

Environmental Condition Predictors of Criminal Victimization Among Immigrants at Kakuma Camp

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ABSTRACT

Refugees face multiple changes as they resettle in new environments. These transitions can occur in living spaces and fluctuating household compositions, as disrupted schooling often leads to out-of-the-ordinary school transitions, changes in family roles, and transitions toward employment. Understanding these environmental changes provides valuable insights into why and how criminal victimization is concentrated in some areas and not others. It also offers guidance on policy and practice to manage victimization and make the places where it occurs safer. This paper evaluated the influence of environmental conditions on immigrant victimization in Kakuma refugee camp, Kenya. The study used a descriptive survey research design. The evaluation was based on primary data collected from a population of 252,196 subjects, which included 40 peace and safety officers, 88 law enforcers, and 252,068 refugees drawn from Kakuma. Structured questionnaires were used to collect data from the immigrants, and an interview schedule was used to gather information from key informants. Descriptive statistics, chi-square tests, and ordinal logistic regression were used to examine the relationships between environmental conditions and criminal victimization. Results revealed that environmental conditions, such as overcrowding, poor lighting, and inadequate camp barriers, significantly contribute to the vulnerability to victimization risks. Regression analysis showed a statistically significant and positive relationship ($p < 0.001$) between environmental conditions and criminal victimization. The study recommended that there was a need to conduct regular environmental risk assessments among the immigrants to identify the vulnerabilities that predispose them (camp residents) to crime, hence improving the conditions of their living environment.

Keywords: Camp, Crime, Criminal Victimization, environmental conditions, Immigrants, Predictor.

INTRODUCTION

The increasing immigrant population in Kenyan camps often faces vulnerability to various forms of crime, exacerbated by precarious living conditions and inadequate social protection. What is unknown is whether the same environment can make a condition that predicts the possibility of criminal victimization among the immigrants at the refugee camp. Violent victimization has been cited as a common abuse, and it can occur between and within migrant communities (4). Ethnic and other tensions have been identified as a key factor in migration, which may be imported from countries and regions of origin, manifesting in violence in countries of destination (22). Such tensions may be exacerbated where migrant populations are concentrated in particular areas. This may result in gangs or other allegiances being formed and divided along ethnic, racial, sectarian, or other lines that disproportionately affect migrant populations. Further, violent victimization may occur within particular communities inhabited by immigrants in the form of domestic and gender-based violence that may be more prevalent in some ethnic migrant groups (35; 3).

Victimization among individuals has been attributed to key environmental conditions. (26) notes that environmental factors, including overcrowding, inadequate lighting, and poor infrastructure, are critical

predictors of criminal victimization. These factors increase the vulnerability risks to victimization among individuals. For instance, (32) reports that lighting is a fundamental component that ensures safe shelter for the refugees in the camp. The report further indicates that light is essential, especially at water points, latrines, and pathways, as it will deter criminals who may victimize the refugees.

Environmental conditions, such as poor lighting and inadequate environmental design, have been attributed to abuses (32). However, evidence is insufficient on whether they predict criminal victimization, especially among refugee camp residents. The immigrants have to cover long distances in search of social services, such as medication, with limited protection, a situation that likely renders them vulnerable to victimization (29). The camps are known to have scattered infrastructure, forcing individuals to travel across isolated areas with minimal supervision. Further, walking at night in search of water at the water points with poor lighting along the pathways in the refugee camp is likely to heighten the risks of criminal victimization (19). A well-designed lighting system can deter individuals with malicious intent and reduce the likelihood of committing a crime. (35) associates the victimization of women and children with accessing facilities in the camp with minimal guardianship and where natural surveillance is minimal.

Kakuma refugee camp provides relief to over 252,066 refugees. The camp was initially built to accommodate a population of approximately 35,000 refugees, but it fluctuated to 80,000 in 2009 and over 160,000 in 2016 (37). As of 2024, the population has reached 285,238 refugees. With the increasing numbers over the years, the camp is significantly overcrowded. Congestion of the immigrants that is evident in the camp exacerbates risks of victimization. Concentrating individuals into limited living environs and important centers, such as marketplaces and food distribution centers, leads to increased exposure to victimization, especially among the aged, children, and women (29). This overcrowding impacts the mental health issues of the immigrants, such as increased frustrations, stress, guilt, self-blame, and humiliation (24). Furthermore, (20) emphasized that the tension between refugees and communities is intensified by congestion. Conflicts, gender-based violence, and theft in the camp have all been attributed to limited space, which in turn contributes to stress among the refugees. Overcrowding impacts the mental health issues of immigrants, such as increased frustrations, stress, guilt, self-blame, and humiliation.

