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Study of the territorialization of citizen insecurity as a territorial component in Guayaquil, Ecuador. (April 2023)

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   Abstract— **Insecurity as a structuring component of the territory has developed in Ecuador as deficient management since instruments of public policies and citizen control are not used. In the present research work, the situation of the City of Guayaquil case study is evaluated, and the level of insecurity in the polygon indicated between Av. De las Américas, Av. Kennedy, Av. Delta and Av. José Santiago Castillo. The study analyzed the possible causes of insecurity, among which is the lack of police units in the area. The methodology is oriented towards the qualitative and quantitative analysis of the problem using participant observation. In addition to a comparative study of the level of insecurity depending on the type of crime. Finally, the mapping of urban voids, police points, and public lighting that indicates the areas was developed using the ArcGIS software. It is concluded that insecurity is most frequently found at night, in areas with less presence of urban activity, for which strategies must be used to increase the level of security by and for users.**

Keywords: Uncertainty, repression, perception of insecurity, social disorder.

I. Introduction

The security problems currently occur in Guayaquil, and crime has become one of the city's biggest problems and its inhabitants. This paper aims to carry out a spatial study regarding the conditions that generate insecurity and the distribution of crime in which our city is immersed, establishing insecurity zones.

   The territorialization of citizen insecurity as a process associated with an urban sector considered critical and vulnerable is directly related to the sustained appropriation of phenomena such as insecurity and crime over time. Taking this perspective into account, the objective is to propose a theoretical and conceptual approach that unveils the systemic and multifactorial nature of "processes of territorialization of citizen insecurity." This approach is based on an analysis of various regions in Latin America, Europe, and the United States, where certain common characteristics related to the "territorialization of insecurity" are identified. [1], Consequently, it allows for a visualization of the dynamics and scope of these processes by considering factors such as the individual, criminal organizations, the territory, and its context. The problems of citizen insecurity in the world's large cities have a multi-causal origin. While some give a leading role to social inequality as one of the main factors that generate insecurity and crime, others, like Hidalgo and Silveira [2], consider that "urban growth and deterioration, when combined with factors such as economic crises and the weakening of State action, can also contribute to insecurity and crime."

II. Materials and methods

a. Insecurity components

The expression "critical and vulnerable" is suggested whenever it is necessary to analyze cases through which it is manifested:

- A neighborhood, street, or sector located in the city's center or its limits as a reference to insecurity and crime.
- The presence of gangs or criminal organizations dedicated to drug-micro-trafficking and the sale of illegal items, such as firearms and stolen items, and that, in extreme cases, generate economic power capable of allowing control of a sector above the state's presence.
- Disputes between gangs for control of a territory.
- Partial or total control of the gangs, mafias, or organizations of the sector (dominion), even directly or indirectly of the work of its inhabitants and visitors, who often find three paths: learn to live with that "territorialization of insecurity"[3],

belonging to it, that is, committing crimes, or simply keeping silent in the face of what is illegal.
- Massive sale of narcotics, to the point of considering the area as a "drug supermarket," a "pot," or a "sewer."
- A meeting point for people with a drug addiction condition, commonly called drug addicts (inhabitants and visitors to the sector).
- Informal economy that brings together crimes such as drug dealing, smuggling, reducers, and stolen product sales.
- Informal economy centers such as recycling, combined with the consumption of drugs and the commission of crimes.

b. *Comparative study of levels of insecurity by crime*

This analysis identifies the spatial behavior of each crime represented by adjustments to the theoretical models detailed above. Once the patterns are identified, the degree of concentration can be estimated. A map that allows a better understanding of the characteristics that characterize the region of the city of Guayaquil [4].
- Crime against property
  - Robbery, burglary (burglary at home, apartment), robbery of commercial premises, theft, robbery of collective urban transport. This differentiation and polarization generally correspond to the unequal distribution of assets in the urban space and the distribution of social risk factors in cities [5].
- Crime against the administration and public faith
  - Scams, signature forgery. This differentiation and polarization generally correspond to the unequal distribution of goods in urban spaces and the urban social risk factors map.
- Vehicle crime
  - Robbery and car theft. Areas with higher socioeconomic levels tend to have the highest car theft crime rates.
- Crime against people
  - Homicide, rape, illegal possession of a firearm, and various crimes. Those most vulnerable and poor areas have the highest crime rates and a higher rate of possession of firearms for security, that is, by gangs.

