Spatial Variations and Planning Implications of Urban Crimes in the Bamenda Metropolis of Cameroon

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Abstract: Rapid urban growth is characteristic of many cities in Sub-Saharan Africa. In the midst of such growth, insecurity and crimes represent a major emerging issue in these urban centres where the fear of crime and violence persists. The case of Bamenda, a primate city in Cameroon comes to mind. Uncontrolled urban growth has created breeding grounds for the upsurge of urban crimes which show spatial variations in their nature and distribution. In the context of Bamenda, previous studies have investigated city planning with respect to land use and the environment, land use and wetlands, housing patterns and green space development. These studies fall short of providing scientific information on the nature and spatial variations in urban crime and their implications for urban planning. In this study, we purposively sample 150 respondents drawn from targeted neighbourhoods. Using the correlation analysis at 0.5 level of significance, we established a significant relationship (0.784) between urban crime and city planning and development deficiencies on the one hand, and a significant relationship (0.84) between urban crime and neighbourhood socio-economic characteristics on the other hand. The intensity and distribution of urban crimes show a close link with mishaps in city planning and development. This calls for coordinated efforts to support the revision, upgrading and respect of urban planning regulations to ensure adequate access to neighbourhoods in a bid to stem the prevalence of crime. Such a strategy is necessary to support the global objective (at least from a micro perspective) of *making cities and human settlements inclusive, safe, resilient* and sustainable in line with Sustainable Development Goal 11.

Keywords: Urban Crimes, City Planning, Implications, Sub-Saharan Africa, Bamenda

1. Introduction

It is an established fact that the world is becoming increasingly urbanized – urban areas now contain more than 50 percent of the world's population with 90 percent of accelerated growth occurring in developing countries of Asia, Africa, and Latin America. Given the current rate, it is widely projected that by 2030, cities will hold 80 percent of the global urban population [1]. Although the unprecedented rate of urban growth represents a unique opportunity to build more sustainable, innovative and equitable cities, it comes with a host of challenges to include the growth of slums and squatter settlements, limited income and employment opportunities, dysfunctional urban service systems and increasing urban crimes, among others.

The process of rapid and uncontrolled urbanization which is accompanied by deteriorating socio-economic urban conditions, especially among the urban poor, have created fertile grounds for the growth in urban crimes and violence. City crime and violence is disproportionately high in low income countries. The World Health Organization observed that an estimated 199,000 youths worldwide were murdered in 2000; this implies about 565 deaths were recorded for children and youths [2]. Small towns and emerging urban centres are generally characterized a small number of criminals to allow the development of criminogenic influence which is very much reminiscent of ghettos. Large cities have consistently proved to be favourable opportunity creators for crimes. In other words, as urban areas become larger, the rate of crime in these areas increases ([3]; [4]).

Insecurity and crimes represent a major emerging urban

issue. Urban population growth and the effects of globalization have enhanced the complexities and manifestation of crime and violence in cities for over 2 decades ([5]; [6]). The fear of crime and violence continues to be pervasive in cities and is one of the top concerns in citizens' everyday lives. Previous studies showed that 60 to 70 per cent of urban residents have been victims of crime in those developing or transitional countries where rapid urban population growth is the norm. Insecurity and risk therefore undermines the long-term sustainability of cities worldwide ([5]; [6]). The increasing concerns on insecurity and crimes in urban areas, perhaps culminated in the formulation of Sustainable Development Goal 11 - *make cities and human settlements inclusive, safe, resilient and sustainable.* Specifically, Target 11.1 of this SDG stresses on the need to ensure access to adequate, safe and affordable housing and basic services, and upgrade slums considers the need to engage in urban planning to prevent the growth of urban crimes on the one hand, and to support efforts geared towards the eradication of urban crimes on the other hand [7]. For the past two decades, different types of crime have emerged in urban environments. In the world today, the need for safety has always been one of the most profound needs of man and the issue of crime occurrence remains one for the most important human concerns. According to [8], urban incidents and violence has increased from 6 to 8.8 per 100.000 between 1990 and 2000. Recent studies show that during the last 5 years, 60 percent of the world's city residents have, directly or indirectly, been exposed to violence, crime and felony. Therefore the increase in either violent or non-violent crimes threatens urban life.

