

## **Physical Development Pattern and Crime Incidences in Ilorin, Kwara State, Nigeria**

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### **Abstract**

The paper inquired if the nature and physical development characteristics of the neighbourhoods constitute crime exposure factors in Ilorin. The study identified common crimes experienced and their spatial distribution in the neighbourhoods of Ilorin. It further characterized the nature and physical development conditions of the neighbourhoods of the study area. In carrying out the study 960 households spread across 35 aggregated neighbourhoods of the study area were sampled for their crime victimization experiences using a designed crime victimization survey questionnaire administered through a systematic random sampling procedure, in a survey conducted in October, 2015. In addition, extensive but discreet physical observations and rating of the physical development characteristics of the neighbourhoods were conducted as part of the survey. In analyzing the data obtained, the study employed Jenks' natural breaks classification method to classify the neighbourhoods of the study area into four crime densities; and Pearson Product-Moment Correlation technique to establish the relationship between the quality of neighbourhood physical development and exposure to crime. The study confirmed the common crimes experienced by residents of the study area; established a spatial classification of criminality in the study area; as well established a (r) value of -0.633 between the nature of neighbourhood physical development and exposure to crime using correlation analysis. The study recommends the design and implementation of periodic urban renewal programmes to minimize exposure to crime in poorly developed neighbourhoods of the study area.

**Keywords:** *crime pattern, neighbourhood, physical development pattern*

## Introduction

One of the challenges currently confronting the African continent like many other parts of the developing world is the unprecedented pattern of urbanization (Hove, Ngwerume and Muchemwa, 2013). The continent witnessed a 3.3% annual growth rate in the population of urban residents between 1990 and 2000, a rate regarded as one of the highest in the world at that period (Pieterse, 2010; UN-Habitat, 2008). Urbanization in Nigeria is taking place amidst worsening living conditions, including widespread unemployment, poverty and inequality (Baker, 2010; Eguavoen, 2010; UNCHS, 2008; Cohen, 2006). One of the fall-outs of this pattern of urbanization and rising population growth rate in the country, therefore, is the rising pattern of criminality and insecurity which has continued to manifest in different dimensions, including acts of terrorism, kidnapping, violent armed robbery, assault, rape and child trafficking among several others (Sanni, Morenikeji, Jinadu & Dalil, 2017; Jinadu, Morenikeji, Sanusi, Dukiya & Owoyele, 2012).

The Nigerian Police Force statutorily saddled with the responsibility of maintenance of law and order in the country has been so overwhelmed by the challenge of criminality such that the agency has been described as

largely ineffective and inefficient as a result of several institutional constraints bedeviling it, including inadequate manpower, lack of expertise, lack of adequate equipment and poor conditions of service (Alemika, 2013; Karimu, 2014; Olujimi, 2005). The fear of crime and feeling of insecurity have therefore, become pervasive in many parts of Nigeria and is thus seen as the major social problem currently confronting the country (Ayoola, Adeyemi &, Jabaru, 2015; Ahmed, 2012; Fajemirokun, Adewale, Idowu, Oyewusi & Maiyegun, 2006) and which is partly responsible for her being consistently ranked low in Global Peace Index (2014).

The increasing threat of crime and insecurity in the country is apparently linked to the rapid expansion and unregulated growth of many urban areas, including Ilorin, the study area. Many towns and cities in the country are either without a master plan or it is moribund and poorly implemented, thus promoting haphazard physical development, particularly in the core, old and poor neighbourhoods. Many residents of the cities are therefore, increasingly vulnerable or exposed to incidences of crime and insecurity due to their social and economic conditions or the physical characteristics of their

