed this issue by asking the respondents whether they agree that intangible location attributes are very essential in terms of determining the worth of land and landed property in the study area.

Table 4.9: Assessing the effect of Intangible Location Attributes on the Values of Residential Properties

Assessing the Effect of Intangible Location Attribute	Number of Respondents	Percentage (%)
Strongly Agree	621	70.9
Agree	186	21.2
Disagree	53	6.1
Strongly Disagree	16	1.8
Total	876	100

From table 4.9 above, it could be seen that almost three-quarter (71%) of the respondents strongly agreed that intangible location attributes influence land and landed property value in the study area. This is followed by those respondents (about 22%) who agreed that intangible location attributes are very essential in determining values of residential properties in the study area. Having identified that, there are many respondents in the study area whose experience in looking at intangible location factors as being a pre-requisite for residing in a particular area as a matter of fact.

On the whole, therefore, majority of the respondents in the study area had strongly agreed that intangible location attributes are very essential in terms of assessing the value of land and landed properties in the study area. This is a clear manifestation that respondents embark on developing or purchasing residential accommodation where they have assurance that their life and property is safe from invaders or mercenaries.

Due to urbanisation, many people are moving from rural to urban areas where modern facilities are available. In Jos the scenario is the same. Population pressure in the cities and towns of Plateau state had made the city of Jos to be volatile to sectarian violence and civil unrest in particular. Furthermore, the congested urban places of Jos metropolis are in need of expansion, but the inner city of the town where the Muslims are predominant is experiencing vertical expansion (Dung-Gwom and Rikko, 2009).

On the other hand, outskirts of the study area as revealed by Dung-Gwom and Rikko is experiencing horizontal expansion because the Christians are the majority in the outskirts of the city. Land and landed property have become of great marketable value in areas that enjoy relative security of life and properties and no longer the ordinary land known to African tradition as a gift of nature to mankind (Dung-Gwom and Rikko). This observation has probably acted as a catalyst to the promulgation of certain laws in the country in order to overcome this menace.

4.10 The Exact Time when Problem of Purchasing Residential Accommodation Started

Prior to the commencement of the fracas, there was nothing like difficulty in purchasing residential property in Jos metropolis. People started encountering problems when buying residential property in secured areas when the crisis emanated. Violent ethno-religious conflicts in the study area started in the late 1990s but precisely

2001. Table 4.10 below illustrate whether the problem of purchasing residential accommodation started before or after the fracas.

As it can be seen, it is obvious that the difficulty encountered when purchasing residential accommodation in the study area came into being when the conflict started manifesting. For instance, about 55% of the respondents stated that the problem started about 6- 10 years ago. This was the time when worst violent ethno-religious conflicts recorded in history took place in the study area. It culminated in bloodshed and eventually led into a wanton destruction of life and properties. Some respondents that is, about 33% disclosed that the problem started 5 years ago. The respondents that said the difficulty started 5 years ago were mostly there when the worst crisis took place in 2008 in which many lives were lost, properties worth billions of Nigerian Naira were destroyed as indicated in table 4.10 below.

Table 4.10: Time when Problem of Purchasing Residential Accommodation Started

Date Started	Number of Respondents	Percentage (%)
1-5 Years Ago	283	32.3
6-10 Years Ago	479	54.7
11-15 Years Ago	107	12.2
More than 15 Years Ago	7	0.8
Total	876	100

Many residential properties were set ablaze and eventually, the residential pattern was excessively changed in various part of the metropolis. As it could be seen in table 4.10 above, those respondents who disclosed that the crises started 1-5 years ago only revealed what they witnessed during their stay. However, some of the respondents, that is, about 13% revealed that the problem started 11-15 years and above. These respondents consider even the minor ethno-religious crises that took place before the September 9, 2001 violent ethno-religious conflicts. By implication, the findings of this study indicate that people started encountering these problems after the crisis.