With increasing level of urbanization in Sub-Saharan Africa (SSA), human safety and property is threatened. This is largely due to the fact that most of the cities in SSA are characterized by unplanned neighbourhoods which are prone to signatures of poverty and deprivation – a necessary condition for the upsurge of crime ([9]; [10]; [11]). Within the Cameroonian urban environment, different crimes have been observed to include carjacking, armed robbery, petty theft, swindling, physical assault and rape, and cybercrime. These crimes have been recurrent in Cameroon's political and economic capitals of Yaounde and Douala respectively. Bamenda, a city in Anglophone Cameroon, has rapidly evolved since independence. The population moved from 980531 in 1976 to 1,728953 as of 2005 [12]. Such growth which has been characterized by the emergence of unplanned neighbourhoods on the one hand, and the absence and/or non-respect of city planning regulations on the other hand, have resulted in the upsurge of urban crimes. At a time when the city seeks to improve on its planning paradigm, it is germane to appreciate the nature and spatial distribution of urban crimes with a view to exposing its planning implications.

2. The Problem

Over the past two decades, there has been a growing recognition by policy makers, policing agencies, and researchers that understanding the context of crime—its nature, spatial distribution and timing, is key to understanding how urban systems can be planned to control and prevent crimes [13]. These concerns are increasing against the backdrop of rapid and uncontrolled urbanization which is predominant in the developing world, including Sub-Saharan Africa. The growth in urban environments is widely recognized as one of the drawing forces behind all forms of criminal activities in urban areas. Cameroon is currently experiencing high rates of urbanization. According to the National Institute of Statistics, Cameroon's population stood at about 14.5 million people in 1987 while the 2005 population census put the population at about 21 million [12]. This increase shows disparity in population distribution in favour of urban centres. Consequently, Cameroonian cities are faced with a situation of rapid and controlled urban growth of 6% per annum, resulting in inequality, high unemployment rates, dysfunctional urban service systems, the non-respect of city planning regulations and the upsurge of crime and violence, among others.

Bamenda in Cameroon, a primate city *par excellence,* has witnessed rapid and uncontrolled urban growth which has created breeding grounds for the upsurge of urban crimes. While previous studies have investigated city planning with respect to land use and the environment, land use and wetlands ([14]; [15]; [16]), water supply patterns and urban green space development ([17]; [18]; [19]), an important aspect which lacks scientific rigour relates to the nature and spatial variations in urban crime and their implications for urban planning. The city of Bamenda is therefore prone to a series of crimes to include armed robbery, rape and assault, among others, which are rooted in a number of planning and developmental lapses. These crimes seemingly show spatial variations in which some neighbourhoods are more affected than others. The unplanned nature of this city is equally a threat to security control as reflected in crime related neighbourhoods such as Old Town, Mobile Nkwen and Meta quarters. This study therefore investigates the spatial variations in urban crime in Bamenda in relation to socio-economic activities and characteristics of neighbourhoods. The findings are relevant in guiding urban planning policies which can prevent and/or stem crime prevalence in the face of continued city growth.

3. Study Area and Research Methodology

Bamenda (Figure 1) is the largest town in Mezam Division and serves as the regional headquarters of the North West. It is located between latitudes 5055" and 5058" North of the Equator and longitudes 10009" and 10011" East of the Greenwich Meridian.
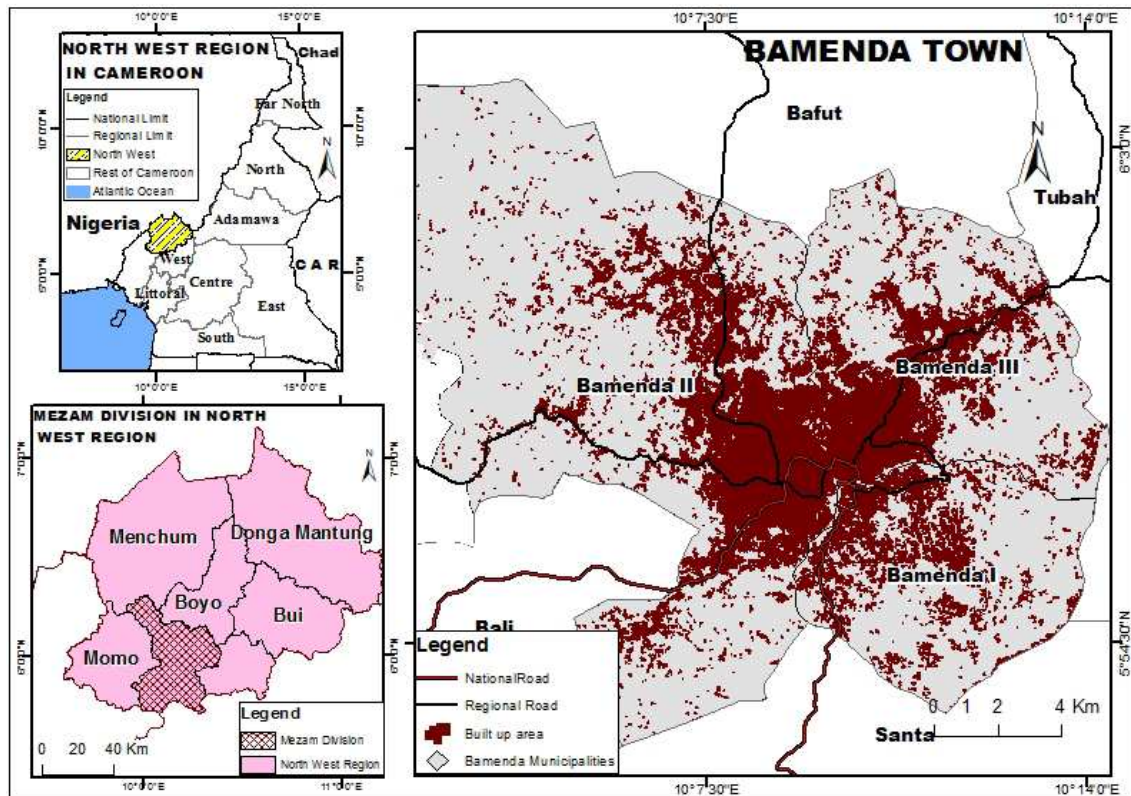
Figure 1. The Bamenda urban area (Source: Drawn from Landsat Images, 2017).

