BUILT ENVIRONMENT AND ANTISOCIAL BEHAVIOR

L'ENVIRONNEMENT BATI ET LES COMPORTEMENTS ANTISOCIAUX.

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1. INTRODUCTION

In all countries, regardless of their development, urban slum residents commit the majority of the reported crimes. Studies of cities of developing countries appear to show similar correlations. Numerous studies, of deviant behavior, point out that squatter areas, and illicit districts, are the seedbeds in which "delinquents" carry on their activities. (1)

This paper tends to apprehend the theme of violence and insecurity in illicit districts from a new point of view, by adopting the environmental approach to crime. The study aims to understand how and why this urban shape produced by the illicit districts affects human behavior negatively and encourages vandalism.

To test various hypotheses derived from a theoretical model, a representative sample of persons to be interviewed was selected from two illicit districts (Bouakal, and Chikhi) in Batna, a middle city in Algeria. The city of Batna in Algeria is specified by the spectacular and singular character of its anarchical urbanization. The illicit habitat in Batna constitutes the higher proportion of the real estate park.

2. ENVIRONMENTAL APPROACH

During the last decade, a new conception of the relation between the urban environment and antisocial behaviors drew its origins in criminology and began to develop through the theory of « situational prevention». This approach, stipulates that physical and social environment create opportunities of offence, by converging in time and in space the three components of crime: a probable delinquent, an appropriable target and absence of « sufficient dissuasion ».(2)

Situational approach aims to reduce opportunities of vandalism and violence by discouraging antisocial behaviors and making difficult to offenders to accomplish their acts without being recognised and identified.

Opportunity is defined as the set of easiness of which benefit offenders «delinquents, vandals» to accomplish their acts. Probabilities for an aggressor to be identified or arrested affect his potential decision for committing its offence and constrained him to renounce. Urban specialists focus on urban design and urban spaces conceptions and undertake to understand how spaces, by their spatial configuration, their rates of use can favour opportunities for occurrence of vandalism.

3. METHODOLOGY

In order to palliate to the obvious limits of official statistics, we will use «technique of crimes surveys»,(3) which is largely adopted in Great Britain for data collection. This technique is based on investigations among victims themselves and tries to collect data about the real rate of aggression in cities.

It was decided to select a representative sample from each district .A series of items relating to the frequency of a variety of forms of violence through districts was given to the respondents. A scale of degree of violence was developed by summing responses to the items and trichotomising scores into low, medium, and high degree. To study the relation between spatial features of illicit districts and the difference in rates of violence and insecurity in these two areas, a scientific framework was necessary. The selection of various factors within the spatial, and the social structure to be investigated was based on theoretical interests and the finding of previous research on the subject.

4. RATE OF VIOLENCE WITHIN THE TWO DISTRICTS

Relying on the work of Alice Coleman,(4) the principal measures of rate of violence used in this study were : Vandalism rate, frequency of dirtiness and, rate of aggression, frequency of violent behavior, and also used were the respondents' perceptions of the security in their districts.

Antisocial behavior was measured by the frequency of certain forms of violence in the district: assaults, thefts, alcohol and drug abuse, physical and verbal aggressions.

The level of dirtiness was measured by frequency of

litter, graffiti, and also urine.

There was a highly significant statistical difference in the responses between the two communities for: degree of antisocial behavior, level of security perceived and cleanliness degree. The chi-square showed no statistically significant differences in responses between the two districts for : degree of vandalism, and degree of aggression.

Nevertheless, we note that for items relative to aggression score, missing values analysis showed a proportion of 3,5% non answers in Bouakal, against 0% in Chikhi. The analysis of non-answers by gender, showed that all non-answers were among feminine population, with 4,9% non-answers, against 0% in Chikhi.

These observations designate Bouakal as more dangerous than Chickhi.

4.1 Insecurity degree

The chi-squares showed highly significant differences in responses between the two communities for antisocial behavior. The difference between the responses was striking : A much larger proportion of Chikhi, 25% against 7,4%, think that the rate of antisocial behavior is nil. That is to say the mentioned antisocial behaviors don't exist in their district. 18,9% in Bouakal against 12,5% in Chikhi, think that the rate of antisocial behavior is high, that is to say that, the mentioned behaviors are very frequent in their district.

Table 1: Degree of antisocial behavior

			degree of antisocial behavior				
			nil	low	medium	high	Total
District	Bouakal	Count	9	52	38	23	122
		% within quartier	7,4%	42,6%	31,1%	18,9%	100,0%
		% of Total	4,1%	23,9%	17,4%	10,6%	56,0%
	Chiki	Count	24	26	34	12	96
		% within quartier	25,0%	27,1%	35,4%	12,5%	100,0%
		% of Total	11,0%	11,9%	15,6%	5,5%	44,0%
Total		Count	33	78	72	35	218
		% within quartier	15,1%	35,8%	33,0%	16,1%	100,0%
		% of Total	15,1%	35,8%	33,0%	16,1%	100,0%

x^2 =16,295 df = 3 P= 0,001

The chi-squares showed highly significant differences in responses between the two communities for level of security perceived. 91,61% of inhabitants in Chickhi, against 70,2% in Bouakal, think that the level of security in their district is high to medium. 29,7% of inhabitants in Bouakal, against 8,3% only in Chikhi, think that the level of security is low or very low.