c. *Anomie Theory*

The word anomie derives from "νομα" which means lawlessness or contempt for laws. The concept, in this case, refers to the absence of social norms in a territory or city [6]. In this perspective, anomie refers to the absence of a comprehensive set of norms and principles that oversee the interactions among diverse social functions, which result from the division of labor and specialization inherent to modernity. As a result of this, a class struggle has been generated, routine and degrading work, among others, in which the participants are not clear about their social function and in which there is no explicit limit or border of management and management in the territory [7], a set of parameters based on public policies that define the legal or illegal control of the security statute and its actions.

d. *Security strategies*

The development of security programs and plans by the GADs (Governmental Autonomous Decentralized) requires active participation from both institutions and citizens in addressing issues related to insecurity. That incurs:
- Foresee criminal activities by implementing prevention and intervention initiatives and schemes within educational institutions, families, and the community.
- Create anti-crime reaction forces in the areas with the highest crime rate.
- To strengthen the Anti-Criminal Intelligence agencies technologically and budgetarily.
- Reduce the opportunities for crime with better control systems, dissuasive police presence in the territory, and citizen organization.
- Making maximum use of the georeferencing of crime that the Police possesses and applying it in sectoral and local strategies to efficiently prevent and control areas of criminal incidence and secure public spaces.

As an urban strategy to mitigate or reduce the incidence of insecurity, the regeneration of urban voids as leisure areas or green areas is proposed [8].

III. METHODOLOGY

An exploratory study of conditions or factors that influence or manifest signs of insecurity in the area will be used, through a previous investigation, to map the polygon referring to the factors mentioned above. According to the field visits in the determined polygon in the City of Guayaquil, insecurity areas of influence were determined in response to the territorial component. Therefore, a quantitative map methodology is applied to determine the percentage of insecurity and the surrounding variables while configuring a weighting of results based on the insecurity index.

In the second stage of the methodology, a qualitative approach determined by the density zones and locating the sites that represent a greater or lesser degree of insecurity was applied.

IV.   RESULTS

   a.   Mapping of urban voids and police units present in the area.

   As an element of analysis, in the study of the territorial insecurity component in the assigned polygon, the number of urban voids and police units present in the area was mapped. From the data obtained, it was concluded that approximately 35% of the study area is considered an urban void and that there needs to be more police units about the area.

Fig. 1 Urban void mapping. Note: ArcMap processing by authors.

   b.   Mapping of public lighting present in the area

   As another comparative method, the mapping of the public lighting present in the area was carried out, resulting in the main streets having timely lighting to ensure citizens' safety. However, it can be denoted that there are alleys, empty lots, and pedestrian areas which do not have sufficient lighting and creates a danger for the inhabitants of the sectors.
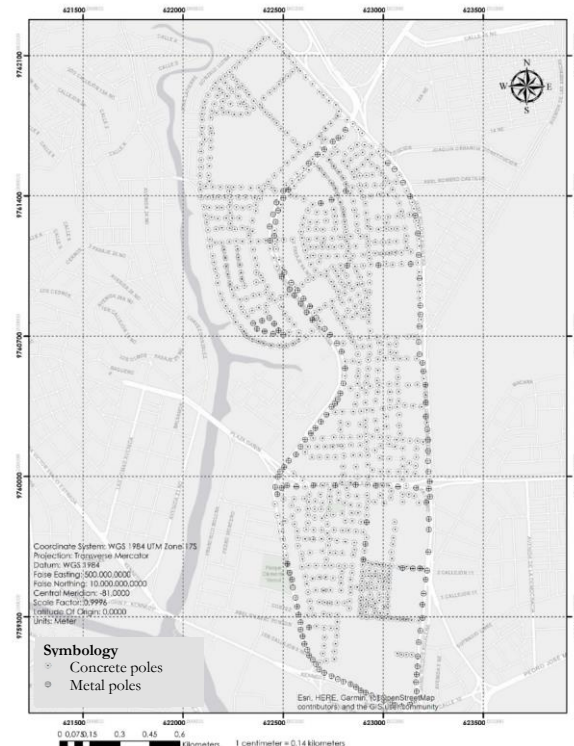