It is bounded to the North by Tubah subdivision to the South by Santa Subdivision, to the West by Mbengwi, to the South West by Bali subdivision and to the North east by Bafut Sub Division. The town spans across an area of about 3,125 hectares [20]. As of 2010, her population was about 900,000, and it is projected to about 1,323,716 people by 2020 [21].

The study is largely descriptive in nature as it seeks to analyse the nature and spatial variations of crime by studying the perception of inhabitants. The purposive sampling technique was employed in the study since it was judged to be effective in appreciating a complex phenomenon such as crime. Purposive sampling therefore permitted the researcher to obtain information in targeted neighbourhoods which have a history of crime prevalence. A total of 150 questionnaires were administered in this case. Furthermore, interviews were conducted to some 15 stakeholders of the judicial and the legal department of the region. Secondary data came from the exploitation of relevant documents in the court, delegation of social welfare, police stations and gendarmerie on crime related situations. The analysis was largely descriptive, involving the use of table, charts and percentages to present respondents' perceptions on the nature and distribution of urban crimes. The data generated supported the geo-spatial representation of crime prevalence which saw the production of maps on the density and spatial variations of crimes in the respective neighbourhoods of the Bamenda city. We equally employed the Pearson's product moment correlation coefficient(r) at 0.05 level of significance to determine the relationship between city planning and development and urban crimes on the one hand, and urban crime and neighbourhood characteristics on the other hand. The results were used to support policy recommendations with respect to the prevention and reduction of urban crimes in the face of continued urban growth.

4. Literature Review

4.1. Nature and Spatial Distribution of Urban Crime

Earlier works on urban crime focused on comparing the spatial distribution of crime in relation to both 'moral' ("literacy, population density, wealth, occupation, nationality") and physical attributes of the environment (cited in [13]). A more recent study contends that peak crime periods are observed when it is getting dark and when darkness sets in [22]. Such crime periods are also registered during weekends and during vacations/holidays. Some authors equally noted that during winter, higher crimes cases are recorded while alcohol selling neighbourhoods are prone to crimes during summer. Substantial differences exist in cases where the observation shifts from the broader classification of crime to individual offenses. [23] for example, observed that during summer periods, sexual offences tend to increase, while [24] and [25] rather noted an increase in robbery crimes. It has equally been observed that high levels of crime were not a function of the personal attributes of neighbourhood groups, but due to "the structural

factors of poverty, high heterogeneity, and high mobility contributes in creating 'social disorganization" [26].