Although immigrants have experienced cases of criminal victimization in the refugee camp, studies on the environmental conditions as a predictor of these victimization remain understudied. Studies have been conducted on the Kakuma Refugee camp, but there is little evidence on whether the environment can predict criminal victimization. This study aimed to analyse the environmental conditions as a predictor of criminal victimization among immigrants at Kakuma Refugee Camp.

LITERATURE REVIEW

Criminal victimization does not occur in a vacuum, but rather in a specific place and space (17). Understanding environments in criminological studies provides insight into why and how victimization is concentrated in some places and not others. It also offers guidance on policy and practice to manage victimization and make the places where it occurs safer. Refugees face multiple transitions as they resettle in new environments. These transitions can occur in living spaces and fluctuating household compositions, as disrupted schooling often results in out-of-the-ordinary school transitions, as well as transitions in family roles and toward employment. Conducting a study on what exactly makes the refugee camps a more attractive area for criminal victimization is essential. Furthermore, an understanding of the environmental conditions of the camp, including the lighting system, fence, security gates, and alarm system, is reasonably necessary to offer insights into whether these factors facilitate victimization among immigrants.

An exploration of environmental factors in relation to criminal victimization is warranted by the fact that exact knowledge of their impact and how they affect immigrants is inadequate. What is known is that refugee camps are commonly located in remote areas characterized by impoverished and underdeveloped conditions, where, in most cases, the host populations are struggling to sustain their livelihoods (14). It is worth noting that one of the primary concerns for refugees is their safety. Additionally, the primary purpose of a refugee camp is to provide refugees with assistance and protection (6). The question of curiosity is whether the refugees are living in camps

that are safe from danger. Of interest, too, is to examine the refugee camp and its environs and how they are likely to lead to some immigrant criminal victimization. It is also worth noting that the establishment of refugee camps is guided by the UNHCR, the leading organization, in addition to the hosting government and various implementing partners (30). The unknown is whether the Kakuma refugee camp's establishment was in accordance with UNHCR guidelines, and if not, could it be suggestive of the victimization in the camp?

The refugee camps are often overcrowded, holding far too large numbers of refugees for an extended period (16). Such an environment is likely to give rise to victimization, as feelings of frustration and being in limbo are experienced, compromising freedom of movement and the right to work. Women are the most vulnerable to violence as they register more cases of crimes committed against them in many camp settings. Densely populated refugee camps exacerbate the well-being of the immigrants since cases of persecution in a situation of displacement or asylum are widespread. (24) opines that overcrowding of refugee camps has caused increased problems in terms of health, space, food, and staffing, thus contributing directly or indirectly to gendered violence in the refugee camp. Kakuma refugee camp has a population that has surpassed the official holding capacity, rendering the camp highly congested, but little is known of whether this creates a condition for victimization.

Criminal victimization is associated with overcrowding of the refugees that contributes to insecurity in the camps (23), and this may provoke even more fear among them. The (22) offers insights into how camp congestion hinders surveillance strategies for security personnel. This is because congestion creates blind spots that make it difficult for the camp authorities to navigate through and offer formal or informal guardianship. Additionally, (12) found a correlation between victimization and camp density. The study concludes that most of the cases reported by the refugees were attributed to overcrowding in the camp, suggesting an urban planning principle that should be considered when designing the camp. Although overcrowding has been pinpointed as a predictor of criminal victimization, it is not clear whether the refugees in Kakuma could be victimized due to overcrowding. These refugees are a vulnerable group that is characterized by past experiences of persecution, which, in interaction with subsequent experiences of crime in the country they find asylum, makes the situation even worse for the immigrants.

Documentation on fear in refugee settings indicates that the environments can be a serious avenue for victimization and pervasive (16). Environmental conditions such as a lack of fences, walls, and boundaries around the camp encourage criminal victimization. Physical infrastructure serves as a first line of defense against any external threats to the camp (9). This is because camps that are clearly marked experience fewer cases of insecurity from external sources compared to those with poorly controlled boundaries. Similarly, (32) stresses that insecure borders can exacerbate victimization. The agency guidelines recommend a sound installation of physical security along entry points, a move aimed at enhancing safety and reducing the risk of victimization. In addition, (11) argue that spatial demarcation of the camp reinforces the legitimacy of camp governance and also protects against physical crime.