Fig. 2 Luminaire mapping. Note: ArcMap processing by authors.

c. Multivariate analysis of insecurity factor

According to the points studied previously, it was obtained that the polygon has an approximate insecurity index of 45%, derived from the mapped variables. Resulting in 10% due to the lack of public lighting (PL), 35% due to the number of urban voids (UV), and finally 55% due to the low number of police units (UPC).

Table 1: Levels of insecurity by variables.

This spatial variability analysis aims to decipher the spatial behavior of each crime and, once its patterns are identified, estimate the degree of concentration and range of crimes. In addition, this graph allows a better understanding of the characteristics of the study area. It referred to the robbery of people (burglary at the home, apartment), robbery of commercial premises, theft, and robbery of collective urban transport.
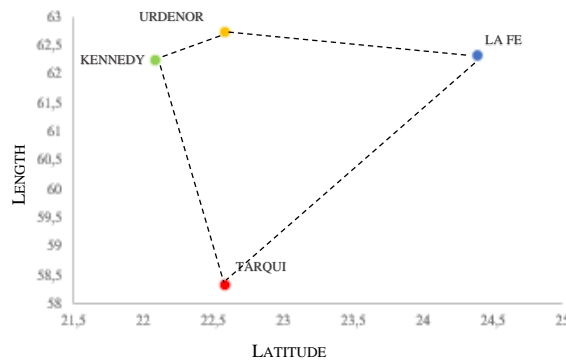

Table 2: Geospatial analysis of crime against property.

Regarding the study area for the present work, it was found that the parishes that delimit the polygon have the following levels of insecurity; being the Tarqui Parish the one with the highest insecurity index, followed by Urdenor with a moderately high insecurity index, the same way Kennedy having a medium index and finally La Fe with a relatively low insecurity index resulting in the polygon have a rather high index in terms of crimes against property.
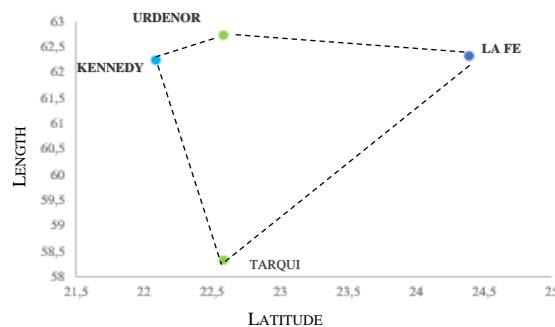

Table 3: Geospatial analysis of crime in public administration.

Regarding the study area for the present work, it was found that the parishes that delimit the polygon have the following levels of insecurity; being the Tarqui Parish presents a medium index of insecurity, like Urdenor, in the same way, Kennedy and La Fe have a moderately low index resulting in the polygon having a medium index in terms of crimes against the administration and public faith. Among the most frequent crimes are fraud and forgery of signatures.
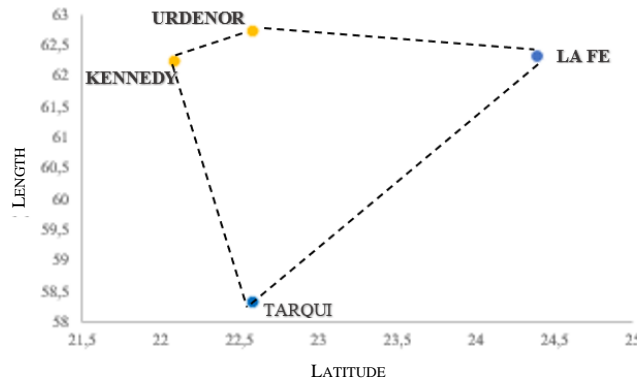

Table 3: Geospatial analysis of crime to vehicles.

