

Evaluation of Crime and Safety in Lagos Metropolitan Parks

Ajayi, A.O., Atanda, C. and Ajayi, A.O.

Abstract: The principle of Crime Prevention through Environmental Design (*CPTED*) was applied to examine the fear of crime on park users at selected urban parks in Lagos State, Nigeria. The objectives were to evaluate the types of security measures, as well as the types and frequency of crime in urban parks. Incidental sampling technique was employed to gather information from 300 patrons in the parks. In addition, site observations, crime mapping, and interviews with park users as well as managers were used to collect data. Descriptive statistical methods were used for data analysis. Findings revealed that the parks had very few crime generators. In addition, low levels of crime occurrences were observed due to the physical settings and their locations within the city. Although, the majority of the park users (90.4%) felt safe in the parks but still had fear of crime relating to crimes that they had experienced somewhere apart from the parks under study. The study concluded that security-related environmental design attributes had a significant effect on the users' safety perception of the parks. Suggestions on how to improve safety conditions in the parks were made.

Keywords: Urban Crime, Urban Parks, Lagos Metropolis, Crime Prevention, Park Safety, CPTED

I. Introduction

Urban parks are mainly open spaces of varying sizes and characteristics providing different types of functions in the rural and urban settlements [1,2]. They are mostly outdoor spaces used principally for active or passive recreation use, developed either by the public or private sectors [3]. Urban parks have been reported to be multi-beneficial to the built environment and residents by providing environmental benefits [4], improving the visual and aesthetic qualities of neighbourhoods [5,6], providing avenues for social contacts and cohesion across the neighbourhood [7]. It is also reported that activities in these parks improve health and well-being [8,9].

However, open spaces have negative effects

too. They can be perceived as risky and associated with crime. Without the presence of security measures, open spaces can be habited by the homeless and street urchins. Anti-social behaviour such as harassment (racial and otherwise), verbal abuse, bullying, noise, intimidating dogs and people, littering, graffiti and vandalism are likely to be experienced [10]. Residents who perceived open spaces as risky and unsafe may show withdrawal tendencies which will ultimately prevent them from tapping into the positive effects open spaces offer [11].

Safety in this context refers to the personal security of park users and it is an important barrier to patronage. It can be defined and conceptualised as both perceived and objective measures, where perceived safety refers to users' perceptions and feelings of safety while objective safety refers to actual incidents of crime [12]. Most personal safety concerns mentioned in studies were associated with the presence of undesirable users of parks such as drug users, homeless persons and loiterers [5,

Ajayi, A.O. and Atanda, C. (Department of Urban and Regional Planning, Osun State University, Osogbo)

Ajayi, A.O. (Department of Architecture, Obafemi Awolowo University, Ile-Ife)

Corresponding author: ayodeji.ajayi@uniosun.edu.ng

Phone Number: +234-703-387-1651

6, 11]. Specific park attributes identified as influencing safety from crime included the presence of lighting, presence of law-enforcement, increased security and surveillance, presence of the homeless and drug users/dealers, and the presence of secluded paths and areas. Park attributes related to safety from injury included the presence of broken glass, syringes, rocks, debris, heavy traffic, and other users of paths e.g., cyclists [5, 6].

Similarly, [13] a study of open spaces in low-income neighbourhoods in Chile, identified and utilised attributes such as safety, comfort, diversity and flexibility. The safety aspects were natural surveillance, signs of vandalism, good lighting on-site, access and control, security presence. The study found that most of the open spaces were not safe, comfortable, diverse and flexible. Most of the open spaces do not have good lighting on-site and presented signs of vandalism. Litter was an issue and there were very few places with weather protection [13]. Changes that would improve the sense of safety in parks for users are more lighting, more rangers/staff, more things for young people to do, dogs being on leads, no motor vehicles, dog-free areas, lower planting near paths and no cycling or roller skating [14].

