



# CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED): THE ROLE OF ARCHITECTURE

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## ABSTRACT

*Since the turn of this century, studies have consistently shown that one of the most underexplored form of crime prevention is architecture. As human dwellings evolve, so does the need for more sophisticated security measures to keep the occupants safe without interfering with their way of life and living experience. It becomes ever more imperative that architectural practitioners inculcate practical security measures into every building from conception and follow up to ensure implementation. In Nigeria, however, the application of Crime Prevention Through Environmental Design (CPTED) has been limited due to some established factors. This study seeks to explore the architectural solutions to crimes and security challenges peculiar to Nigeria, through the application of the CPTED theory. Specific focus was placed on Ilorin, Kwara state. Review of existing literature was employed to carry out this study. This study concludes that environmental criminology should be utilized at the planning stage of design to ascertain reasonably foreseeable crimes by looking at official and unofficial records and patterns. An accurate adaptation through architecture will help to prevent crime, reduce the fear of crimes and promote a sense of community.*

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**Keywords:** Architecture, Crime prevention through environmental design (CPTED), environmental criminology, Security.

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## 1.0 INTRODUCTION

Crime prevention through environmental design (CPTED) has received interpretation as vast as the quest to attain safety alongside sustainability in the built environment. Hakime Farnam (2006) defined CPTED as the effective manipulation of space to discourage crime and increase the risks the perpetrators face, thereby improving the quality of life in those subject areas. The design of the built environment can either encourage or deter the rate of crime (Ebong 2017). The architect is the custodian of all the elements of architecture and he is able to deploy these elements to influence the behaviour of residents. This is an unfortunate contrast to the reality in Nigeria today. A lot of the rules which have been made to guide the proper adoption of the architectural practice are constantly circumvented. This flaunting of rules extends up to other aspects of the Architecture, Engineering and Construction (AEC)



sector. In other cases, some rules are either absent or implementation is not properly observed.

Taylor and Harrell (1996) reached a conclusion that fear of crime is higher in locations that offer good refuge for the potential offender but low prospect and escape for the user. Initial studies carried out by Bentham who postulated the criminal accounting principle observed that criminals will often evaluate the pros and cons of their adventure. When crimes present an opportunity, the actors will seek out ways to commit the act (Ozili Peterson, 2015). If it is perceived that the risks far outweigh the reward, the perpetrators are more likely to abandon their quest for a more rewarding commitment. “In making means/ends calculations, the actor seeks to maximize pleasure and minimize pain” (Glenn D. Walters, 2015). If the primary target is deemed too unfulfilling, the actor seeks out other alternatives within his known knowledge and ability.

Deterrence that have been observed to hold true include the introduction of hostile architectural elements to keep some class of people out of target spaces. The study by (Cozens, P.M., Saville, G. and Hillier, D. 2005) argue that this mitigation technique fails miserably when scrutinized closely. It sometimes not only keeps unwanted subjects out but tends to leave spaces redundant. More studies need to be carried out on ways this should fit perfectly into the CPTED narrative. However, this study focused on crime prevention in architecture as it affects the pursuit of not only safety but cohesion in the immediate environment.

While the study by Paul Michael Cozens et al (2005) sheds more light to the six general characteristics of first-generation CPTED concepts; territoriality, surveillance, access control, image/maintenance, activity support and target hardening. These first foundations have their own limitations. A study by (Waller, I. & weiler, D. 1985) also discussed the impact of combining CPTED with Crime Prevention through Social Development to coin another phenomenon called Crime Prevention through Social and Environmental Development (CPSED) . However, for the sake of this study, CPTED will be the only focal point.

## **2.0 RESEARCH METHODOLOGY**

The method used is qualitative. Review of relevant works on the topic was carried out, carefully sifting through select articles in areas which offer the most insight. This study uses actual crime data presented by previous studies as the basis for analysing the effectiveness of the CPTED in the Nigerian Architecture, Engineering and Construction (AEC) sector.

The limitations to the study, however, is that not much studies have been carried out about CPTED in this region. Data from the few research has been used anyway.