There exist spatial variations in the distribution and typology of urban crime. This is most visible when comparisons are made between urban and rural areas ([27]; [28]). Almost invariably, most of these crimes occur in urban environments. Such an observation reflects the picture of the displacement of rural poverty and their implantation in urban centres where they are further greeted with social exclusion ([27]; [29]). Crime is therefore linked to societies where spatial socio-economic inequality is the norm ([29]). The low income brackets may therefore be easily pushed to engage in criminal activities in a bid to survive. In another dimension, studies of crime distribution patterns within cities indicate that the absence of surveillance mechanisms tend to influence the incidence of certain criminal actions in places of enormous motivation and opportunities [30] This corroborates the fact that crimes have defined patterns, locations and timing [31]. That is to say, crime incidents are not distributed randomly; rather, there exist low crime areas within cities as opposed to crime "hotspots" [32]. In discussing the relationship between rapid urbanization and the security of cities, it is held that the anarchical expansion of urban environments weakens national governments and local authorities as they strive to provide urban security and to supply basic social infrastructure [33]. This contributes to the decay process of cities and the consequent growth of slums and squatter settlements – a further complication of urban security and safety. In addition, the unplanned nature of cities tends to overstretch urban infrastructural systems and policing services of the state ([34]; [35]).

4.2. Urban Crime and Socio Economic Development

There is seemingly a scholarly consensus that three sets of variables determine crime. They are socio-demographic, economic and other deterrent variables ([36]; [37]). There are still some incongruities related to their relative influence which is characterized by complexity [38]. Many crime theories have analysed the influence of group, individual and environmental attributes on crime. Three sets of theoretical explanations on the possible association between poverty and crime have been provided by [39], they include;

i) issues of discrimination and insufficient legitimate opportunities which serves as a limiting factor to the poor in their search for legitimate societal resources and widely shared goals. Their precarious situation forces them to employ illegitimate means to access resources leading to crime;

ii) The persistence of lower social controls, particularly in disadvantaged neighbourhoods which enhances crime and violence and;

iii) the tendency of negative socialization for people of low socio-economic status which exposes them to crime.

The extent to which these explanations address the link between crime and poverty remains an open question. Caution and contextual application is necessary when explaining what constitute crime and poverty since they exhibit spatio-temporal variations.

The link between social deprivation and crime in two Canadian cities - Toronto and Vancouver have been examined using disaggregated crime data for 207 patrol areas. This scientific examination led to the identification of crime hotspots in and around the central city which when mapped, corresponded closely with the most deprived neighbourhoods [40]. A similar situation was noted for Vancouver as areas of high deprivation were linked to high crime environments. Using GIS-based spatial analysis, high intensity crime areas (HIAs) for some large cities in England have equally been modelled [41]. By integrating census data into their model, they observed that HIAs were characterized by socio-economically deprived populations with high population densities. Similarly, [42] used GIS to explore the relationship between crime and neighbourhood typology by considering disadvantaged, middle income and affluent residential neighbourhoods in Merseyside in northwest England. These studies show the important role of GIS in explaining the complex relationship between crime and offence locations. They therefore point to the fact that diverse socio-economic variables influence spatial variations in urban crimes. Planning interventions therefore need to consider the improvement of affected neighbourhoods in terms of access to economic opportunities, housing, social welfare, accessibility, security and safety.

4.3. Curbing Urban Crime

As crime is an unwanted phenomenon in all environments, city governments are preoccupied with formulating and implementing measures to combat crimes. In this regard, the design and proper use of urban space may assist in stemming the incidence of crime and contribute to improving the quality of life of urbanites [43]. Therefore criminology and urban planning postulations have revolved around the four pillars of territoriality, community participation, access control and natural vigilance ([44]; [45]). Other studies assessed the role of the physical environment (such as green space) in the reduction of neighbourhood crime, aggression and violence within inner-city environments ([46]; [47]). Furthermore, scientists have noted that for green spaces to play this role, other material and immaterial aspects must be considered. Some of these include aspects of accessibility, perceptions of security, quality and comfort of infrastructures and surrounding areas [48].

Planning is considered relevant for inclusive and sustainable development of cities since it gives room for regulations on land use and land development. It also provides a sound basis for the planning of infrastructure, the securing of investors (and citizens) rights, the protection of environmental resources and the mitigation of environmental risks. Regrettably, African urban centres are witnessing dramatic growth and transformation which are not commensurate with the level of planning. Such a situation breeds chaos, inefficiency and unsustainable urban development [49]. Scholars widely agree that poorly planned and developed neighbourhoods which manifest slum and

other deprivation attributes can facilitate crime and the fear of crime ([9]; [10]; [11]). Crime mapping was initiated around the 19th C where the so-called 'dangerous places' were earmarked [29]. This could be considered as a starting point towards developing crime prevention using design strategies. Crime prevention and control efforts to through the application of social and physical techniques further gained attention during the 1970s. Put succinctly, human behaviour takes place in space, and the spatial layout of the environment provides diverse opportunities for people's interaction. This interaction could either create safe or unsafe communities, or serve as a pointer to the foundational part of society's welfare [50]. Therefore, an understanding of the spatial variations in urban crime is key to designing crime prevention and mitigation measures. This perhaps, represents a way forward in urban crime management in the Bamenda metropolis.