The effectiveness of the environmental design of parks in ensuring safety cannot be overemphasized; however, few studies have examined this in the Nigerian context. To fill this gap in knowledge, the study evaluated urban park safety from both objective and perceived perspectives in Lagos State, Nigeria.

II. Materials and Methods

A. Context of the Study

This study was carried out in Ikeja, the administrative capital of Lagos State. As of 2015, the population of Lagos city was

approximately 16 million (Lagos State Bureau of Statistics, 2016). The study focused on parks in Ikeja Local Government Area of Lagos State which are; Johnson Jakande Tinubu Park (JJT Park), Ikeja and Ndubusi Kanu Park (NK Park), Oregun, Lagos State. Figure 1.1 shows Lagos state in the context of Nigeria, situated in the southwestern part of the country. Figure 1.2 shows the location and extent of Ikeja Local Government Area within the context of Lagos State and Figure 1.3 shows the location of the parks within the context of Ikeja Local Government area.

B. Materials and Methods

Both primary and secondary data were used in the study. Primary data were obtained from the field survey which included personal observations, oral interviews, as well as questionnaire administration. The questionnaires were designed to collect data on the socio-economic characteristics of the users in the various areas, security-related characteristics of the parks, types and frequency of crime perceived at the park. The questionnaires for this study were distributed and administered strictly to the users of parks (JJT and NK Parks) in the study area using an incidental sampling technique. This was achieved by selecting 2 weekdays and a day during the weekend, in all, 300 questionnaires were administered (150 in each) but 214 returned for analysis. Security audits were done via observation method, researchers moved within the park to assess the types of security and the physical characteristics of the study area. Data collected from this study were analyzed using descriptive statistics (frequency and percentage).

III. Results and Discussion

A. Socio-Economics Characteristics

Out of the sampled respondents, (N= 214), 52.3% of the respondents were male and 46.9% were female, mostly single (79.9%), and

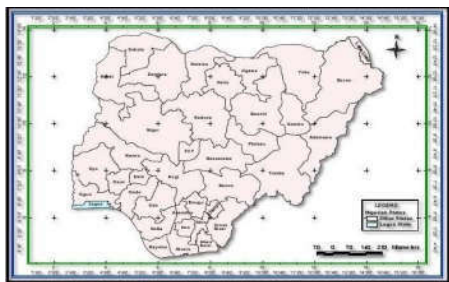


Figure 1.1: Map of Nigeria showing Lagos state.

Source: World of maps.net



Figure 1.2: Map of Lagos state showing local government areas.

Source: Lagos State Ministry of Lands, 2019



Figure 1.3 Map of selected parks in Ikeja local government.

Source: Authors' fieldwork, 2019.

majorly from the Yoruba ethnic group (68.2%) from the southwestern part of Nigeria (Table 1).

In addition, the age distribution of respondents is presented in Figure 3.1. Results reveal that about half of the total respondents (54.2%) were between the ages of 20-30; this was followed by teenagers (14%). Only 1.4% of the respondents were 45 years and above.

B. Security-Related Characteristics of the

Parks

Evidence on how the design and environmental settings can be used for crime control in parks is accumulating [15, 16]. The study collected evidence on park physical characteristics that might influence its capacity to prevent or stimulate crime. Security-related Park attributes such as fencing, lockable gates, lighting, security cameras and guards were identified and examined for their adequacy.

The results of physical audit of the parks, environmental and design attributes existing at the time of study are presented in Tables 2& 3 and Plates 1-12. The results showed that one of the major attributes existing in the parks was the way-finder like signage and typography to help patrons in navigating the parks. They inform users of how to navigate their ways through public open spaces.