Regarding the study area, it was found that the parishes that delimit the polygon have the following levels of insecurity; being the Tarqui and La Fe Parishes the ones that present a moderately low insecurity index, and Urdenor and Kennedy have a relatively high level of insecurity, resulting in the polygon having a medium index in terms of vehicle crimes.
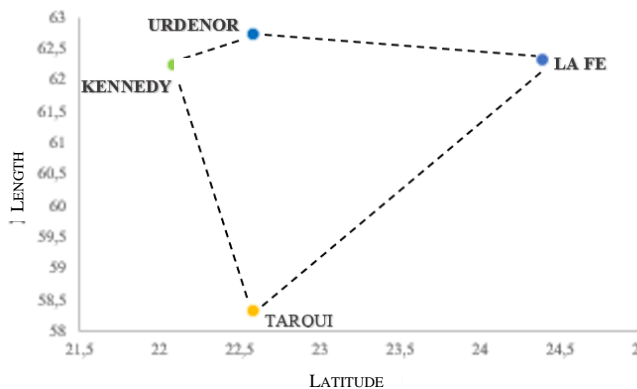

Table 4: Geospatial analysis of crime against people.

Regarding the study area, it was found that the parishes that delimit the polygon have the following levels of insecurity; Being the Tarqui Parish presents a moderately high index of insecurity, followed by Kennedy with a medium index, and Urdenor and La Fe have a rather low level of insecurity resulting in the polygon having a moderately low index in terms of crimes against people.

   d.   Strategies to mitigate insecurity through a prospective polygon.

To counteract the insecurity in the study area, various strategies were proposed based on the methodology and the analyzes carried out around the polygon, resulting in the foll̲ _g

- Regeneration of urban voids such as recreational areas or green areas also contributes to improving the sector's environmental comfort.
- Implement commercial premises on the edges of the larger urban void to generate activity and movement and thus avoid the formation of desolate spaces.
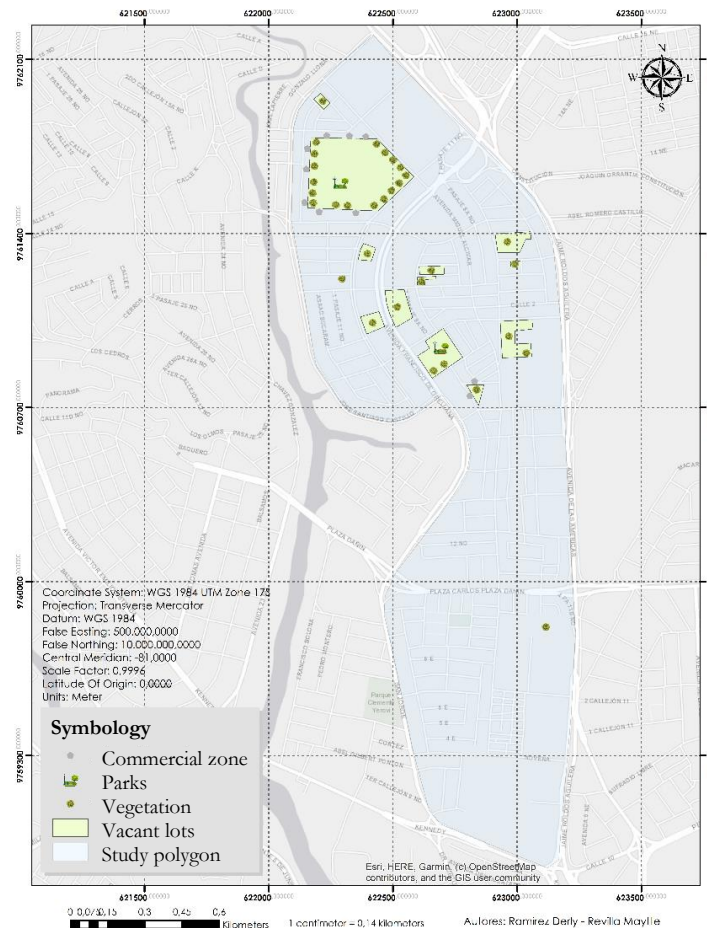
Fig. 3 Prospective polygon of insecurity. Note: ArcMap processing by authors.