Fear among the refugees has also been attributed to the geographical isolation of the camp from the larger hosting community. (16) study points out that the distance between government offices and refugee camps reduces contact between refugees and law enforcement, contributing to immigrants' vulnerability to attacks by bandits. Camp isolation increases refugees' vulnerability to victimization and contributes to immigrants' impunity. Isolation increases the vulnerability risks among refugees who suffer from delayed emergency responses and humanitarian aid delivery, occasioned by the camps' isolation. This, in turn, compromises the safety of the immigrants (31). For instance, in Syria, one in three Syrian refugee women in Lebanon was too scared or overwhelmed to leave the house. Crossing of the border by refugee women did not stop their plight. However, instead, it was the beginning of another phase of a new, deeply traumatic experience characterized by misery, anxiety, isolation, and hardship. This is suggestive of the victimization women refugees are exposed to, having run from the persecutions and other sorts of victimization, only to land in another persecution in the country they seek asylum from. (5) argues that although there is a tendency to think that once the women have crossed the border, they are safe, the reality is that they just face a different violence once they become refugees. This leaves room for inquiry whether the environment occupied by the refugees is a good haven for refugees and calm to the already suffering refugee groups.

The refugee camps have poor infrastructure, that are more likely to be a source of criminal victimization among immigrants. The camps consist of temporary settlements built to receive refugees and people in similar situations (23). These structures are insecure, as anyone can access them, and personal security and dignity are less assured. Although the camps are intended to provide a temporary solution, they often become a long-term living arrangement for those fleeing conflict. The UNHCR provides tents and other facilities, such as plastic mats, which are intended to last for a short while before the refugees return to their country of origin once the situation has been well managed (20) indicate that refugees with inadequate shelters made up with temporary materials that lack security features, such as doors and locks, expose camp residents to heightened risks of victimization. The study confirms that women and children are particularly vulnerable in the camp. Furthermore, (29) emphasizes that the foundation of human safety for displaced populations can only be guaranteed by ensuring secure housing for refugees who have fled insecurity in their host countries. Additionally, a study by (12) supports the findings of this study, which suggest that poor housing conditions erode trust in the institutions mandated to protect the camp. While all the facilities and materials are provided in different forms, the fact remains that they are of substandard conditions, posing security challenges to the immigrants. This situation is likely to subject the immigrants to victimization. Despite the temporal structures in the camp, evidence of it being a risk dynamic for criminal victimization is lacking, a lacuna that needs to be addressed by the study.

Risk of personal victimization has been attributed to darkness, which can create a feeling of personal insecurity. Well-lit places enhance social control, cohesion, and a feeling of community pride (38). Offenders can be deterred from criminality through improving the visibility in the camp by good lighting. A well-lit area equally reinforces guardianship, which reduces exposure to victimization. (10) further argue that lighting is an infrastructural factor that impacts the prevalence of victimization. The findings suggest that properly installed and improved lighting enhances social interaction among refugees, a situation that helps prevent crime in densely populated refugee camps.

Darkness is likely to create a favorable environment for violence, such as assault. Good lighting discourages violent and property crimes (1). The refugee camps can be a habitat of victimization if the public lighting is not installed or switched off when they are most needed. Residential lighting is often installed as a measure against crime. Research indicates that victimization rates decrease in well-lit environments (27), and it is the government's concern to ensure adequate lighting for the public, rather than a technical issue to be resolved by engineers. Improved lighting likely leads to increased surveillance by enhancing visibility and increasing the number of people on the street, thus reducing the chances of victimization. It additionally signals community investment in the area and that the area is improving, leading to increased community pride, community cohesiveness, and informal social control. This study will investigate whether lighting contributes to criminal victimization and, if so, to what extent. Although lighting is a key predictor of individual security, there is no evidence available on whether victimization in the Kakuma area is a result of poor lighting.

Although good lighting reduces the chances of victimization, other studies show that it could also promote opportunities for crime (39). This is because improved lighting encourages walking or cycling alone (36), which increases the probability of interaction between victims and offenders. While examining the benefits of light in controlling levels of victimization, it is beneficial to consider both the positive and negative effects of an installed lighting system. Studies show that, although it may indicate a decline in criminal offences in an area, it can also be a predictive factor of increased criminal acts in that area. (38) conducted a systematic review of improved lighting in the UK and the USA, concluding that night crimes did not decrease more than daytime crimes. It is, however, significant to look at whether lighting in camps is a likely predictor of criminal victimization.