Table 1: Socio-Economic Characteristics

		Park Name		
		JJT	Ndu	Total
Gender	Male	65(51.6%)	47(53.4%)	112(52.3%)
	Female	59(46.8%)	40(45.5%)	99(46.3%)
	NR	2(1.6%)	1(1.1%)	3(1.4%)
	Total	126	88	214
Marital Status	Single	99(78.6%)	72(81.8%)	171(79.9%)
	Married	20(15.9%)	12(13.6%)	32(15.0%)
	Divorced	2(1.6%)	0(0.0%)	2(0.9%)
	Widow/Widower	1(0.8%)	1(1.1%)	2(0.9%)
Ethnicity	NR	4(3.2%)	3(3.4%)	7(3.3%)
	Total	126	88	214
	Yoruba	82(65.1%)	64(72.7%)	146(68.2%)
	Igbo	17(13.5%)	7(8.0%)	24(11.2%)
Ethnicity	Hausa	3(2.4%)	2(2.3%)	5(2.3%)
	Others	22(17.9%)	13(14.8%)	35(16.4%)
	NR	2(1.6%)	2(2.3%)	4(1.9%)
	Total	126	88	214

* NR = No Response. Source: Authors' fieldwork, 2019.

Wayfinding has been found to improve perceived safety in parks from previous studies [17]. This suggests that users of these parks are likely to feel secure because they can easily find their way around and run to safety when unsavoury occasions arise.

Results also revealed the good conditions of the parks. The level of cleanliness of greenery, water fountain, sculptures, monuments, park

furniture and restrooms showed high level of maintenance. High-level of ground visibility was achieved by the low-level shrubs, dwarf, see-through metal fences and low density of trees. In addition, graffiti and litter were rarely observed in the parks, this might also be responsible for the improved perceived safety ratings in parks. Studies have linked high perceptions of safety in parks to maintenance [18,19].

Findings show the presence of decorative and day lighting posts around the parks; this is one of the potent tools for boosting security in parks. Poor and inadequate lighting promote crime and insecurity in open spaces [6,13,20].

In terms of coverage, the results showed that JJT Park is bigger than NK Park both in overall size and the percentage of greenery. The highest numbers of Regular Seats/Benches were also found in JJT Park (79) while NK Park had 49 regular seats for its patrons.

C. Security at the Parks

Both respondents' perception and personal observations were used to examine the level of security in the parks. Findings showed that the parks were demarcated from other land use districts with a low-rise fence with metal grill. This makes most areas of the parks visible to the public, this also makes it difficult for crime perpetrators to execute their anti-social behaviours. The low rate of crime observed might also be connected to the presence of security fencing. This is because the fence has the potential of restricting access for miscreants or drug users/gangs from gaining access. It also helped to mark out territory, which is one of the principles of Crime Prevention through Environmental Design (CPTED).

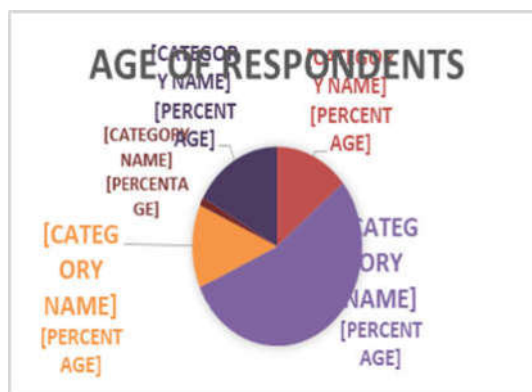


Figure 3.1: Age of respondents.
Source: Authors' fieldwork, 2019.

Table 2: Characteristics of the Parks

Attributes	JOHNSON JAKANDE PARK	NDUBISI KANU PARK
Topography of the park	Plane ground	Plane ground
Total land area	2.30 Hectares	1.32 hectares
Total Green area	1.1 hectares	0.35 hectares
Total Regular Seats/Benches	79	46
Rain cover	Available	Available
Outdoor lights	Available	Available
Total Parking Spaces	46 Parking lots	37 Parking lots
Toilets	3 Toilets	2 Toilets
Waste bin	12 Waste bins	7 waste bins
Snacks bar	6	4
Fountains	Available	Not Available
Trees	25 Trees	19 Trees
Huts	4Big Huts / 2small Huts	3Big Huts

Source: Authors' fieldwork, 2019.