4.11 Purpose of Undertaking Property Development in the Study Area

There are many reasons why an individual would like to embark on property development. Some are interested in developing for residential, commercial, industrial or other purposes. This study is only limited to residential properties because it occupies more than 60% of the land use found in the study area. Another reason is because up till now in the study area, there is little or no segregation in terms of commercial properties. Table 4.11 below indicates that various reasons necessitate why the respondents undertake property development in the study area.

Table 4.11: Purpose of Undertaking Property Development in the Study Area

Purpose of Development	Number of Respondents	Percentage (%)
Residential	597	68.2
Commercial	143	16.3
Industrial	98	11.2
Others (Specify)	38	4.3
Total	876	100

The above finding reveals that majority of the respondents administered with the questionnaires in the study area undertake their development for the purpose of residential habitation. For instance, about 69% of the respondents reveal that they are building residential properties. However, only about 32% stated that their purpose of development was either commercial, industrial other reasons. This is the reason why one can quickly jump into conclusion that the respondents' main purpose of undertaking development is almost purely residential. This means that the research is still on the right tract as the heart of the research has to do with residential properties.

4.12 Discussion of Results

Based on the findings of this research, it can be documented that unlike in other areas where lack of fund, poor savings, inflation, lack of credit, low level of income and the likes are the main obstacles for development, in the study area, all these indicators are not taken into consideration. People in the study area could not start or complete their development because of fear of demolition or destroying it again and because of insecurity. It has been documented through the findings of this research that most of the respondents have intention of developing their plot or dilapidated structure. However, based on the interview conducted with respondents, it has been realised that most of them are planning to dispose their landed property so as to buy another one in safe zones. Some of them are waiting for the time when peace will reign in Jos before starting development and reconstruction.

From the findings of this research, it could be seen that those respondents that disclose lack of fund as the main reason for not renovating or completing their house are staying in violent free areas. This source of financing residential property development was also found to be insignificant because most of the respondents interviewed

indicated that they were unable to repay back the money. This eventually caused serious problem and in some cases the court intervene in order to settle the dispute. Other sources of finance which encompasses short term loans, medium term loans and long term loans credit facilities that are public in nature have little or no impact to most private property developers in the study area.

The research uncovered that highest demand for residential property was found along the inner city of Jos by the Muslims because this is the area where Muslims are in the majority as the area is within the central business district of Jos metropolis. It was also discovered that the outskirts of the city witness high influx of Christians who have sold their houses in the predominately Muslims areas (Dung-Gwom and Rikko, 2009). There is a proliferation of squatter settlements, suburbs, squalid areas, ghettos and slum areas in the outskirts of Jos. This is because most of the Christians living in the inner city of Jos where Muslims are in the majority have disposed all their houses in order to secure an accommodation in the outskirts of the city where the Christians are predominately staying there.

The finding of this research however, is not in line with the findings of earlier studies of residential property value determinants. In addition, the previous models of residential property value determinants could only be applicable to areas that are free from chaos in the study area, for instance, GRAs, Police Barrack, Army Barrack, Higher Institutions of Learning and the likes. This finding therefore supports earlier theories that advocate that the higher the degree of accessibility, location, quality of neighbourhood, quality of structures in a building and complementarities, the more valuable the residential accommodation would be and the higher the land values in the designated area.

Intangible location attributes of violent free areas, violent prone areas, ethnic background, safety, cultural identity, native inclination, indigene ship, security, socioeconomic background, religious inclination and the likes are the main point of contention regarding whether to choose or not to choose residential accommodation in the study area. Almost all the respondents revealed that dwelling in violent free areas are their main option and consideration when selecting place of bode. On the other hand, the activities observed in the inner city are the vertical extension of residential properties through construction of high rise structures and conversion of residential properties into commercial properties as also confirmed by the work of Dung-Gwom and Rikko (2009).