Kakuma Refugee Camp was formally established in 1992 on the highway, north of the Tarach River (37). The camp was established to provide refuge to people fleeing conflicts in Sudan (21). The settling of the Dinka, Ethiopian Amhara, Ethiopian Oromo, and some Somalis led to increasing panic among the residents of the Kakuma area. This fear was stemming from two critical concerns including the Sudan who fled from their country in which people were killing each other (18). The Turkana felt they were not safe letting dangerous strangers come and settle near their neighbourhoods. This could likely suggest that criminal victimization of immigrants could be a form of retaliation against the immigrants who pose a significant threat to the safety of their community. Furthermore, the settlement of refugees in Kakuma Refugee Camp in Turkana did not involve

the local people in the interaction between the UNHCR and the Kenyan government. Since their voice was not heard in the decision of coming up with a camp and resettling the immigrants, this is also likely to contribute to criminal victimization among immigrants. Additionally, the camps' proximity to conflict-prone areas has been associated with immigrants' victimization. (16) study suggests that camps situated near conflict-prone areas are at a higher risk of victimization. The camps near international borders are frequently exposed to cross-border criminal activities, with immigrants suffering the most. Similarly, (7) findings underscore that the proximity to conflict zones often translates refugee camps into target zones for insurgents. The study further indicates that attacks by militias and weapon trafficking have been attributed to the camp's proximity to insecure borders.

THEORETICAL FRAMEWORK

This study was informed by deviant place theory originally proposed by (22), which posits that the likelihood of becoming a crime victim is significantly influenced by the environmental context in which individuals find themselves. An individual is more likely to become the victim of a crime when exposed to dangerous areas. The more frequently a person ventures into bad neighbourhoods where violent crime is common, the greater the risk of victimization.

RESEARCH METHODOLOGY

The study adopted a descriptive survey research design. Out of a population of 252,066 immigrants, 40 peace and safety officers and 88 law enforcers, a sample of 430 was selected. Purposive sampling procedure was used to select a sample of 8 peace and safety officers and simple random for selecting 22 law enforcement officers. The sample size of the refugees from Kakuma camp was determined by (8) Formula: at 95% confidence interval and 0.05 population variable.

$$n = \frac{N}{(1 + Ne^2)}$$

Where,

n = Number of samples,
 N = Total population and
 e = Error tolerance.

$$n = \frac{252,066}{(1 + 252,066 \times 0.05^2)}$$

$$n = 399.99$$

$$n = 400$$

The total sample from Kakuma refugees camp was 400. Stratified sampling method was used to classify the refugees' nationalities population into Somalia (13.0%), South Sudan (61.5%), DR Congo (8.2%), Ethiopia (4.1%), Burundi (7.8%), Sudan (3.9%), Uganda (0.9%), Eritrea and Rwanda (0.6%). Using Kothari's formulae, proportionate sampling was used to sample 400 refugees from the camp.

$$n_1 = n \times \frac{N_1}{N}$$

Where,

n_1 = sample size from stratum 1

n = total sample size

N_1 = proportion of population included in stratum I (Somalis)

N = Total population

$$n_1 = 400 \times \frac{13}{100}$$

$$=52$$

Using Kothari's formulae, the sample size of Somalia was 52, South Sudan was 246, DR Congo was 33, Ethiopia was 31, Burundi was 31, Sudan was 16, Uganda was 4, Eritrea and Rwanda were 2. Random number generator was then used to pick respondents from each of the strata.

RESEARCH FINDINGS

The study targeted all the refugees in Kakuma camp. A self-administered questionnaire was hand-delivered to each respondent. Out of all the 400 respondents targeted by the study, 317 respondents filled out and returned questionnaires for analysis. Additionally, 6 peace and security officers and 12 law enforcers were interviewed.

A: Response rate and Descriptive Analysis

Table I below presents the demographic characteristics of the respondents.