4.2 Cleanliness level

The chi-squares showed highly significant differences in responses between the two communities for cleanliness level. 24,1% of inhabitants in Bouakal, versus 6,4% in chickhi, think that the cleanliness level of their district is low. 93,5% of chickhi inhabitants against 75,9% in Bouakal, think that the level of cleanliness of their district is very high to medium

Table 2 Cleanliness degree

			Cleanliness score				
			very high	high	medium	low	Total
District	Bouakal	Count	44	31	32	34	141
		% within quartier	31,2%	22,0%	22,7%	24,1%	100,0%
		% of Total	18,7%	13,2%	13,6%	14,5%	60,0%
	Chiki	Count	32	18	38	6	94
		% within quartier	34,0%	19,1%	40,4%	6,4%	100,0%
		% of Total	13,6%	7,7%	16,2%	2,6%	40,0%
Total		Count	76	49	70	40	235
		% within quartier	32,3%	20,9%	29,8%	17,0%	100,0%
		% of Total	32,3%	20,9%	29,8%	17,0%	100,0%

x^2 =16,727 df =3 P=0,001

5. URBAN SHAPE ANALYSIS

Relying on the work of Jane Jacobs,[5] and Oscar Newman,[6] urban shape of illicit district was defined through a set of physical, spatial and urban features of the district. Spatial characteristics were measured by : The size of streets, their statute, their degree of closing, and the degree of accessibility hierarchy. Urban characteristics were measured by: Density of population (degree of crowding) and density of use in the district.

For density of use, numerous activities within districts : (equipments, informal markets, shops and stores) were considered through this study.

Density induced by such activities was measured by their rate of frequentation, and the frequency of their use.

It was hypothesized that spatial Configuration enhance control, and favour vandalism prevention.

a) The organization of the neighbourhood in small units permits more intimate relations and facilitates control.[7]

b) The closing of streets reinforce neighbourhood relations. Closed spaces are more difficult to transgress by strangers than open spaces.

c) The organization of entries in hierarchies' sequences encourages the selection of rights of entry and use and attenuates risks of intrusion within the neighbourhood.

d) The clean demarcation between the public and private space facilitates the identification of responsibilities and the attachment of inhabitants to their neighbourhood[8].

e) The density of use encourages the control of the passerby and the shopkeeper; density of use procures an emotional sense of security at passers by.

5.1 Spatial and physical features

The chi-squares showed highly significant differences on all spatial and physical features between the two districts studied. There were statistically significant differences between the two districts on: the size of streets, their statute, the degree of their closing and also the degree of accessibility hierarchy.

Differences between the sizes of streets in the two districts were highly significant. There were more large streets in chikhi than in Bouakal. 67,7% of streets in chikhi against only 20% in Bouakal were considered as large.

The number of private streets in Bouakal was greater than the number of private streets in Chikhi. 22,9% of streets in Bouakal against 9,4% in Chikhi were private.

Table 3 Street statute

			statute			
			public	semi-public	private	Total
District	Bouakal	Count	18	90	32	140
		% within quartier	12,9%	64,3%	22,9%	100,0%
		% of Total	7,6%	38,1%	13,6%	59,3%
	Chiki	Count	26	61	9	96
		% within quartier	27,1%	63,5%	9,4%	100,0%
		% of Total	11,0%	25,8%	3,8%	40,7%
Total		Count	44	151	41	236
		% within quartier	18,6%	64,0%	17,4%	100,0%
		% of Total	18,6%	64,0%	17,4%	100,0%

$x^2 = 12,145$ df= 2 P=0,002

Chi-square revealed also a statistically significant difference on degree of accessibility hierarchy between the two districts.

The differences on degree of closing of streets between the two districts were striking and highly significant statistically. 17,1% of streets in Bouakal, against 0% in Chikhi was found to have a high degree of closing. 51% of streets in Chikhi, against 16,4% in Bouakal were found to have a very low degree of closing.

5.2 Density of use

The differences on density of use of the streets between the two districts were striking and highly significant statistically. 33,3% of streets in Chikhi,

against 3,6% in Bouakal were found to have a high score of density of use.

Table 4 Density of use

			Score				
			Very low	Low	middle	high	Total
District	Bouakal	Count	17	83	35	5	140
		% within quartier	12,1%	59,3%	25,0%	3,6%	100,0%
		% of Total	7,2%	35,2%	14,8%	2,1%	59,3%
	Chiki	Count	15	40	9	32	96
		% within quartier	15,6%	41,7%	9,4%	33,3%	100,0%
		% of Total	6,4%	16,9%	3,8%	13,6%	40,7%
Total		Count	32	123	44	37	236
		% within quartier	13,6%	52,1%	18,6%	15,7%	100,0%
		% of Total	13,6%	52,1%	18,6%	15,7%	100,0%

x^2 =43,534 df=3 P=0,000 P<0,001

5.3 Degree of crowding

The F score for means of density per dwelling was not statistically significant, whereas for means of density per room it was significant.

