

The Impact of Urban Crime on Property Values in Akure, Nigeria

Victoria BELLO, Nigeria

Key words: Urban Crime, Property Values.

SUMMARY

High rate of crime in our urban centers has led to a corresponding increase in the level of insecurity of lives and property in our cities. Consequently, a potential renter or buyer of house would always be concerned with the crime rate in a neighbourhood before making their choice. In view of this, the paper examined the perception of crime and its effect on property values in two neighbourhoods (Oke – Aro and Alaba - Layout) in Akure, Nigeria. The target population are the occupants' of residential properties in these neighbourhoods. A total of 266 questionnaires were randomly administered in the neighbourhoods out of which 174 were returned and good for analysis. The data were analyzed using the descriptive statistics and Multiple Regression. The result revealed that residents of the neighbourhoods have negative perception living in crime areas and the rate of crime is inversely related to property values.

The Impact of Urban Crime on Property Values in Akure, Nigeria

Victoria BELLO, Nigeria

1. INTRODUCTION

Most urban cities of the world have experienced a remarkable rapid urban growth resulting from industrialization and technological advancement. In Nigeria industrialization and unplanned urbanization characterizes the economic and social growth processes. The resultant effect is that the quality of the urban environment is above crisis situation. The spatial expression of these realities and the consequence of spontaneous urbanization with the uncontrolled growth pattern in most of the urban cities are manifested in diverse urban problems such as urban decay where visible forms of drug use, anti – social behaviour and criminal damage to public and private properties are the order of the day (Gibbons, 2004). This however, leads to fear and insecurity of lives. Hence, Glaser and Sacerdote (1999); Bannister and Fyfe, (2001) noted that the fear of crime is closely related to densely populated and built environment. Crime and the fear of crime affects many aspect of everyday life in our cities. This promotes insecurity and anxiety in most cases. In Nigeria especially in the urban areas people live in fear. Burglary, armed robbery, “yahoo yahoo” kidnapping and other forms of crime are the other of the day. Gibbons (2004) opined that no matter the nature of crime, it will have dynamic effect driven by household location decision which in turn affects the price of properties. Hence the demand for low – crime neighbourhoods is revealed in a property (Social Exclusion Unit, 2001). For instance studies of Los Angeles inner city corridors found that crime was the prominent concern of residence in the area. Consequently, a potential renter or buyer of house would always be concerned with the crime rate in a neighbourhood before making their choice. Hence in high crime area rental or sales value tend to decline. Social Exclusion Unit (2001) noted that areas with high crime and unemployment rates acquire poor reputations as properties in the areas are in bad condition and hence attracts low values.

Much work has been done to determine the effect of crime on property values in the developed country (Haurin and Brasington, 1996; Patras and Greebaumt, 2006; Patras, 2007). In Nigeria, little or no effort has been made in this direction. The few known studies that exist focused on the performance of the police in relation to crime and the impact of urban crime on residents’ satisfaction and mobility in Nasarawa, Nigeria (Aluyor, 2005; Yacim, 2010). It is against this background that this study was undertaken.

The remainder of the paper is organized as follows. Section two (2) presents a review of existing literature on how occupants of properties perceive crime and the effects of urban crime on property values. Section three (3) presents a description of the methodology employed for the study, while section four (4) focuses on the empirical results. Policy implication and concluding remark are contained in section five (5).

2.1. PERCEPTION OF CRIME

Property value can be reduced by the perception that an environmental or neighbourhood hazard exist whether the market perception is rational or not (Patchin, 1991). The assumption is that the act of purchase is preceded by a sequence of mental information processing involving a cognitive function in forming beliefs, emotional competence in developing attitudes, and a reaction to motivation to select and purchase a product (Gibler and Nelson, 1998).

Gibson (1987) while investigating what information is actually present in the visual environment to an observer believed that perception was direct, and not mediated by a process of inference, and percepts, and is not constructed from sensations but emphasized relations in the environment. Human beings have thoughts and feelings which strongly influence their behavior on their environment. These thoughts and feelings are part of their conscious states and provide the inputs used by them to make decisions about their actions and reactions to their environment.

However, perception is often different from more objective measures of reality especially in the case of crime (Skogan, 1986). If perception deviates from reality, it is likely that households and businesses make location decisions based on their perceptions and it is the perception of an amenity that is subsequently capitalized into property values (Petras, 2007). Sampson and Raudenbush (2004) examined factors underlying perceptions of neighbourhood disorder and found that race and poverty were stronger predictors of perceived disorder than more objective investigator – observed indicators of “true” disorder such as graffiti, litter, rug paraphernalia and security fencing on commercial buildings.