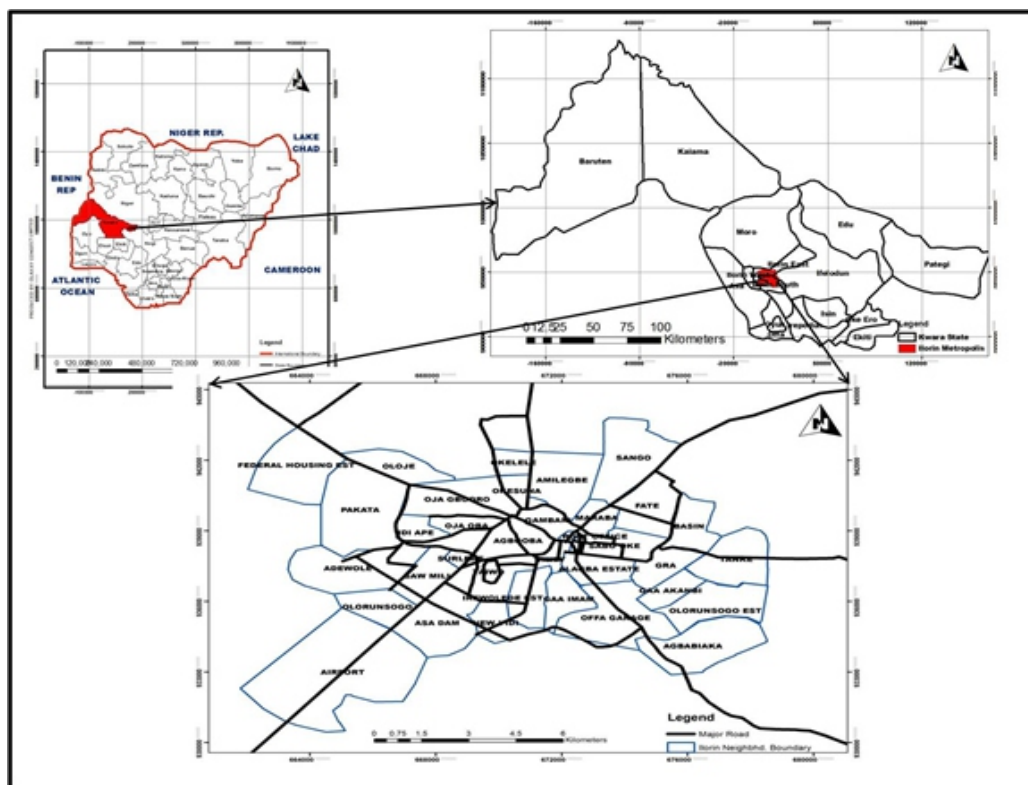
neighbourhoods. It is against this background that this study sought to confirm and determine the extent of the association between the physical development characteristics and conditions of neighbourhoods of Ilorin and their crime vulnerability.

Thus, the study assessed the physical development attributes of neighbourhoods of Ilorin, Nigeria, and determined if they are among factors that make the area vulnerable to crimes. It also identified the types of crime; examined their spatial distribution pattern; and, assessed the characteristics of neighbourhoods' physical development as correlates of crime vulnerability.

### **The Study Area**

Ilorin is the capital of Kwara State, north-central Nigeria. The city is regarded as one of the most populous state capitals in north central Nigeria with an estimated 2014

population of about 1, 029, 658 made up of approximately 171, 609 households, based on the national household average size of six (Sanni, 2017). Ilorin is located between latitude  $8^{\circ} 30''$  and  $08^{\circ} 50''$  North of the Equator and between longitude  $04^{\circ} 20''$  and  $04^{\circ} 35''$  East of the Greenwich Meridian. The city occupies an area of approximately 150.59 square kilometers. It is about 500 kilometres to Abuja, the nation's administrative capital and about 300 kilometres to Lagos, the country's major commercial hub. Ilorin is generally regarded by many as the gateway between the northern and southern parts of the country and therefore, a melting pot (Olaleye, Abiodun & Asonibare, 2012). Although it was historically a Yoruba settlement, it is now largely inhabited by people of diverse cultures from within and outside the country, with majority being the Yoruba and Hausa-Fulani (Jimoh, 1994).



**Figure 1:** Map of Nigeria highlighting Kwara State and Ilorin  
**Source:** Kwara State Ministry of Lands and Survey, Ilorin (2015).