## **3.0 CRIME AND URBANISATION**



Gardiner (1978) observed a close-knit relationship between the rate of crime and the structure of neighbourhood design. He suggested that properly designed urban form can help mitigate crime opportunities. The impact of CPTED on the AEC industry, and inadvertently its clients — the homeowners and every neighbourhood — is increasingly more important as more focus is placed on the synergies between CPTED and urban sustainability (Cozens, 2007). The extraordinary pattern and rate of urbanization in the African continent is its major challenge in attaining secure community living and sustainability. (Sanni, Morenikeji, Jinadu, Dalil, Akande, 2017). Combined with aggravated poverty that has continually plighted the urban landscapes, the government truly has a ticking time bomb of crime waves in its hands. There is a great challenge to the architect who is considered the custodian of the environmental elements in design (Ebong 2017). According to Cozens et al (2005), encouraging the standardization of CPTED concepts in the planning processes could avoid the repetition of some of the “unsustainable” design failures of the recent past and contribute towards a form of “urban environmentalism”.

Rapid expansion of up to 3% per annum since the 1990’s accompanied by unregulated growth of many urban areas in Nigeria is a major culprit to the incursion of crimes and other vices into the living space. Many cities are even without a master plan. (Sanni et al, 2017). Without accurate and effective remediation, these criminals have grown into more sophisticated practice (Adejumo Hammed, Ikoba, Job, Adeniyi, Oguntunde, Odetunmibi and Akinrefon). The AEC Industry has not exactly stood up to this problem as well. The crime wave and the extent of violence in Nigeria are becoming more frequent, more offensive and horrendous (Olajide, Lizam. Adejumo et al (2017) found that Assault, unlawful, broken and theft were more crimes committed between the year 2006 and 2008. Suicide, homicide and robbery become the vices of most concern between the year 2009, 2010 and 2011.

Study have reasoned that there are four dimensions to any crime; the law, the offender, the target and the location (Brantingham and Brantingham, 1991). From an initial eighteen categories of crimes identified by Olufolabo, Akintande and Ekum (2015) in Nigerian urban centres; stealing/theft/burglary are identified by the police department as the most frequent crimes in most cities. This conclusion ties directly back to the architect who is tasked with inculcating these scopes.

Theft is observed by Jeong, Kang & Lee, (2018) to be heavily influenced by opportunities in the nearby environment. Other violent crimes like rape, murder or homicide may accompany this event, usually by accident when the actors make mistakes or perceive threats. Environmental crime rates decrease in the avenue where physical crime-preventive design elements were easily recognizable, as these criminals makes a cost-benefit analysis of their action.

### **3.1 Crime Occurrence in Ilorin**



Sanni et al (2017) classified crime occurrence into four density classes in Ilorin. These are low-crime, moderate-crime, high and very high-crime neighbourhoods. This classification suggested that while some areas are more predisposed to regular crime events, other areas are less desirable for the actors. They avoid these areas like a plague.

Meanwhile, there is still a problem of compliance with physical planning standards in housing development in Nigeria, even more so is the enforcement in the first place. The hierarchy of various town planning authorities in Nigeria whom has been bestowed the duty of compliance are sometimes working directly opposite their mandate. (Nwobodo I.C., 2011).

This should be viewed as an urgent problem for the risk factors it presents. Where this happens, many planning rules are regularly circumvented. The only exception perhaps being the Government Residential Areas (GRA).

**Table 1: 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
	7	165	7.07
<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
10	595	25.50	
<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
	16	1341	57.48
<b>Very High Crime</b>	Agbo Oba	115	4.93
	Taiwo Road	117	5.02
	2	232	9.95
<b>Total</b>	35	2333	100.0