In addition, there is often a disconnection between underlying crime rates and the perceptions of neighbourhood safety. Instead an opinion about the level of crime based on cues from the environment is formed. For instance, high levels of social disorder translate into the perception of high levels of crime. Gibbons (2004) found that crime such as vandalism, graffiti and arson has a greater deleterious impact on house prices in London than burglaries. Perception of neighbourhood safety may be very important since crimes such as vandalism and graffiti are very visible signals of disorder (Skogan, 1990; Wilson and Kelling, 1982). Crime however, is a factor affecting the decision that households makes regarding where to locate and this affects how they perceive crime and how much individuals are willing to pay for a particular location.

2.2. EFFECTS OF URBAN CRIME ON PROPERTY VALUES

There are several factors (structural, locational and neighbourhood factors) that affect the price of a property, crime (neighbourhood factor) presumably being one. The types of crime committed in Nigeria today include; organized/professional crimes, syndicate or business crimes, white – collar crimes such as fraud in business and government offices, armed robbery, burglary, trespass, vandalism, politically motivated killings/assassinations, kidnapping, sabotage and subversions (Aluyor 2005). The fear of crime and crime itself has created insecurity to lives and property among individuals. Most often people are not satisfied to live in neighbourhoods where crime rate is high and in some cases it alters the household location decision and the prices paid for such properties (Petras, 2007).

Numerous economic studies have looked at the effect of crime on property values and their findings varied. Hellman and Naroff (1979) did a study in Boston analyzing the impact of crime on urban residential property values. The study found that at every level of crime reduction, housing prices increased. Also, Bowes and Ihlanfeldt, (2001) reported that an additional crime per acre per year in Atlanta decreases property prices by around 3%, allowing for simultaneous effects from transport access.

Thaler (1978) claims that a one standard deviation increase in property crime rates decreases price by 3% in Rochester, New York. Also, Gibbons (2004) found out that a 3.8% decrease in price was found when an additional 5 crimes a year were reported in London. While these researchers found that crime has significant negative influence on property values some feels that as crime increases property values increase (Manning, 1986; Lynch and Rasmussen, 2001). While these studies were carried out in the developed country, not much has been done in Nigeria (Aluyor, 2005; Yacim, 2010). It is in this regard that this research undertaken to feel the gap that exists.

3. DATA SOURCES AND METHODOLOGY

The data for the study was collected from a sample of occupiers of residential properties in the study areas (Oke aro, Alaba Layout). Questionnaires were randomly distributed to 266 households in the two neighbourhoods out of which 174 were returned and good for analysis (Table 1). The questionnaires were designed to elicit information on occupants' perception of crime and how it affects property values. In line with this, the data was analysed using the descriptive statistics (such as the percentile method and the mean score method) and Multiple Regression Analysis. The percentile method was used to analyse the socio – economic characteristics of the respondents while the Mean Score method was used to analyse the perception of occupants with respect to crime within the areas occupied. The Multiple regression approach was used to estimate the impact of urban crime on property values.

Table 1: Questionnaires distributed to the respondents and the number retrieved

STUDY AREA	NUMBER DISTRIBUTED	NUMBER RETRIEVED
Oke – aro	131	89
Alaba – Layout	135	85
Total	266	174

Source: Field Survey, 2011

4. DATA ANALYSIS AND DISCUSSION OF RESULTS

This section of the paper deals with the socio – economic characteristics of the occupants of the properties, occupants perception of crime and the effect of crime on property values.

4.1. Socio – economic characteristics of the occupants

Table 2 presents data pertaining to sex, age, occupation, income level of occupants and educational level attained, .