This implies that high rental and sales value have a direct relationship with whether the area is volatile to violence or free from conflicts in the study area. This was not unexpected in the study area as the central part of urban areas offer advantages of agglomeration of residential property investment. It has been documented through the findings of this research that residential mobility, relocation and segregation are gaining momentum in Jos due to the influence of intangible location attributes. Choosing residential accommodation, seeking professional advice, real estate investment, displacement of people, duration of purchase or renting accommodation and the likes were all discovered to be influenced by intangible location attributes in the study area.

5. CONTRIBUTION TO NEW KNOWLEDGE

It is sufficed to say that the research has stimulated other researches particularly from the determinants of residential property value and that the results and findings are found to be useful contribution to knowledge. This research has expanded the research frontier in construction and real estate management profession by introducing new dimensions and concept in the area of residential property value indicators. In particular, it has reinforced the importance of intangible location attributes, that is, ethnic background, safety, religious inclination, security of life and property, indigene ship, native inclination, cultural identity, violent free areas, violent prone areas, race, socio-economic background, skin colour and the likes as the main factors that influence residential property values in the study area and other cities that have similar antecedents as a matter of fact.

The research has thrown up challenges, especially in linking the importance of intangible location attributes in determining residential property value with construction and real estate management, valuation, and project development appraisal (Oni, 2009). It is also hopeful that the findings in this research would be of great assistance to Governments at various levels in the formulation and implementation of policies and measures that will effectively promote and enhance the importance of intangible location factors through increased development of security force in the study area and other cities with similar antecedent. Intangible location attributes have great impact on values of residential properties, which invariably are measure of growth and development of the urban economy.

The numeric and theoretic approach used in this research to analyse the data on the basis of achieving the set goals of the research was applicable to the research for its simplicity yet analytical features that enable conversion of qualitative data to quantitative measures were also relevant. The technique was neither adequately considered by previous measures of residential property value nor was there any earlier research that adopted the technique as part of approach to measuring the effect of intangible location factor on residential property values. This research is therefore a great contribution to knowledge in this regard and it is hopeful that it would open

more research in this direction.

Based on complexity of residential, commercial, industrial, real estate activities and degree of urbanisation exemplified by the study area, deductions and findings from the research may be applicable to other cities in Nigeria and other countries that have similar attributes. The research arouses the interest of researchers in estate surveying and valuation particularly along effect of intangible location factors on residential property value, an aspect that has not been explored. A review of literature showed that research on Nigerian residential property value determinants in some selected states where intangible location factors are on the increase could be used as theoretical concept to determine how those invisible attributes of location affect residential property values.

Based on the existing literatures on residential property value determinants, the tangible factors of residential property value indicators like 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, closeness to waste dump sites, elements or components that form part of a building structure, population of a given area, subdivision regulations, building codes, environmental protection laws, planning restrictions, zoning regulations and the likes are the main indicators of land landed property value.. However, it has been established through the findings of the research that the intangible location factors are the sole indicators of residential accommodation worth in Jos metropolis. The research has contributed immensely towards incorporating invisible location factors in residential property value indicators.

The importance of this research lies in the fact that future researchers would use it as a reference material. It will as well be of beneficial to past researchers as it helps in bridging the gap that exists in the frontiers of knowledge. The government would find this research of paramount importance in terms of initiating policies on factors to be considered when investing capital for residential purpose in the study area. Appraisers need to take note of invisible location factors before embarking on feasibility or viability studies in the study area. Estate valuers as well as residential property investors and developers would also find this research very useful when conducting property valuation.

This research extends the existing body of knowledge on residential property value indicators by introducing intangible location factors as other indicators of residential property value. The research has therefore greatly added to the existing body of knowledge on residential property value determinants by introducing and looking at invisible attributes of location as indicators of residential property value in the study area and other areas that have similar antecedents (Oni, 2009). The outcome is of beneficial to future researchers and government policy makers with regard to factors that determine residential property value, provision and maintenance of neighbourhood facilities, utilities and services. The results are of major importance to real estate investors and appraisers who want to involve themselves in residential property investment and valuation respectively.