**Review of Related Literature**

*Concept and Nature of Crime*

Crime is defined as a violation of societal rules as accepted and interpreted by operational criminal code. It is seen as an infraction of both the basic principles of law and norms of civilized and acceptable conduct (Siegel, 1995; UN-Habitat, 2007; Eme, 2012). There are many kinds of crime and have been categorized into basically three types. These are crimes against persons or personal crimes, property crimes and crimes against public order.

This study is concerned with crimes committed within residential neighbourhoods and which are mostly property crimes and crimes against persons. The former includes petty theft or stealing and house-breaking or burglary, while the latter includes assault, armed robbery, auto-theft/snatching, rape, kidnapping and murder amongst others. The third type of crime in the literature, crime against public order, is mostly of moral infractions (UN-Habitat, 2007) but, not the concern of this paper as it is usually difficult to relate it to

specific physical conditions of the city. It includes corruption, fraud, forgery, embezzlement, public peace disturbance, conspiracy and perjury amongst others.

### ***Urbanization and Crime***

The relationship between urbanization and crime occurrence has been the focus of several studies (Kamalipour, Faisl & Memariam, 2014; Marzbali, Abdullah, Abd'Razak & Tilaki, 2012; Sampson & Laub, 1993).

Although many of these studies have been undertaken by researchers outside the built environment, particularly criminologists, sociologists and psychologists (Portugali, 2011), they have not fallen short of emphasizing the connection between urban spatial structure or morphology and the socio-economic and cultural conditions of urban residents. Residents of cities are more likely to be victims of crimes than those who reside in the country-side (Ceccato & Wilhelmsson, 2012; Kunkeler, 2011). In many instances, studies have shown that more than half of residents of cities acknowledged being victims of crime in their life time (Badiora & Fadoyin, 2014; Fajemirokun *et al.*, 2006, Alemika & Chukwuma, 2005).

Cities are places of intense economic and social interactions, some of which are associated with unpleasant experiences, including dwelling amidst criminality (Ceccato & Wilhelmsson, 2012).

Although it is almost impossible to create a totally crime-free environment, cities cannot lay claim to social sustainability without paying considerable attention to the security of residents. However, the problem of crime in the cities has long been recognized as a serious and growing challenge in many countries around the world, particularly in the developing countries (UN-Habitat, 2008).

In Nigeria, studies have shown that the insecurity problem, particularly those within the urban areas are increasingly becoming violent, frequent, heinous and sophisticated (Ekoja & Odole, 2008; Fajemirokun *et al.*, 2006; Agbola, 2004). Armed robbery involving breaking of banks, murder or hired killings, kidnappings and communal strives and invasions amongst others.

It is therefore, important to seek newer approaches in addressing the issues of crime and insecurity in the city. One of such approaches that has the capability of enhancing urban safety and security is city

planning, especially the aspects of design, development and governance.

### ***Spatial Dimension of Urban Crime***

Although the fact that cities are the domain of crime and violence globally has been widely acknowledged (Moser, 2004; Kunkeler, 2011), it is important to stress that not all parts of the city are usually regarded as unsafe and insecure.

Thus, the variation in the level of crime and violence within the city has also been highlighted (Sanni *et al.*, 2017; Jinadu *et al.*, 2012; Gaviria & Pages, 1999; Sampson & Laub, 1993). It has thus been emphasized that levels of violence and criminality in the city are often much related to variations in social conditions, income levels and quality of housing and living environment, etc. (Weisburd, 2015; Sherman, 1992).

As a result, instances abound of neighbourhoods of the city that are known and stigmatized for their relatively high level of violence and insecurity (Schneider, 2007; UN-Habitat, 2007). High rates of crime and violence are more frequently associated with distressed and disadvantaged areas or neighbourhood, especially those with high levels of poverty, unemployment and minority populations

(Kershaw & Tseloni, 2005; Anselin, 2000; Ackerman, 1998).

### **Research Methodology**

The study employed both primary and secondary data. The primary data used for the study include data relating to the description and characterization of the nature and quality of neighbourhoods' physical development conditions. This was generated based on extensive discreet physical observation of the sampled neighbourhoods. Three criteria were evolved for the assessment of the physical development conditions of the neighbourhoods, such as; the layout quality and status of development (orderly, not too orderly and haphazardly developed) and whether housing in the neighbourhoods were averagely developed in accordance with physical planning standards.