Table 2: Socio – Economic characteristics of the Respondents

CLASSIFICATION	Oke –aro		Alaba - Layout	
	Frequency	%	Frequency	%

TS04D - Valuations I, 4775

Victoria Amietsenwu Bello

The Impact of Urban Crime on Property Values in Akure, Nigeria

5/13

FIG Working Week 2011

Bridging the Gap between Cultures

Marrakech, Morocco, 18-22 May 2011

SEX				
Male	52	58.4	49	57.6
Female	37	41.6	36	42.4
Total	89	100	85	100
AGE				
Below 30 years	31	36.0	33	38.8
31 – 45 years	23	25.8	22	25.9
46 – 60 years	19	20.2	21	24.7
61 years and above	16	18.0	9	10.6
Total	89	100	85	100
EDUCATIONAL LEVEL				
School leaving Certificate	29	32.6	9	10.6
OND	33	37.1	17	20.0
HND/B.SC/B.ED	19	21.3	31	36.5
M.SC/P.Hd	8	9.0	28	32.9
Total	89	100	85	100
OCCUPATION				
Self employed (e.g. mechanics, hair dressing, petty trading)	48	53.9	28	32.9
Civil servant	17	19.1	39	45.9
Politicians	24	27.0	18	21.2
Total	89	100	85	100
INCOME LEVEL				
Below 70,000	37	41.6	10	11.76
70,001–80,000	28	31.5	14	16.47
80,001–90,000	11	12.4	12	14.12
90,001–100,000	8	8.9	14	16.47
Above 100,000	5	5.6	35	41.18
Total	89	100	85	100

Source: Field Data, 2011

Table 2 shows the response rate in the two neighbourhoods (Oke –aro and Alaba – Layout) to be 58.4% and 57.6% respectively for males as against 41.6% and 42.4% for females. The Table also shows the age distribution of the respondents residing in the properties. In the Table, 36.0% of the respondents are below 30 years in Oke-aro while it is 38.8% in Alaba – Layout. However, the number of respondents between the ages of 31 – 45 years in the two neighbourhoods (Oke – aro and Alaba – Layout) are 25.8% and 25.9%. 20.2% and 24.7% of the respondents in Oke – aro and Alaba – Layout are between the ages of 46 – 60 years. While 18.0% and 10.6% of the respondents in Oke –

aro and Alaba Layout are above 61 years. The result however shows that majority of the respondents are below 30 years and between 31 – 45 years.

From Table 2 also, respondents who have the First School Leaving Certificate and Ordinary National Diploma are high in Oke – aro (32.6% for School leaving Certificate and 37.1% for OND) while only 10.6% and 20.0% are in Alaba – Layout for school leaving certificate and OND respectively. Those who have Higher National Diploma (HND)/ Bachelor of Science degree/Bachelor of Education are 36.5% in Alaba - Layout. Also, in Alaba – Layout, 32.9% of the respondents hold a Masters degree/P.hD. Although, the result showed more respondents in Alaba – Layout to have higher degree still all the respondents have formal education. It is evident therefore that the information collected for the analysis are reliable to form a good basis for the study.

Most of the respondents in Oke – aro (53.9%) are self employed in jobs like mechanic, hair dressing/stylist and other petty trading. While those in Alaba – layout are mainly in the civil service (45.9%). This is not unexpected as Alaba – Layout is very close to the Federal University of Technology, Akure and as such most of the staff of the institution own or rent houses in the neighbourhood. No wonder more than 50.0% of the respondents earn above the minimum wage (₦7,500) approved by the Federal Government of Nigeria.

The income level of respondents in Oke- aro is low compared to that of Alaba-Layout as depicted in Table 2. More than 70% of the respondents in Oke-aro earn below the minimum wage (₦7,500 per month). The findings however, shows that the respondents in Oke – aro are poor. This condition invariable may lead to crime. This is in conformity with the findings of Petras (2007) that concentration of poverty can increase crime rate.

4.2. Occupants Perception of Crime in the two Neighbourhoods

This session aimed at determining how the occupants of properties in the neighbourhoods (Oke – aro and Alaba – Layout) perceived crime. The weighted mean score measure was employed on a scale of 1 (very low) to 4 (very high). The result for the analysis was presented in Tables 3, 4 and 5.

Table 3: Perception of Crime by Occupants in Oke - aro

Type of Crime committed	Very Low	Low	High	Very High	Mean Score

Burglary	4	9	28	48	3.24
Robbery	6	11	26	46	3.03
Trespass	28	22	19	20	2.35
Assassination	26	31	23	9	2.17
Vandalism	10	19	30	30	2.90

Source: Field Survey, 2011

Table 4: Perception of Crime by Occupants in Alaba - Layout

Type of Crime committed	Very Low	Low	High	Very High	Mean Score
Burglary	11	16	28	30	2.90
Robbery	15	14	26	30	2.72
Trespass	21	24	21	19	2.45
Assassination	26	28	21	10	2.18
Vandalism	14	13	27	31	2.88

Source: Field Survey, 2011

The Weighted Mean Score for the occupants in respect of crime are shown in Tables 3 and 4. The mean score value for burglary (3.24) and robbery (3.03) in Oke – aro are approximately high compared to that of Alaba - layout (burglary (2.90); robbery (2.70)). The implication of this may be because Oke – aro is classified as slum area and the inhabitants live in poverty and are engaged in diverse crime (Omole, 1995). Hence the occupants in Oke – aro perceive crime to be very high.