5. Results and Discussion

5.1. Nature and Spatial Distribution of Urban Crimes in Bamenda

As earlier indicated, the spatial distribution of crime is viewed in relation to 'moral' characteristics (population density, wealth, literacy, occupation and nationality) and physical characteristics of the environment (cited in [13]). This section presents results with respect to the nature and spatial distribution of crimes in the Bamenda metropolis. A total of 1329 crimes were recorded by the legal department of

the Bamenda high court in 2016. These crimes are grouped under crimes against person and property. Property crimes (Table 1) are those that injure a person depriving him or her of property or by damaging property, whereas crime against person is that which injures another person's body.

Table 1. Types of Property crime in Bamenda.

Crime	Record	Percentage
Theft	517	53.02
Misappropriation	156	16
Destruction	163	16.71
False pretence	78	8
Violation of injunction order	18	1.8
Corruption	6	0.6
Sales of illicit drugs	7	0.7
Forgery	30	3.07
Total	975	100

Source: Legal Department of the Bamenda High Court 2016

Of the 1329 crimes recorded in 2016, 975 fall under the category of property crime. Within the property crime sub-category, theft is the most recurrent (53.02%), followed by property destruction (16.71%) and misappropriation (16%). The least recurrent ones include sales of illicit drugs (0.7%) and corruption (0.6%). With regards to crime against person (s), a total of 354 crimes were recorded representing 26.67% of the total recorded crimes. Based on this, assault was the most recurrent of the crimes (44.06%), followed by life threats (35.02%) and rape (10.73%). The least observed crimes in this category include homicide and harassment with less than 1% (Figure 2).
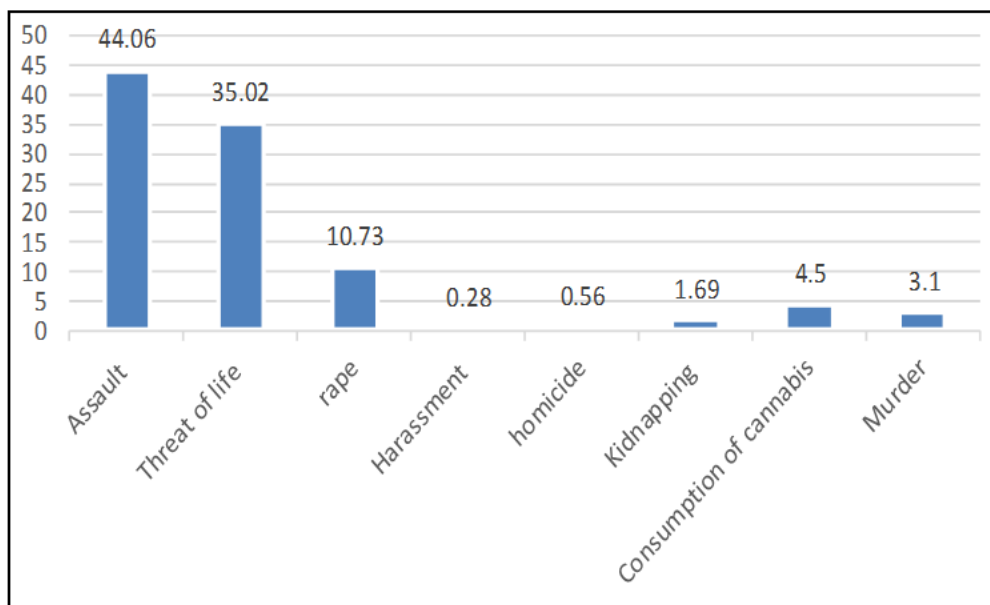

Figure 2. Representation of crime against person Culled from statistics of the Bamenda High Court 2016.

[32] observed that urban crimes do not display evenness in their distribution – certain neighbourhoods witness relatively small amounts of crime as opposed to crime "hotspots" where significant crime events occur. A similar situation is observed for the Bamenda metropolis where some neighbourhoods are more affected than others. In a related