Table I. Demographic Characteristics of Respondents

Variables		Frequency	Percentages
Respondent Categories	Immigrants	317	79.25
	Peace and safety officers	6	75.0
	Law enforcers	14	63.64
Gender	Male	188	59.3
	Female	127	40.1
	Any other	2	0.6
Age	18-24 Years	80	25.2
	25-30 Years	104	32.8
	31 -35 Years	87	27.4
	36-40 Years	18	5.7
	41 and above	28	8.8
Level of Education	Primary	83	26.2
	Secondary	179	56.5
	Bachelors	19	6.0
	Master's degree	5	1.6
	Never went to school	6	1.9
	Any other	25	7.9
Legal Status	Refugee	284	89.6
	Asylum Seeker	33	10.4

Table I above further revealed that male respondents had a frequency of 188 (59.3%) of the valid responses who were the vast majority of participants. The female respondents had a frequency of 127 representing 40.1% of the total sample. The female results represented the second largest group while only two responders, (0.6%) of the

total valid respondents, represented the "any other" gender category. The results indicated that both male and female genders were well represented in the study.

Additionally, the data on the age distribution data of the respondents showed that the majority fall within the younger age brackets. The largest group, 104 which accounted for 32.8% of respondents was between 25-30 years of age followed by 87 that accounted for 27.4% of the ages between 31–35 years. 80 (25.2%) of the respondents were within 18–24 age bracket While older age brackets were notably underrepresented, with only 18 (5.7%) of respondents being in the 36–40 age range and 28 (8.8%) of the respondents fall into 41years and above category, these two older groups together made up less than 15% of the total sample. The data revealed a dominance of the younger age bracket of the respondents across all the respondents.

Further, on the educational background of respondents, the results showed that 179 (56.5%) of the respondents had attained a secondary level of education while 83 (26.2%) had attained a primary level of education. Those who had attained primary level of education suggests that the respondents might have a limited access to higher educational opportunities as compared with those who had attained a higher level. While only a small portion, 24 (7.6%) of the respondents reported having attained a higher education qualification (bachelor and a master degree), 82.7% of all responses that had either primary or secondary represented the majority in the analysis. Finally, the "Any other" category, which included vocational training or informal education, accounted for 25 (7.9%) respondents, while 6 (1.9%) respondents reported never attended school. This highlighted the presence of educational diversity within the population, with a minority facing significant educational disadvantages.

Results from the table 1 above revealed that 284 (89.6%) of the respondents are officially recognized as refugees. This result suggests that most immigrants have successfully gone through the necessary procedure and clearances to attain a refugee status. Immigrants who have a legal status enjoys most rights enshrined in the UNHCR like protection for their rights and access to most of the social amenities such as healthcare, access to housing and education. In contrast, 33 (10.4%) of the respondents, are categorized as asylum seekers. These are those who have in most cases applied for refugee status and are awaiting a decision from the office of the Department for Refugee Services.

Table II: Environmental Conditions

Statement		SA	A	N	D	SD	Mean	Sd
victimization mostly occurs in poorly lit areas	F	117	124	32	31	13	2.05	1.11
	%	36.9	39.1	10.1	9.8	4.1		
Camps proximity to insecure borders exposes immigrants to victimization	F	56	151	79	24	7	2.29	0.92
	%	17.7	47.6	24.9	7.6	2.2		
Poor infrastructural conditions of the immigrants' houses make them vulnerable to victimization	F	110	58	123	15	11	2.24	1.09
	%	34.7	18.3	38.3	4.7	3.5		
Congestion in the camps creates a conducive environment for victimization	F	82	111	92	21	11	2.27	1.03
	%	25.9	35.0	29.0	6.6	3.5		
Poor environmental design in the camp contribute to immigrants' victimization	F	87	160	54	13	3	2.01	0.84
	%	27.4	50.5	17.0	4.1	0.9		
Lack of fences, walls and boundaries around the camp encourages criminal victimization	F	88	82	55	86	6	2.50	1.21
	%	27.8	25.9	17.4	27.1	1.9		
Geographical isolation of the refugee camps encourages criminal victimization	F	57	188	40	24	8	2.17	0.90
	%	18.0	59.3	12.6	7.6	2.5		

Further, the study findings investigated descriptive statistics on the socio-demographic characteristics of immigrants as a predictor of criminal victimization. The respondents were given a series of statements and were asked to respond. Table 2 below shows that the respondents either strongly agreed (SA), Agreed (A), were neutral (N), Disagreed (D), or Strongly Disagreed (Sd) with the statement being made.