4.3. Effect of Crime on property values in the neighbourhoods

The study used the Multiple Regression Analysis to assess the effect of crime on property values in the two neighbourhoods ((Oke – aro and Alaba - Layout). The variables description is given in Table 5.

Table 5: Definition of Variables used in the Regression

S/NO	Variable Code	Definition of Variables	Measuring Scale
1	RENTVAL	Rental Price of Property	Naira (₦)
2	AREAPROP	Area of Property	Square area
3	NUMBEDR	Number of Bedroom	Actual Number
4	NUMTOILET	Number of Toilet	Actual Number
5	BURGLARY	Burglary	Actual number of occurrence
6	ROBBERY	Robbery	Actual number of occurrence
7	TRESPASS	Trespass	Actual number of occurrence
8	ASSASS	Assassination	Actual number of occurrence
9	VANDA	Vandalism	Actual number of occurrence

Source: Compiled by the Author

The various crimes reported in the two neighbourhoods were combined together as “CRIME” for ease of analysis. Properties used for the Multiple Regression analysis were randomly selected from the neighbourhoods.

The result of the Multiple Regression analysis are detailed in Tables 6, 7, 8 and 9.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	.986 ^a	.972	.971	9577.73613

Source: Field Survey 2011

Table 7: Analysis Of Variance (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	5.373E11	4	1.343E11	1.464E3	.000 ^a
Residual	1.550E10	169	9.173E7		
Total	5.528E11	173			

Source: Field Survey 2011

Tables 6 and 7 gives the Model Summary and Analysis of Variance in the neighbourhoods. The R – Squared shows that 97.2% of the sample variation of the property value is attributable to the independent variables. The computed F statistics (F = 1.464E3) falls in the rejection region signifying that at least one of the model coefficient is not zero.

Table 8: Regression Coefficients

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig
Model	B	Std Error	Beta		
(Constant)	-11457.204	10407.979		-1.101	.273
CRIME	-5738.765	173.426	-.713	-33.091	.000**
NUMBEDR	-336.446	1396.876	-.003	-.241	.810
NUMTOILET	-2596.124	1292.148	-.033	-2.009	.046*
AREAPROP	260.400	13.496	.365	19.294	.000**

Source: Field Survey 2011

Note: * denotes 5% significant level

** denotes absolute significant level

The Regression Coefficients between the dependent variable and each of the independent variables is detailed in Table 8. From the Table, three variables (CRIME, AREAPROP and NUMTOILET) are significant. While crime (CRIME) and area of property (AREAPROP) are absolutely significant, number of toilet (NUMTOILET) is significant at 5% level. Area of property (AREAPROP) in this regression shows that for every square meter increase in area of property there is a corresponding increase in the rental value of property. The sign of the coefficient for crime (CRIME) is negative. Therefore, as crime (CRIME) rate increases, property values decreases. This is in conformity with the findings of the Social Exclusion Unit (2001) that areas with high crime and unemployment rates are usually in bad condition and hence attracts low values. Number of toilet (NUMBERTOILET) in this analysis is also, significant. Number of bedroom (NUMBEDR) is not significant. This variable is not significant probably because it is not captured by the area of property.

Table 9: Zero-Order, Partial and Part Correlation Coefficients

Variables	Correlation		
	Zero – order	Partial	Part
(Constant)			
CRIME	-.952	-.931	-.426
NUMBEDR	.047	-.019	-.003
NUMTOILET	.570	-.153	-.026
AREAPROP	.857	.829	.249

Source: Field Survey 2011

The Pearson Coefficient of correlation shows that the top position is taken by area of property (AREAPROP) followed by crime (CRIME). This relatively higher values indicate a relatively stronger linear relationship between property value and these

variables This confirms the expected relationship between property value and crime, that is, as crime rate increases property values decreases (Petras, 2007).