The physical development planning standards include observance of required setbacks between buildings and between buildings and centre of the road, building line alignment, density control and ratio of plot size developed. The third assessment criterion used was the density type (low, medium or high) of the neighbourhood.

Although the study obtained police records

of common crimes committed in Ilorin between 2005 and 2014, it however relied mostly on survey data of crime occurrence and victimization pattern in the study as the police records did not indicate specific neighbourhoods where crimes were committed. A designed crime victimization survey questionnaire was administered on 960 household heads across the neighbourhoods selected through a two-stage clustered and systematic random sampling procedure, although only 912 were filled and returned. Data generated include the common neighbourhood crimes experienced by household members as well as the frequency of their occurrence within the various neighbourhoods.

For the purpose of analysis of the data on the nature of neighbourhood physical development, the three evolved assessment criteria were assigned values of between 1 and 10. While the most positive attributes were rated 10, the most negative were assigned a value of 1, and 5 for the average condition. The mean of scores from the three criteria generated for each neighbourhood was then correlated with the total sums of crime incidences recorded in the neighbourhoods as generated by the survey questionnaires, using the Pearson Product-moment correlation technique.

## Findings and Discussion

### *Common Crimes in Ilorin*

In identifying the common crimes experienced by residents of the neighbourhoods, the study examined both residents' perceptions as expressed in the survey conducted and the Police official crime records of the area between 2005 and 2014. When the two sets of data were subjected to a bi-variate correlation analysis, the result produced a correlation value ( $r$ ) = 0.914135. This implies that the police crime records of the study area, despite acknowledged limitations of such official records of crime by many studies as highlighted in the next paragraph, correlate very highly with residents' perception of criminality in the study area.

As shown in Table 1, therefore, petty theft or stealing is the most common crime experienced within the various neighbourhoods of Ilorin with a mean value of 547. It is closely followed by house-breaking with a mean value of 421. The Table indicates that other crimes commonly experienced in the study area are assault, armed robbery, rape, kidnapping and murder.

However, several limitations associated with official records of crime in developing

**Table 1: Common Crimes Experienced in Ilorin**

Crimes	Police Data	Survey Data	Mean	SD
Petty Theft	432.4	662	547	162.3517
House Breaking	278.7	563	421	201.0305
Armed Robbery	25.6	268	147	171.4027
Rape	14.5	179	97	116.3191
Assault	297.5	423	360	88.7419
Kidnapping	5.9	56	31	35.42605
Murder	45.8	7	26	27.43574

**Source:** Extracts of Police Crime Records of Ilorin, 2015; Authors' Analysis, 2017

countries have been highlighted by many studies (Soares, 2004; Alemika, 2013; Olatunbosun, 1998; Gyong, 2010) and include low reporting rate of crime and other social and cultural inhibitions such as culture of amicable settlements between parties to crimes.

### ***Spatial Distribution of Crime Incidences in Ilorin***

For ease of analysis and neighbourhood comparison, the total sum of crime incidences experienced by households in each neighbourhood of the study area (based on the survey conducted) were summed up and using Jenks' natural breaks classification method developed by George Jenks (1967), the crime sums were partitioned into four crime densities of low, moderate, high and very high.

Based on the classification method employed, 7 neighbourhoods that experienced a total of between 11 and 35 crime incidences in the last five years were classified as low crime neighbourhoods, while another 10 that experienced a total of between 47 and 68 crime incidences were classified as moderate crime areas. Sixteen neighbourhoods with total crime incidences of between 75 and 93 were classified as high crime areas, while 2 neighbourhoods were particularly classified as very high crime areas because they recorded total sums of crime incidences of 115 and 117 respectively (Table 2).