6. RESEARCH RECOMMENDATIONS

These recommendations are formulated specifically in response to the effect of intangible location attributes on the value of residential properties and how to tackle the persisting violence in Jos metropolis. Some of the recommendations emanate from the Human Right Watch (2006 and 2008) 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 reduce the incidences of ethno-religious violence in Jos, the following recommendations are advanced in order to point the way forward as indicated in the findings of the research.

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. 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 (Dung-Gwom and Rikko, 2009).

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.

Government should publish the findings of all commissions of inquiry set up by the federal and state governments on the violence in Jos, Plateau states 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.

There is a need for the 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 embark 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 meaningful economic activities and they should be advised that they 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 (Dung-Gwom and Rikko, 2009). 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, socio-economic background and security of life and property). Invisible attributes of location must be given due 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 as a matter of fact.

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, becomes 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 are important variables 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.

7. OVERALL CONCLUSION

Looking at the research outcome, it could be established that residential property value is a function of many indicators. These factors could either be tangible or intangible in nature. Tangible location attributes (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, closeness to waste dump sites, elements or components that form part of a building structure, population of a given area,

subdivision regulation, building codes, environmental protection laws, planning restrictions, zoning regulations and the likes) were found to be of major significance in violent free areas. It has also been documented through the findings of this research that intangible location attributes (ethnic background, safety, religious inclination, security of life and property, native inclination, cultural identity, violent free areas, violent prone areas, race, skin colour and other not mentioned) are the main indicators of and landed property values in violent prone areas.

It has also been concluded that this research is not challenging the previous models of land and landed property value determinants but rather extending the existing knowledge on the indicators of residential property value. This is true because location could be categorised into either visible/tangible or intangible/invisible in nature. The research uncovers that location is the backbone in terms of assessing the worth of land and landed property. It only depends on how an individual looks at it, that is, whether tangible or intangible in nature. The research, therefore, concludes that the findings did not conform to the findings of others who look at safety as another phenomenon different from the other determinants of residential property value because safety could be categorised under the intangible or invisible attributes of location.

It has been realised that the socio-economic background (level of education, income, occupation, gender, religion, household size, indiginity and the likes) of the respondents played a vital role in triggering the crisis which eventually influences the values of residential properties in the study area. Furthermore, most of the respondents could not rebuild their dilapidated structures because of fear of destroying it again and because of low level of income and lack of collateral security needed by the banks before issuing loan. The interest charged by the banks was also discovered to be beyond the reach of majority of the respondents. Due to low level of income of majority of the respondents, it has been realised that saving becomes difficult due to daily needs and demand of the respondents. The Hausa/Fulani Muslims constitute a larger portion of the population in the metropolis but they are being marginalised. As such, they are prevented from having a say in the political arena of the state.

The rental and sales value of both land and landed properties have maintained an upward increase due to the incessant violence in the study area (Dung-Gwom and Rikko, 2009). The community facilities, utilities and services in the study area were severely affected in areas that are prone to violence while those that are located in the violent free areas are still in their good conditions. In the inner city, it has been realised that, there is vertical extension and development due to constraint in terms of land availability. However, the outskirts of the metropolis is experiencing a horizontal extension and development due to availability of land for development (Dung-Gwom and Rikko, 2009). It has also been realised that, most of the respondents could not afford to buy residential accommodations in areas that are free from violence due to lack of sufficient fund.

Unless these problems are taken as challenges, there would be no lasting solution regarding the ongoing residential mobility, segregation, movement, change of ownership and new trends in the sales and rental values of land and landed properties in the study area. There is a strong need on the part of individuals, nongovernmental organisations, syndicates as well as local, state and federal government to put their heads together in order to have a long lasting solution on this boiling and contending issue. If this could be done, then there would be peace in the study area and people would continue to live in harmonious manner with one another irrespective of their cultural background, religious inclination, ethnic background, native inclination or indigeneity.

8. REFERENCES

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