The results on Table II showed that 117 (36.9%) of the respondents strongly agreed and 124 (39.1%) agreed that victimization has a great connection with poor lighting. The responses suggested that inadequate light was a critical environmental risk factor that contributes to the state of vulnerabilities of immigrants to victimization in the camp. 32 (10.1%) were neutral while 43 (13.9 %) of the respondents disagreed and strongly disagreed that poor lighting in the camp is linked to individual victimization. The dominant agreement across the board confirms that light is an essential component in the camp because good lighting reduces the risk of victimization while poor lighting likely compromises the safety of immigrant in the camps. The study findings revealed that victimization can be linked to poor lighting with a mean rating of 2.05 and standard deviation of 1.11. The higher mean value show there was varied opinion on the particular item since the participants agreed that poor lighting can predict criminal victimization. Study from other scholars confirms these findings. (2) study findings suggesting that offenders can be deterred from criminality through improving the visibility in the camp by good lighting. A well-lit area equally reinforces guardianship which reduces exposure to victimization.

The qualitative data revealed that victimization was so common in the poorly lit areas within the camp setting. The security lights that once reduces the chances of crimes at the camp were vandalized and the gadgets stolen by the thieves. Life has been so difficult as someone can be stolen from as early as 6pm in the evening. Cases of phone theft, purse snatching and shop lifting are so common in the areas with poo lighting.

From the results on Table II, it was revealed that 56 (17.7%) of the respondents strongly agreed that refugee's camp proximity to insecure borders increased exposure to criminal victimization. 151 (47.6%) of the sample population agreed on the statement. A significant number 79 (24.9%) of the respondents registered being neutral on the idea that camp proximity to insecure borders rendered immigrants vulnerable to criminal victimization. On the other hand, 24 (7.6 %) disagreed and 7(2.2%) strongly disagreed do not perceive close proximity to insecure border increases the vulnerability risk to criminal victimization. The perceived differences on the results indicates the need to enhance the border monitoring and security in areas neighbouring the refugee camps to reduce external threats on the already distressed vulnerable population in the camp. The results registered a mean of 2.29 and a standard deviation of 0.92 confirming an inclination towards agreement that the camp's proximity to the border increases the risk of criminal victimization. (15), concurs with the findings as the study claims that camps located close to conflict prone areas are at an increased risk of victimization. The camps nearing international borders are frequently exposed to cross border criminal activities with immigrants suffering the most.

A key informant supported these findings by arguing that 'indeed the camp is close to the countries with conflict cases and since our camps are not having barriers, anyone can easily access the camp unnoticed by our security officers. Thess has been a challenge but our security is trying to do thorough patrols and surveillances to make sure that no foreigner passes the 'laga' region without proper clearances.'

Further, the results on Table II indicated 110 (34.7%) of the respondents strongly agreed that poor infrastructural conditions of the immigrant houses make them vulnerable to criminal victimization. 58 (18.3%) of the sampled population agreed, combining a total of 53 % of respondents who perceived that there was a link between substandard housing and increased risk to criminal victimization. 123 (38.8) of the respondents remained neutral which implied uncertainty on the housing conditions as a predictor of victimization. 26 (8.2%) of the respondents disagreed and strongly disagreed that poor infrastructural conditions of the immigrant houses make them vulnerable to victimization. This suggested that very few respondents rejected the idea that housing conditions affects vulnerability. The findings yielded a mean score of 2.24 and a standard deviation of 1.09 suggested a leaning towards agreement that poor infrastructural conditions of immigrants housing units predict their victimization. Scholars in the same field of study agrees with the findings that housing conditions significantly influences refugees and immigrant victimization. For instance, (20), indicates that refugees with inadequate shelters made up with temporal materials that lacks security features such as doors and locks exposes camp

residents to heightened risks of victimization. The study confirms that women and children are particularly the most vulnerable in the camp.

A key informant supported these findings by pointing out that ‘poor infrastructural conditions contributed to majority of the criminal cases in the camp. Some cases like theft, sexual assault and domestic violence were attributed to poor infrastructure. The camp is most made up of weak materials besides others residing in the tents and some criminals are motivated by the insecure locks in the door and windows while others can easily access the tents that usually vulnerable to offer security. However, there is a current plan of trying to resettle the immigrants especially those who have stayed longer in the camp. For instance, Kalobeyei is currently a settlement area that has improved housing conditions which are permanent and cases of victimization are not so common there compared to Kakuma 1,2,3 and 4.’