5. RECOMMENDATION AND CONCLUSION

From the analysis carried out it was observed that occupants of properties in the neighbourhoods studied perceived crime (especially burglary, robbery and vandalism) to be very high especially in Oke – aro neighbourhood where occupants live in slum and poverty. Also, the Multiple Regression Analysis carried out showed crime to be negatively correlated with property values. This indicated that as crime increases rental values of property decreases. With this however, crime prevention and control should be paramount to the government. This government can do by improving the living condition of occupants especially those in slum areas. When this is done property values will increase.

REFERENCE

- Aluyor, G.B.O. (2005). Performance Evaluation of the Nigerian Police in Crime Prevention in Urban Centers. *Journal of Land Use and Development Studies*, 1 (1), 84 – 89.
- Bannister, J and Fyfe, N. (2001). Introduction: fear and the city. *Urban Studies*, 38 (5), 807 – 13
- Bowes, A and Ihlanfeldt, K. (2001). Identifying the impacts of rail station on residential property values. *Journal of Urban Economics*, 50, 1 – 25.
- Gibler, K. M and Nelson, S. L (1998). Consumer Behavior Applications to Real Estate. Paper Presented at the American Real Estate Society Meeting, Monterey, C.A.
- Gibson, J. J. (1987). *The Ecological Approach to Visual Perception*. Lawrence Erlbaum Associates
- Gibbons, S. (2004). The Cost of Urban Property Crime. *The Economic Journal*, 114 (November), F441 – F463.
- Glaser, E. L and Sacerdote, B (1999). While is there more Crimes in Cities? *Quarterly Journal of Economics*, 111 (2), 507 - 48
- Haurin, D. R and Brasington, D. (1996). School quality and real house prices: inter and intra - metropolitan effects. *Journal of Housing Economics*, 5, 351 – 368.

Hellman and Naroff (1979). The Impact of Crime on Urban Residential Property Values. *Urban Studies* 16, 105 - 12

Lynch, A. K and Ramussen, D. W. (2001). Measuring the impact of crime on house prices. *Applied Economics*, 33, 1981 – 1989

Manning, C. (1986). Intercity differences in home price appreciation. *The Journal of Real Estate Research*, 1, 45 – 66.

Omole, F.K (1995). Urban Renewal as a tool for city planning. *In Time Property*, 11-18

Patchin, P (1991). Contaminated Properties – Stigma Revisited. *The Appraisal Journal*, April, 167 – 72.

Petras, T. L. (2007). *Measuring the Effects of Perceptions of Crime on Neighbourhood Quality and Housing Markets*. P.hD Thesis, Graduate School of The Ohio State University.

Petras, T. L and Greenbaum (2006). Crime and Residential Choice: A neighbourhood level Analysis of the Impact of Crime on Housing Prices. *Journal of Quantitative Criminology*, 22 (40), 299 – 317

Sampson, R. J and Raudenbush, S. W. (2004). Seeing Disorder, Neighbourhood Stigma and Social Construction of broken Windows. *Social Psychology Quarterly*, 67, 319 – 342.

Skogan, W. G. (1986). Fear of Crime and Neighbourhood Change. *Crime and Justice*, 8, 203 – 299.

Skogan, W. G. (1990). *Disorder and Decline: Crime and Spiral Decay in American Neighbourhood*, New York, Free Press.

Social Exclusion Unit (2001). A new Commitment to Neighbourhood Renewal, London: Cabinet Office.

Thaler, R. (1978). A note on the Value of Crime Controls: Evidence from the property market. *Journal of Urban Economics*, 5, 137 – 145.

Wilson, J. O and Kelling, G. L. (1982). Broken Windows. *Atlantic Monthly*, March, 29 – 38.

BIOGRAPHICAL NOTES

DR (MRS) BELLO, V. A is a Senior Lecturer in the Department of Estate Management and the Sub Dean of the School of Environmental Technology, in the Federal University of Technology, Akure, Nigeria. She graduated from the Department of Estate Management, Obafemi Awolowo University, Ile – Ife with a Bachelor of Science Degree. She obtained a Master of Technology and P.hD from the Federal University of Technology, Akure, Nigeria. Her research focus is in Valuation. Dr (Mrs) Bello has published in many journals both home and abroad.

CONTACTS

Dr (Mrs) Bello, Victoria Amietsenwu
Federal University of Technology,
Department of Estate Management
P.M.B 704, Akure
Ondo State
Nigeria.
Tel: +234-803-668-8879
E – mail: vicbellofuta@yahoo.com,