dimension, crime-specific locations tend to vary, while some crimes are fairly ubiquitous – occurring in almost all neighbourhoods. In the case of Bamenda, theft (ranging from simple to aggravated theft) for instance, was recorded as the highest and fairly evenly distributed crime, followed by assault and threats of life (Figure 3).
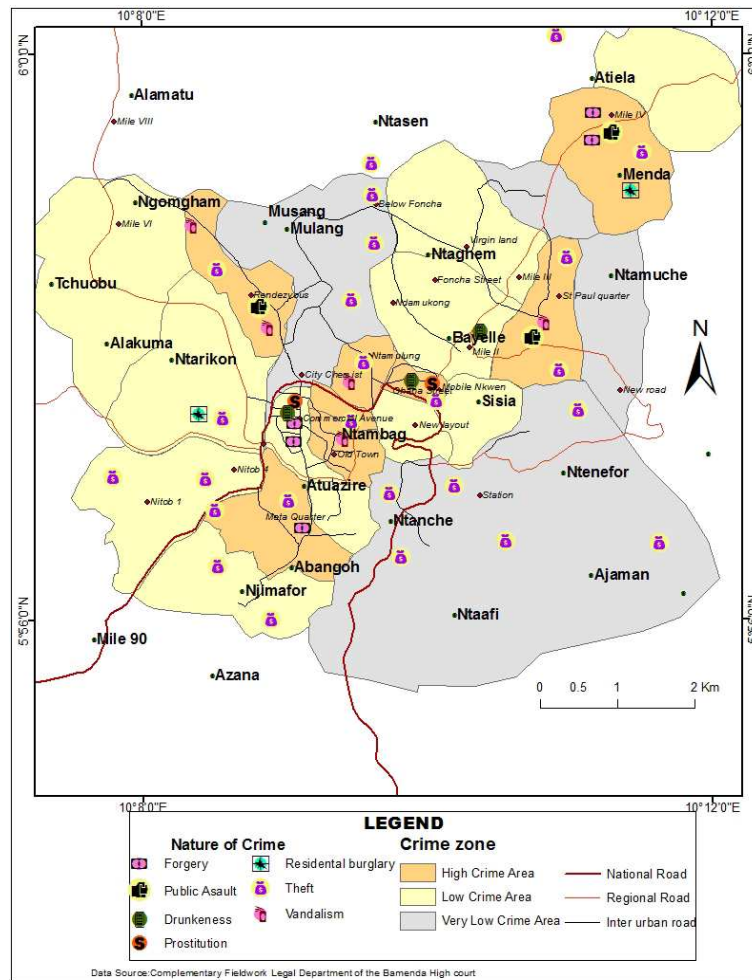
Source: Bamenda Central police station, Old Town 2017.

Figure 3. Crime densities per neighbourhood in the Bamenda metropolis.

In the Bamenda metropolis, neighbourhoods like Rendez vous, Ntambag, Abangoh, Mile 3 and Mile 4 Nkwen, and Menda are considered as high crime zones. Menda for instance, is highly affected by forgery and residential burglary whereas in Mulang and Musang, the dominant crime activity is theft. It should however be noted that theft is virtually common in all neighbourhoods. Other crimes that are common along streets include prostitution and petit theft around Mobile Nkwen, Old Town and Mile 4.

The spatial picture (Figure 4) of these diverse crimes irrespective of their nature presents 3 categories of neighbourhoods in Bamenda – the high crime areas

(Ngomgham, Rendez Vous, Menda, Old Town, Abangoh, and Ntambag), the low crime areas (such as Nitob, Ntarinkon, Sisia and Bayelle), and the very low crime areas (Station, Ntenefor, Ntamuche). Very poorly planned and developed neighbourhoods are associated with high crime zones. This is indicative of the role of uncoordinated development in the mushrooming of insecure neighbourhoods. More organized neighbourhoods such as Station and Foncha have relatively little crime incidence. The correlation results for urban crimes and city planning and development for Bamenda is presented in Table 2.

Table 2. Correlation between urban crime and city planning and development.

		Urban Crime	City planning & development
	Pearson Correlation	1	.784[**]
Urban Crime	Sig. (2-tailed)		.000
	N	150	150
	Pearson Correlation	.784[**]	1
City planning and development	Sig. (2-tailed)	.000	
	N	150	150
**. Correlation is significant at the 0.08 level (2-tailed).			