Additionally, the results on table II indicated that 82 (25.9%) and 111 (35.5%) strongly agreed and agreed that congestion in the camps contributed to criminal victimization among immigrants. Overcrowding in the camp comes with its limitations such as reduced ability to monitor criminal activities rendering the congested areas more vulnerable to criminal victimization. 92 (29.0%) of the sampled population were neutral while 32 (10.1%) of the respondents disagreed and strongly disagreed with the statement. Although there is a smaller number of those who disagreed with the idea, this minority suggested that perceived safety risk was linked to physical overcrowding. Further, the study findings mean rating of 2.27 and the standard deviation of 1.03 revealed that participants agreed with the idea that camp congestion compromise security in the camp and contributes to criminal victimization among immigrants. The study findings concur with (20) study which emphasized that tension between refugees and communities are intensified by congestion. Conflicts, gender-based violence and theft in the camp have all been attributed to limited space which in turn contribute to stress among the refugees.

A key informant supported these findings by arguing that ‘currently the camps are much congested. This has been occasioned by the fact that most got married and have families that have extended beyond the allocated places of residence. Remember, still new refugees are coming to Kenya and the camps keeps on receiving new numbers. Therefore, neighbourhood watches become a challenge and cases of assault are very common in the camps. Theft and robbery have also been cases that have been often reported from the camp by our officers and congestion contributes to some of these cases.’

Moreover, the results on table 2 indicated that 87 (27.4%) of the participants strongly agreed that poor environmental design in the camp contributed to immigrants’ victimization. 160 (50.5%) agreed while 54 (17.0%) remained neutral. 13 (4.1 %) disagreed and 3 (9%) strongly disagree that poor infrastructural conditions of immigrant’s houses render them vulnerable for victimization. The mean score of 2.24 and a standard deviation of 1.09 in the study findings revealed that participants agreed with the statement that housing quality likely affects vulnerability to victimization. This finding resonated with (29) study showed that the foundation of human safety for the displaced population can only be guaranteed by ensuring secure housing for the refugees who fled insecurity from their host countries. Additionally, study by (13) agrees with the findings of this study that poor housing conditions erodes trust in the institutions mandated to offer protection in the camp.

At the same time, the information on Table II also showed that 88 (27.8%) of the respondents strongly agreed that lack of fences, walls and boundaries around the camp encouraged criminal victimization. 82 (25.9%) agreed while 55 (17.4%) of the respondents remained neutral. Contrary to that, 86 (27.1%) and 6 (1.9%) of the sampled population disagreed and strongly disagreed that absence of physical barrier increases the risk to immigrants’ criminal victimization. Further, the study results of mean rating of 2.50 and a standard deviation of 1.21 showed that the respondents agreed insecurity in the camp is associated with lack of fences, walls and boundaries. The finding suggested a need to secure physical infrastructure in the camp. (10) is in agreement with this finding. The study indicates that physical infrastructure serves as a first line of defense against any external threats to the camp. The findings further shows that camps that are clearly marked experiences fewer cases of insecurity from external sources as compared with poorly controlled boundaries.

In addition, the results on table II indicated that 57 (18.0%) of the participants strongly agreed that geographical isolation of the refugee camps encouraged criminal victimization. 188 (59.3%) of the sampled population agreed on the statement. 40 (12.6%) of the respondents were neutral. Contrary to that, 32 (10.1%) of the sample

disagreed and strongly disagreed that isolation of refugee camp geographically contributed to criminal victimization. Further, the study results of mean rating of 2.17 and a standard deviation of 0.90 showed that the respondents agreed that camp remoteness and isolation make the immigrants more susceptible to victimization. (15), is in agreement with this finding. The study points out that the distance between the government offices and the refugee camps reduces the contact between the refugees and the law enforcers contributing to immigrants' vulnerability to attacks by bandits.

A key informant disagreed with these findings by pointing out that the camp had not been isolated. Officers with different projects were ever visiting the camp ranging from counsellors, emergency responses, health providers, water and sanitation, community development, financial supporters among others were in the camps almost daily. The only challenged faced could be meeting each camper's specific individual needs of the large immigrant populations. However, there is a usual contact between immigrants only that they cannot be reached out all of them.