It was observed that CCTV cameras were installed at JJT Park to monitor activities of users, however, none was found at NK Park. Findings also showed that both parks have security personnel taking shifts in ensuring the safety and protection of patrons.

D. User's Perception of Security

The respondents' perception to security provisions were not significantly different from the observation data, (88.8%) of the population sampled felt that the parks were well secured and only (10.3%) felt that the parks were not secured enough (Table 4).

Table 3: Types of security measures in place.

Security measures	JJT Park		Ndubusi Kanu Park	
	Avail.	Count	Avail.	Count
Secured entrance with see-through fences	Yes	All Times	Yes	All Times
CCTV	Yes	6	No	-
Entrance check at the gate	Yes	All Times	Yes	All times
Security personnel inside the park	No	8	Yes	10

Source: Authors' fieldwork, 2019.

Table 4: User's Perception of Security

Park	JJT PARK		Ndubusi Park		Total
YES	113(89.7%)	77(87.5%)			190(88.8%)
NO	12(9.5%)	10(11.4)			22(10.3%)
NR	1(0.8%)	1(1.1%)			2(0.9%)
Total	126(100%)	88(100%)			214(100%)

*NR = No Response

Source: Authors' fieldwork, 2019.

Table 5: Respondents' experience of crime incidents

Park	JJT PARK		Ndubusi Park		Total
YES	4(3.2%)	6(6.8%)			10(4.7%)
NO	112(88.9%)	75(85.2%)			187(87.4%)
NR	10(7.9%)	7(8.0%)			17(7.9%)
Total	126(100%)	88(100%)			214(100%)

*NR = No Response

Source: Authors' fieldwork, 2019.

Respondents were also asked whether they have experienced crime in the parks under investigation. Results as presented in Table 5 show that crime was a rare occurrence in the parks located in the study area. Majority of the respondents (87.4%) affirmed that they had never experienced crime in the parks.

During the field exercise, it was observed that some respondents left out some questions relating to crime rate/ experiences in the parks.

Further investigation during the interviews gave more insights into this. A group of park users at the JJT Park said: *"we have been visiting this park for more than 3years, and we have never experienced crime in this park so we left the questions"*.

Only a few of the respondents interviewed reported to have witnessed or experienced crimes, further questions relating to the nature of the crimes are presented in the next section.

E. User's Experience of Crime at the Parks

Although, most of the respondents in the parks reported low crime rates in the parks, the types of frequently reported crimes were sought and presented in Table 6. The study revealed the occurrence of crimes like pilfering, stealing and some anti-social behaviours. As presented in Table 6, pilfering is the most frequently reported crime experienced. About 32.1% of the respondents' personal effects have been reported stolen when they were using the parks.

On the other hand, anti-social behaviours like sexual or physical harassment, mugging and bullying were not commonly experienced in the parks. For instance, only 6.7% of the respondents claimed to have experienced sexual harassment in the parks in Ikeja, Lagos State.

F. Suggestions on How to Reduce the Fear of Crime

Presented in Table 7 are user's suggestions on how to reduce the fear of crime at public open spaces. About 22.9% of the respondents suggested that the use of CCTV cameras with adequate lighting at night would improve the security in the parks.

Table 6: User's Experience of Crime at the public open space

Park Name	Total	
	JJT	NK

Pilfering	Yes	20	32.3%	14	31.8%	34	32.1%
	No	42	67.7%	30	68.2%	72	67.9%
	Total	62	100.0%	44	100.0%	106	100.0%
Sexual Harassment	Yes	4	7.7%	2	5.4%	6	6.7%
	No	48	92.3%	35	94.6%	83	93.3%
	Total	52	100.0%	37	100.0%	89	100.0%
Physical Harassment	Yes	5	10.0%	4	10.8%	9	10.3%
	No	45	90.0%	33	89.2%	78	89.7%
	Total	50	100.0%	37	100.0%	87	100.0%
Bullying	Yes	7	13.7%	5	13.5%	12	13.6%
	No	44	86.3%	32	86.5%	76	86.4%
	Total	51	100.0%	37	100.0%	88	100.0%
Kidnapping	Yes	3	6.4%	4	11.4%	7	8.5%
	No	44	93.6%	31	88.6%	75	91.5%
	Total	47	100.0%	35	100.0%	82	100.0%

NR = No Response

Source: Authors' fieldwork, 2019.