Calculated using SPSS Version 21
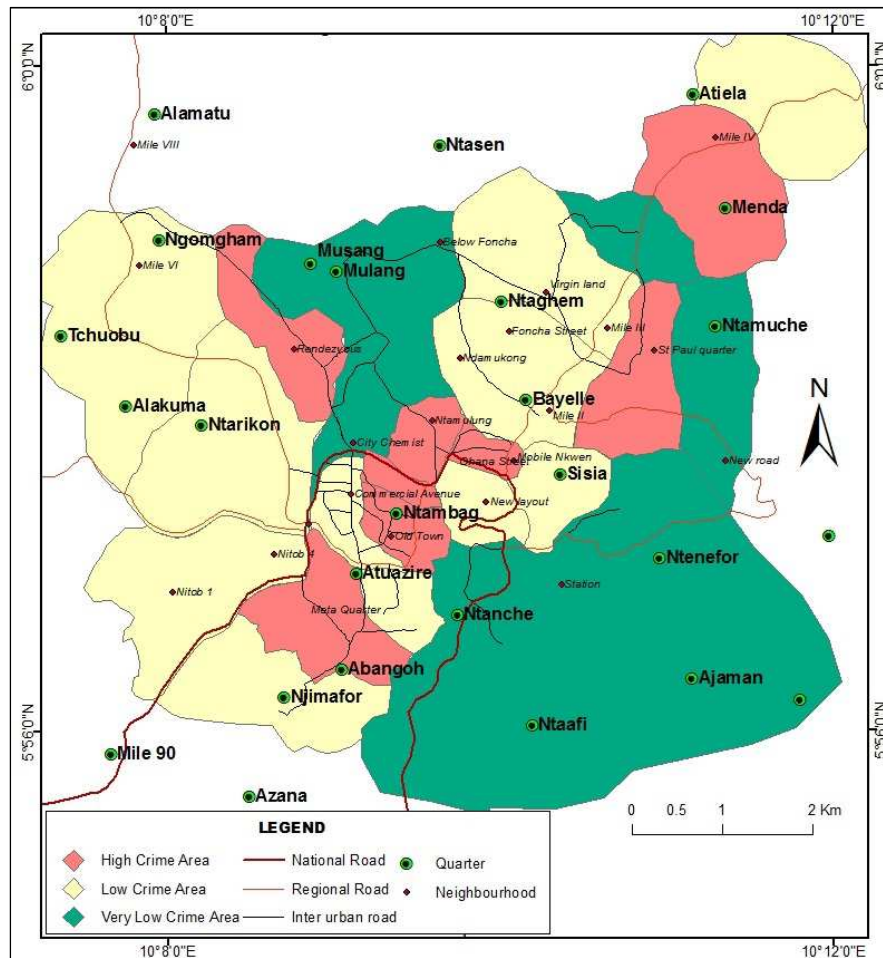
Source: Legal department, Bamenda high court 2016.

Figure 4. the spatial distribution of crimes in Bamenda.

The result shows that there is a strong positive relationship between urban crime and city planning and development (r= 0.784). The results imply that where city planning and developments are uncoordinated, urban crime is bound to increase. In another dimension, the socio-economic characteristics of neighbourhoods show a direct link with urban crime. Table 3 shows this relationship for Bamenda.

Table 3. Relationship between urban crime and neighbourhood socio –economic characteristics.

|		Urban Crime	neighbourhood Socio-economic characteristics
Urban Crime	Pearson Correlation	1	.821**
	Sig. (2-tailed)		.000
	N	150	150
Socio-economic characteristics of the neighbourhood	Pearson Correlation	.821**	1
	Sig. (2-tailed)	.000	
	N	150	150
**. Correlation is significant at the 0.01 level (2-tailed)			

Computed from SPSS version 21

The results show that there is a strong positive relationship (r=0.821) between urban crime and the socio-economic characteristics of neighbourhoods in Bamenda. The results imply that neighbourhoods that are characterised by poor socio-economic conditions of power failure, inaccessibility and poor housing conditions are more prone to urban crimes like prostitution, violence, murder, rape theft and assault.