### ***Nature and Quality of Neighbourhoods' Physical Development***

As earlier highlighted under research methodology, the physical development qualities of the various neighbourhoods of



**Table 2: Classification of Spatial Pattern of Criminality**

Classification	Neighbourhood	Frequency	Percentage (%)
<b>Low Crime</b>	Adewole Estate	32	1.37
	Federal Housing Estate	15	0.64
	GRA	11	0.47
	Irewolede Estate	35	1.50
	Olorunshogo Estate	26	1.11
	Airport Area	15	0.64
	Alagba Estate	31	1.33
	<b>7</b>	<b>165</b>	<b>7.07</b>
<b>Moderate Crime</b>	Fate	62	2.66
	New Yidi Road	47	2.01
	Okelele	64	2.74
	Oloje	52	2.23
	Olorunshogo	68	2.91
	Sabo Oke	52	2.23
	Saw-Mill	58	2.49
	Surulere	60	2.57
	Balogun Gambari	67	2.87
	River Basin Estate	65	2.79
	<b>10</b>	<b>595</b>	<b>25.50</b>
<b>High Crime</b>	Asa Dam Road	89	3.81
	Amilegbe	93	3.99
	Post Office Area	89	3.81
	Unity Road	77	3.30
	Tanke	86	3.69
	Sango	84	3.60
	Pakata	78	3.34
	Okesuna	79	3.39
	Oja Oba	91	3.90
	Oja Gboro	87	3.73
	Offa Garage	80	3.43
	Agbabiaka	87	3.73
	Maraba	87	3.73
	Idi-Ape	80	3.43
	Gaa Imam	79	3.39
Gaa Akanbi	75	3.21	
	<b>16</b>	<b>1341</b>	<b>57.48</b>
<b>Very High Crime</b>	Agbo Oba	115	4.93
	Taiwo Road	117	5.02
	<b>2</b>	<b>232</b>	<b>9.95</b>
<b>Total</b>	<b>35</b>	<b>2333</b>	<b>100.0</b>

**Source:** Authors' Analysis, 2017

the study area were physically observed and assessed using three criteria. Based on the assessment criteria of density, only one neighbourhood (GRA) was characterized as low density, while sixteen others were characterized as medium density neighbourhoods. The remaining eighteen neighbourhoods of the study area were classified as high density areas. This, in addition to other categorization, is illustrated in Table 3.

Based on nature of physical development,

eight neighbourhoods were classified as well laid out and orderly developed, while another fourteen were categorized as not too orderly developed. The remaining thirteen neighbourhoods were classified as haphazardly developed. Based on average compliance with physical planning standards in housing development, nine of the neighbourhoods were classified as well planned, fifteen as not properly planned, while the remaining eleven were classified as not planned.

**Table 3: Characterization of the Physical Development of Neighbourhood**

S/N	Neighbourhood	Density	Nature of Devt.	Planning Status
1.	Adewole Estate	Medium	Orderly Developed	Planned
2	Fate	Medium	Orderly Developed	Planned
3	Federal Housing Est.	Medium	Orderly Developed	Planned
4	Gaa Akanbi	High	Not too orderly	Not properly planned
5	Gaa Imam	High	Not too orderly	Not properly planned
6	GRA	Low	Orderly Developed	Planned
7	Irewolede Estate	Medium	Orderly Developed	Planned
8	Idi-Ape	High	Haphazardly developed	Not planned
9	Maraba	High	Haphazardly developed	Not properly planned
10	New Idi	Medium	Not too orderly	Not properly planned
11	Agbabiaka	High	Not too orderly	Not properly planned
12	Offa Garage Road	High	Not too orderly	Not properly planned
13	Oja Gboro	High	Not too orderly	Not planned
14	Oja Oba	High	Haphazardly developed	Not planned
15	Okelele	High	Haphazardly developed	Not planned
16	Okesuna	Medium	Haphazardly developed	Not planned
17	Oloje	High	Haphazardly developed	Not planned
18	Olorunshogo	High	Haphazardly developed	Not planned
19	Olorunshogo Estate	Medium	Orderly Developed	Planned
20	Pakata	High	Haphazardly developed	Not planned
21	Sabo Oke	Medium	Haphazardly developed	Not properly planned
22	Agbo Oba	High	Haphazardly developed	Not planned
23	Sango	High	Not too orderly	Not properly planned
24	Saw Mill	High	Not too orderly	Not properly planned
25	Surulere	High	Not too orderly	Not properly planned
26	Taiwo Road	High	Haphazardly developed	Not properly planned
27	Tanke	Medium	Not too orderly	Not properly Planned
28	Unity Road	Medium	Not too orderly	Planned
29	Gambari	High	Haphazardly developed	Not planned
30	Post Office Area	Medium	Not too orderly	Not properly Planned
31	Airport Area	Medium	Not too orderly	Not properly Planned
32	Alagba Estate	Medium	Orderly Developed	Planned
33	Amilegbe	Medium	Haphazardly developed	Not planned
34	Asa Dam Road	Medium	Not too orderly	Not properly Planned
35	River Basin Estate	Medium	Orderly Developed	Planned