V. DISCUSSION

The study carried out in the area allowed different observations to be made about the level of insecurity it has and its causes, identified by mapping the area. The analysis carried out obtained the following results. First, factors such as the presence of urban voids, lack of public lighting, and scarcity of police units in the area generate desolate places or alleys that allow individuals to threaten the safety of the residents.

The weighting of results has a multivariate approach that stipulates a defined framework of indicators so that the analysis is made specifically to a pertinent reality of the study space, synthesizing geospatial data.

VI. CONCLUSION

From the data obtained, it is possible to determine the level of insecurity depending on the type of crime, and the frequency with which it occurs, among other conditions that generate uncertainty and fear for the inhabitants of the site.

This study aims to point out and determine the causes of insecurity in the sector and based on these, formulate urban strategies that mitigate or reduce these levels of insecurity. Among the methods are planning leisure areas such as parks or shops in urban voids, as well as green areas that contribute to improving the environmental comfort of the population.

VII. REFERENCES

[1]   A. C. Rodriguez, "Recovery of the formal and spatial characteristics of nono's vernacular dwellings (Ecuador) in contemporary contexts," in *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives*, Jul. 2020, vol. 54, no. M–1, pp. 81–86. doi: 10.5194/isprs-annals-IV-5-W2-81-2019.

[2]   D. Hidalgo, F. Silveira, D. Padilha, A. F. Bassani, and I. Nascimento, "Violência urbana e políticas de segurança: Análise em quatro cidades latino-americanas," *Eure*, vol. 47, no. 141, pp. 165–182, 2021, doi: 10.7764/EURE.47.141.08.

[3]   M. P. López-Sánchez, T. Alberich, D. Aviñó, F. Francés García, A. Ruiz-Azarola, and T. Villasante, "Participatory tools and methods for community action. SESPAS Report 2018," *Gaceta Sanitaria*, vol. 32. Ediciones Doyma, S.L., pp. 32–40, Oct. 01, 2018. doi: 10.1016/j.gaceta.2018.06.008.

[4]   O. Peek, M. Hordijk, and V. d'Auria, "User-based design for inclusive urban transformation: learning from 'informal' and 'formal' dwelling practices in Guayaquil, Ecuador," *Int. J. Hous. Policy*, vol. 18, no. 2, pp. 204–232, Apr. 2018, doi: 10.1080/19491247.2016.1265268.

[5]   J. R. Hechavarría Hernández, B. Forero, and R. Vega Jaramillo, "Universal access and inclusive dwelling design for a family in monte sinahí, Guayaquil, Ecuador," in *Advances in Intelligent Systems and Computing*, 2020, vol. 1131 AISC, pp. 1094–1100. doi: 10.1007/978-3-030-39512-4_166.

[6]   E. Lund and O. R. Bringa, "From visions to practical policy: The universal design journey in Norway. What Did We Learn? What Did We Gain? What Now?," in *Studies in Health Technology and Informatics*, 2016, vol. 229, pp. 43–52. doi: 10.3233/978-1-61499-684-2-43.

[7]   M. Ginzarly, A. Pereira Roders, and J. Teller, "Mapping historic urban landscape values through social media," *J. Cult. Herit.*, vol. 36, pp. 1–11, Mar. 2019, doi: 10.1016/j.culher.2018.10.002.

[8]   A. Serra-Llobet and M. A. Hermida, "Opportunities for green infrastructure under Ecuador's new legal framework," *Landsc. Urban Plan.*, vol. 159, pp. 1–4, Mar. 2017, doi: 10.1016/J.LANDURBPLAN.2016.02.004.

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