5.2. Current Measures and Future Planning Perspectives

In a bid to curb the crime prevalence situation, security mechanisms have been stepped up in Bamenda through recruitment, redeployment of gendarmes and police to high crime neighbourhoods like Old Town and Mile 4 Nkwen, the creation of police and gendarmerie stations, and the organization of frequent controls. Figure 5 shows the spatial distribution of crime prevention and control efforts in Bamenda.
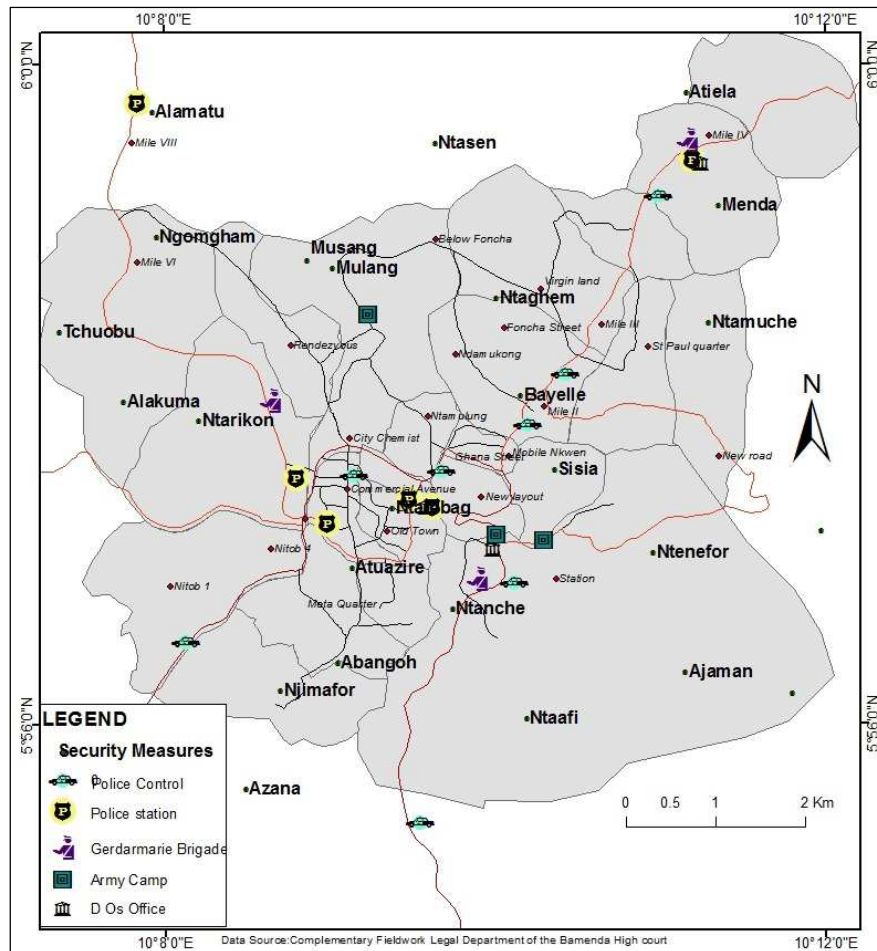
Source; Bamenda central police station (2017).

Figure 5. Spatial distribution of crime control units in Bamenda.

Although these control units have been created, it suffices to note that these efforts fall short of addressing the root causes of these crimes. The root causes, it should be noted, are greatly linked to planning and socio-economic development deficiencies which manifest through poor accessibility in neighbourhoods, poor housing conditions, limited economic opportunities for gainful employment, and the absence of basic services. Research suggests that a combination of social policies (job creation, education, drug treatment and child welfare policies) and criminal justice polices (police resources and police polices) can deter crimes in cities ([51]; [52]). In the case of the Bamenda metropolis, sound urban planning which gives room for coordinated development should be the starting point in addressing urban crimes. Such planning gives room for the development of accesible and secured neighbourhoods and enhanced economic opportunities for urbanites.

6. Conclusion and Recommendation

Rapid and uncontrolled urban development is *sine qua non* for the upsurge in urban crimes. In the case of Bamenda, a significant relationship has been observed between urban crime and city planning and development deficiencies on the one hand, and urban crime and socio-economic characteristics of the neighbourhoods in the Bamenda city on the other hand. It can equally be concluded that the intensity and distribution of urban crimes show a close link with mishaps in city planning and development. As a way forward, a number of issues should be considered: (i) Issues of safety, security and justice are frequently outside the jurisdictions of municipal governments. This obviously slows down actions geared towards crime prevention and reduction. It is therefore incumbent on central authorities (who wield power and decision in this respect) to cooperate with, support, and include municipal authorities in strategies for city crime prevention and control. Policies on urban security and safety should consider important aspects such as gender and poverty with an emphasis on citizens at risk including the urban poor, women and youth who are most vulnerable to these crimes. (ii) There is a need to introduce coordinated efforts to support the revision, upgrading and respect of urban planning regulations to ensure adequate access to neighbourhoods in a bid to stem the rampant prevalence of crime. Such a strategy is necessary to support the global objective (at least from a micro perspective) of making cities

and human settlements inclusive, safe, resilient and sustainable in line with Sustainable Development Goal 11. (iii) From a moral and social perspective, city dwellers should always collaborate with the forces of law and order by alerting them on criminal cases and hideouts. In addition, while it is noble for children to support parents in sustaining households through hawking, parents should educate their female children on the importance of decent dressing which can, in some cases, reduce the occurrence of rape cases. (iv) At the heart of it, there is a need for sound urban planning which gives room for coordinated development. Such planning gives room for the development of accesible and secured neighbourhoods and enhanced economic opportunities for urbanites. This will address the root cause of the problem.

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