Table 7: Suggestions on how to reduce the fear of crime at public open spaces

Suggestion	Frequency	Percentage
Adequate Security and use of CCTV camera with adequate lighting at night	49	22.89%
Effective Handling of incidents by security and increasing security personnel	16	7.47%
Increased Gate check before entry into the park	8	3.73%
Increase in security checks across the park by personnel	43	20.09%
Public knowledge about fear of crime and possibility of thieves	1	0.46%
Security dogs should be used	2	0.93%
Increased presence of security personnel in the park	4	1.86%
NR	91	42.52%
Total	214	100

Source: Authors' fieldwork, 2019.

In addition, 7.47% of the respondents felt that effective handling of incidents by security operatives and increasing security personnel in the parks could boost safety, while another 3.73% of the respondents said crowd control and security checks before entry into the park was necessary. Nearly 20% of respondents wanted additions to the number of security men in the parks. Therefore, surveillance in parks should be increased. This is because the extent to which activities in parks can be observed by other patrons or park security

agents might reduce vandalism, inappropriate activities, and the fear of crime.

IV. Conclusion

The study has shown that CPTED is a potent tool in controlling crime in urban parks. This is because there were evidence showing how security elements in the architectural design of the parks provided proactive crime preventive control. Hence, there were little reports of crime in the study area. The low rate of crime is a potential stimulant for frequent activities which might benefit the health and general wellbeing of the city's wellbeing. Regardless of the effectiveness of CPTED, it is evident that park security goes beyond only the design of facilities. It is therefore important to involve users and the community in the planning, design, and maintenance of parks to achieve safety. The problem cannot be solved by design alone or by anyone single action.

V. Recommendations

Based on the findings of the study, the following suggestions are made:

- Conscious efforts for crime prevention should be made when designing parks,
- Passive crime control measures such as gated access, security alarm systems, video cameras, fencing, and electronic access systems,
- Strict enforcement of parks rules and regulation to prevent anti-social behaviours,
- Utilization of signage to inform patrons of opening and closing hours around the parks,
- involving users in the design or redesign of park spaces, and
- Clear sightlines which give the perception of actual safety because people can see what is ahead and around them.



Plate 1: Aerial view of JJT park

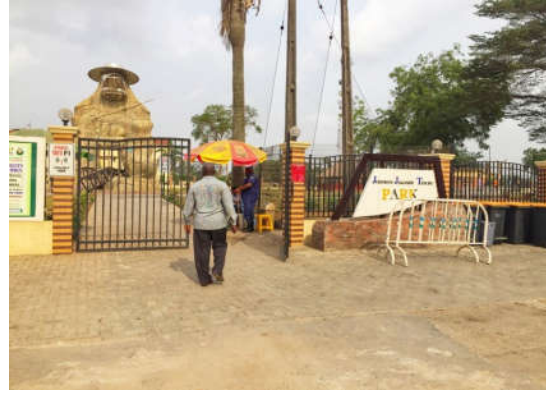


Plate 2: Main Entrance of JJT park



Plate 3: Base Map of JJT park



Plate 4: Children playground at JJT park



Plate 5 : Snacks bar and Toilet



Plate 6: A Hut at JJT park.



Plate 7: Fountain at JJT park.



Plate 8: low fence at the JJT park.



Plate 9: perimeter fences with metal grill at JJT park .



Plate 10: Main Entrance of Ndubusi park



Plate 11: Playground at Ndubusi Kanu park



Plate 12: Outdoor seating area at Ndubusi Kanu park

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