Source: Sanni et al, 2017

**Table 2: Characterization of The Physical Development of Neighbourhood**

S/N	Neighbourhood	Density	Nature of Debt.	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 Garagr 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	Okesuna	Medium	Haphazardly Developed	Not Planned
16	Oloje	High	Haphazardly Developed	Not Planned
17	Olorunshgo	High	Haphazardly Developed	Not Planned
18	Olorunshogo Estate	Medium	Orderly Developed	Planned
19	Pakata	High	Haphazardly Developed	Not Planned
20	Sabo Oke	High	Haphazardly Developed	Not Properly Planned
21	Agbo Oba	High	Haphazardly Developed	Not Planned
22	Sango	High	Not Too Orderly	Not Properly Planned
23	Saw Mill	High	Not Too Orderly	Not Properly Planned
24	Surulere	High	Not Too Orderly	Not Properly Planned
25	Taiwo Road	High	Haphazardly Developed	Not Properly Planned
26	Tanke	Medium	Not Too Orderly	Not Properly Planned
27	Unity Road	Medium	Not Too Orderly	Planned
28	Gambari	High	Haphazardly Developed	Not Planned
29	Post Office Area	Medium	Not Too Orderly	Not Properly Planned
30	Airport Area	Medium	Not Too Orderly	Not Properly Planned
31	Alagba Estate	Medium	Orderly Developed	Not Planned
32	Amilegbe	Medium	Haphazardly Developed	Not Planned

**Source:** Sanni et al, 2017

Understanding the relationship between crime and architecture is especially important as it becomes increasingly clear that conventional law enforcement methods are, at best, partially effective in the fight against crime, Katyal (2002). The official security apparatus in Nigeria grossly fails to checkmate the security problems in Nigeria. This is due primarily to



inadequate facilities to fight crime efficiently and due to the poverty level that has brought uncontrolled corruption within the security systems (Agbola, 1997; Onibokun, 2003; Fabiyi, 2004).

Of course, the planning and development authorities also have their work cut out, as does the other stakeholders in the AEC sector. While the reaction of many lawyers is to focus on legal rules, without thinking about the constraint of physical space. The architectural design phase kicks off with the architect's interaction with the site. This is his chance to explore every opportunity nature — in this case the environment — has presented him with. It is at this point that the professional architect is able to plan his design with crime prevention in mind. Sanni et al (2017) argued that relatively planned and orderly developed neighbourhood are less vulnerable to criminality than those that are haphazardly developed. This cannot be unrelated to the perceived increase of polarization in income distribution producing the gulf between the poor and the rich. (Aigbokhan, 2000).

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). The increasing threat of crime and insecurity in Ilorin is apparently linked to the rapid expansion and unregulated growth the city.

Many towns in Ilorin 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.

Common crime experienced within the various neighbourhoods of Ilorin includes petty theft or stealing and house-breaking or burglary, while other crimes includes assault, armed robbery, autotheft/snatching, rape, kidnapping and murder amongst others.

#### **4.0 SUMMARY AND CONCLUSIONS**

Attaining the level of consciousness required to begin to tackle crime is the foremost important step into actually doing anything about it. Criminologists have over the course of various studies asserted that criminals do not like to be observed. Criminals conduct cost-benefit analysis. Crime prevention should be an intentional process of assessing risks of actual crime occurrence, and then, proffering solutions with these risks in mind. Criminals and non-criminals differ only in the choices they make. Walters G.D (2015). It is therefore, paramount to recognize those factors that drive crime actors and quickly eradicate these means.

Attempting to deal a stiffer hand to crime prevention mostly do not work (Clear 2004). Architects should be taught and encouraged to create territoriality by manipulating both the internal and external features of buildings (Katyal N.K 2002).

However, the goal is to achieve a safe environment and promote a sense of community. Doing this requires not only the architect but the government and all stakeholders in AEC to come



on board. Different traditional housing forms are identified with different regions in Nigeria (Rikko, Gwatau). However, to effectively tackle the menace of crime incursion into architecture, designers may want to look into a modern approach, Cozens et al (2005). This approach should seamlessly inculcate relevant or a combination of the pillars of CPTED.

## 5.0 RECOMMENDATIONS

There is an urgent need to engage city planning units in mapping out areas that are allotted for physical development. Conscious efforts must also be made to ensure adherence. This is the first step to remediation. While the same crime actors that Architecture seeks to eliminate may hamper the implementation of planning, the planning authorities should consider collaborations with the executive arm of government in enforcement (Aluko O. 2011).

The AEC regulatory bodies should familiarise themselves with available datasets and statistics on crime, and consider these in future designs and development.

There should be a deliberate effort by the government and all stakeholders to continually amass more data on the subject matter. This will encourage more informed decisions of crime preventions in the future it is the bedrock for a safe and more sustainable living.

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