The density per room in Bouakal was greater in mean than the density per room in Chikhi. The mean of density per room in Bouakal, is 2,45 persons per room against 2,10 persons per room in Chikhi. Results reveal the overcrowding in Bouakal. The mean of density per room in Bouakal exceed the critical level of (02) persons per room)[9], and approach of the pathological level of (02,5) persons per room)[9].

Table5 Degree of overcrowding

	District	N	Mean	Std. Deviation	Std. Error Mean
Density per room	Bouakal	137	2,4599	1,2647	,1081
	Chioki	96	2,1027	1,0934	,1116
Density per dwelling	Bouakal	141	6,7163	2,7602	,2325
	Chioki	96	6,6458	2,3708	,2420

Density per room F score= 2,24 df= 231 P= 0,026

Density per dwelling F score=0,204 df=235 P=0,838

6. HUMAN STRUCTURE

Relying on numerous, sociological research, several social, economic and cultural parameters also encourages the emergence of violence and delinquency within urban districts. In order to study the impact of spatial and urban factor on violence, these parameters must be considered in this research.

6.1 Rate of children and teenagers within districts

It was hypothesised that groups of male teenagers and children are more concerned by delinquency and vandalism, than other age groups[10]. Districts whose population is predominantly composed by young males are the most predisposed to vandalism.

Results showed that the differences between the two communities on the rate of children and teenagers within the two districts were not statistically significant.

The proportion of males between 18- to 24- year-olds in Bouakal is about 19%, versus 15% in Chikhi. The proportion of boys between 12-to 18-year-olds in Bouakal is 18%, versus 15% in Chikhi. The proportion of boys between 6-to 12 year-olds in Bouakal is 11% versus 7,1% in Chikhi.

6.2 Socioeconomic parameters:

According to economical point of view, it was hypothesised that:

A) Lack of financial resource is susceptible to reinforce predisposition to theft and burglaries, and favour antisocial behaviors(11).

Socio-economic status was measured by the occupation of family's chief, and the total income of the household.

Significant socio-economic status differences were revealed between the two populations. 19,8% of the inhabitants in Chikhi, versus 5,7% in Bouakal, were classified within high status. 28,4% of the inhabitants in Bouakal, versus 12,5% in Chikhi, was classified within very low status.

B) Another point of view stipulates that Inactivity among young population and the idleness permits the possible drift toward delinquency(12).

The proportion of inactive among the young was distinctly superior in Bouakal, than in Chikhi. 52,12% of young in Bouakal against 22% in Chickhi were inactive. 78% of young in Chikhi versus 47,87% in Bouakal were active.

6.3 Socio -cultural parameters

Researches conducted in developing countries seem to reveal that, tribal or parental Homogeneity within districts helps to reinforce basic traditions; it permits more surveillance of individuals. (13) When there is a high degree of tribal or parental homogeneity, the likelihood that individual members will receive more consist definitive of traditionally accepted behavior are greater.

To measure the degree of tribal and parental homogeneity, respondents were asked about the number of families of their tribe in the district, and the number of their parental families in the district.

The differences in responses for both items were highly statistically significant. 58,2% of the inhabitants in Bouakal, against only 15,8% in Chikhi, replied that there are numerous families of their tribe in their district. 63,2% of the inhabitants in Chikhi against 19,1% in Bouakal, replied that there is no families of their tribe in their district. 19,1% of the inhabitants in Bouakal, against 5,2% in Chickhi, replied that they have numerous parental families in their street. 81,3% of the inhabitants in Chikhi, against 53,2% in Bouakal, replied that they have no parental families in their district.

7. CONCLUSIONS

The study revealed that socio economic parameters are relevant to the explanation of the differences on violence, and antisocial behavior between the two districts. Inactivity among the young , inoccupation, low income, are susceptible to reinforce predispositions to antisocial behavior. Those from the high crime rate district had the lower economic status. There was also a higher proportion of inactivity among young people within the high crime rate district.

In term of cultural cohesion, finding suggest no relation between tribal, and parental cohesion and violence rate through the districts analyzed.

The environmental and the defensive theories claim that urban spaces thanks to their defensible conceptions are less predisposed to the vandalism. Nevertheless results of our investigation on the two districts, disprove extensively the pre-established hypotheses. Indeed, Bouakal, that present the biggest rate of violence and insecurity appears to be conceived according to principles of the defensible space. Results show no dependence between size of streets, their degree of closing, the degree of accessibility hierarchy and the rate of violence in the two districts.

Alone, the density of use appears to have an impact on degree of security in the two districts. These results confirm Jacobs hypothesis about the informal control induced by activities.

Finding suggest that degree of overcrowding measured by density per room, proved to be a statistically significant factor. Bouakal, the high crime district was the most overcrowded.

Results give account of the limits of the concept of the defensive space as preventive strategy of the vandalism. The study revealed that defensive conceptions in certain types of district are inefficient. In districts where social disorganization is established, conceptual strategies of the defensive space alone are inefficient and must be accompanied imperatively by the deep reforms that are often economic order.

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