**Source:** Authors' Analysis, 2017

**Relationship between Neighbourhood Physical Development Conditions and Exposure to Crime**

As shown in Table 4 the cross-tabulation of crime incidences across neighbourhoods (as earlier generated in Table 2) indicates that incidences of crime decreases with improvement in the physical development pattern of the neighbourhoods. The cross-tabulation shows that high crime incidences were recorded in neighbourhoods with poor physical development features, while low

incidences of crime were recorded in neighbourhoods with relatively better physical development features. This pattern was further subjected to a Chi-square test. The result which produced p-value of 0.04 confirms that there is a relationship between the nature of physical development and pattern of criminality in the study area (Table 5). These analyses therefore, means that the better developed physically a neighbourhood is, the less exposed it is to crime.

**Table 4: Neighbourhoods' Cross-tabulation of Quality of Physical Development and Crime Incidences**

Crime	Poor	Medium	Good	Total
<b>Very High</b>	2 (100)	0 (0)	0 (0)	0 (0)
<b>High</b>	10 (63)	6 (38)	0 (0)	16 (100)
<b>Medium</b>	6 (60)	4 (40)	0 (0)	10 (100)
<b>Low</b>	0 (0)	6 (86)	1 (14)	7 (100)
<b>Total</b>	18 (51)	16 (46)	1 (3)	35 (100)

Source: Authors' Analysis, 2017

**Table 5: Chi-Square Test of Association between Nature of Physical Development and Pattern of Criminality**

	Value	df	p
X <sup>2</sup>	32.35	21	0.04
N	35		

**Conclusion and Recommendations**

The paper did not only identify the common crimes experienced by residents of Ilorin,

Nigeria, it established their spatial distribution among the various neighbourhoods. As a result, four crime density classes were established in the study area. These are low-crime, moderate-crime, high and very high-crime neighbourhoods. This means that while some neighbourhoods of Ilorin can be regarded as relatively secure, others are more exposed to varying types of

criminality. This finding agrees with those of similar studies such as Adigun and Adedibu (2013), Jinadu *et al.* (2012), Bernasco and Elfers (2010) and Doran and Lees (2005), amongst others which have established spatial variation of urban crime. In addition, when the mean of the three physical development measurement indicators was correlated with the sum of crimes experienced across the neighbourhoods, the study revealed that there is a strong inverse relationship between the quality of neighbourhood physical development and exposure to crime. It is therefore, concluded that relatively planned and orderly developed neighbourhood are less vulnerable to criminality than those that are haphazardly developed. This means that the better planned and physically developed a neighbourhood is, the less exposed or vulnerable it is to criminality.

Therefore, to minimize neighborhoods' exposure or vulnerability to crime arising from the nature and condition of their physical development, the study offers some recommendations. Firstly, it is recommended that urban renewal programmes, particularly in the old, core, blighted and haphazardly developed neighbourhoods of the study area such as Idi

Ape, Agbo Oba, Oja Oba and Oja Gboro among others, be undertaken. The urban renewal programmes are to be within the framework of the master plan for the study area. Secondly, appropriate physical development control measures should be developed for adherence of developers and residents to the spatial plans for the area.

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