These findings align with deviant place theory (23), which posits that the likelihood of becoming a crime victim is significantly influenced by the environmental context in which individuals find themselves. An individual is more likely to become the victim of a crime when exposed to dangerous areas. The more frequently a person ventures into bad neighbourhoods where violent crime is common, the greater the risk of victimization. This was evident in Kakuma refugee camp that has an environment that has features that makes immigrants more vulnerable to criminal victimization.

B. Inferential Statistics for Environmental Condition

To complement the descriptive statistics, the study used Chi-Square and correlational analysis to test the association between environmental factors and criminal victimization.

1) Chi-Square Test: The study used Chi-Square to test the association between the environmental factors and criminal victimization. The study results are presented in Table III below

Table III: Chi-Square Tests for Environmental Factors

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	374.808 ^a	285	.000
Likelihood Ratio	261.397	285	.839
Linear-by-Linear Association	11.900	1	.001
N of Valid Cases	317		

a. 314 cells (98.1%) have expected count less than 5. The minimum expected count is .00

The Chi-Square tests results in table III above indicated a statistically significant association between environmental factors within Kakuma Refugee Camp and criminal victimization among immigrants in Kakuma Refugee Camp. The results indicated that Chi-Square χ^2 (285, $N = 317$) = 374.81 with p -value of 0.000 which was significant at confidence level of 95% ($0.000 < 0.05$). The results suggests that environmental conditions such as overcrowding, poor lighting, lack of secure housing, and unsafe communal spaces significantly contributes to criminal victimization among the immigrants. Therefore the null hypothesis which stated that there is no statistically significant relationship between environmental factors and criminal victimization among immigrants at Kakuma Refugee Camp, Kenya was rejected. Additionally, the Linear-by-Linear Association value of 11.90 with a highly significant p -value ($< .001$), strengthens this finding by revealing that that an increase or decrease in environmental factors likely increases or decrease chances of criminal victimization among camp residents. This study findings resonated well with (2) study findings which suggests that offenders can be deterred from criminality through improving the visibility in the camp by good lighting. A well-lit area equally reinforces guardianship which reduces exposure to victimization.

2) Spearman Rank Correlation Coefficient:

To investigate the strength of relationships between environmental factors and criminal victimization, the study conducted a spearman rank correlational analysis. The results are presented in the table 4 below.

Table IV: Correlation Between Environmental Factors and Criminal Victimization

			Environmental Factors	Criminal Victimization
Spearman's rho	Environmental Factors	Correlation Coefficient	1.000	.206**
		Sig. (2-tailed)	.	.000
		N	317	317
	Criminal Victimization	Correlation Coefficient	.206**	1.000
		Sig. (2-tailed)	.000	.
		N	317	317

** . Correlation is significant at the 0.01 level (2-tailed)

These findings revealed that, there was significant relationship between environmental factors and criminal victimization. The outcomes show that the correlation coefficients for the entire variable were below 0.05 signifying that the research data was statistically significant. According to the results, there was a positive correlation between environmental factors and criminal victimization with a correlation value of 0.206 (p-value $0.00 < 0.05$). It was evident from the result that unfavorable environmental conditions such as overcrowding, poor infrastructure and inadequate facilities contributes indirectly to the vulnerability of immigrants to criminal victimization by increasing their dependency on camp structures for safety and survival. Thus, the null hypothesis that there was no statistically significant relationship between environmental factors within Kakuma Refugee Camp and criminal victimization among immigrants in Kakuma Refugee Camp was rejected.

THE RESEARCH CONCLUSION ON ENVIRONMENTAL CONDITIONS AS PREDICTORS OF CRIMINAL VICTIMIZATION

The results also revealed that the social and physical conditions in the refugee camp contributes to criminal victimization. The refugee camp has been geographically positioned at porous borders, with very poor lighting systems, inadequate housing and congestions in the camp that contributed to the exposure to insecurity thus criminal victimization. Widowed, divorced and separated families suffered the most as their homes were in very bad shape with weak doors and windows. These vulnerabilities highlight the need for an improved environmental infrastructure within the immigrant's residents with an aim of reducing their vulnerability to victimization.

RECOMMENDATION OF THE STUDY

Environmental risk assessments need to be conducted regularly among the immigrants to identify the vulnerabilities that predispose the camp residents to crime hence improving the conditions of their living environment. This should involve reinstalling lighting systems in all zones, especially the crime hotspot areas withing the camp and the government allocating more lands to resettle the congested camp.

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