

Sustainable and Safe Public Spaces for Everyday Life in Socio-Spatially Segregated Communities

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Abstract

How is it possible to achieve a conceptual relationship between sustainability, security and public space in socio-spatially segregated areas? The article aims to address the main theoretical positions on the topic of sustainability linked to environmental safety in public spaces in such a way that it seeks to glimpse and mitigate the conditions that influence the safety of neighborhoods and cities on a metropolitan scale. Starting from a critical/reflective stance and through documentary analysis, the aim is to establish a semantic network, as well as a cloud of words to determine the level of concurrence in this way to establish the relationship that exists or does not exist between sustainability, security and public space in socially segregated areas, especially, this article is a documentary and exploratory document that allows us to clarify the problems present at metropolitan scales in Latin America.

Keywords : Sustainable; public spaces; Segregation.

1. Introduction

The relationship between public spaces, sustainability and security in socio-spatially segregated areas is a topic of growing impact on the urban aspect (Amen & Nia, 2020; Aziz Amen, 2022). This article will delve into the conceptual analysis between these elements to understand their impact on daily life in communities impacted by socio-spatial segregation.

Daily life is carried out through activities facilitated by the safety of the urban environment and the public space through which one passes, these being motivated by shopping, study, work, recreation or caring for other members of the community. The family which is possible thanks to accessibility in public space that favors connections between areas, generating communication in communities to a certain extent isolated despite being located in peri-urban fringes of the city.

Public space with sustainability and security, as well as its interaction with the daily life of socio-segregated communities, through a critical and reflective approach based on a documentary analysis, in order to discern the new spatial conditions that affect the security of neighborhoods and colonies located on the periphery of the city. This is an exploratory exercise that wishes to identify the intersection of concepts related to socio-spatial segregation. For this, a methodology that is influenced by semantic networks and word clouds will be used, in order to evaluate the degree of interconnection of the keywords.

Progress of the research, which focuses on the Mexican context, in order to analyze problems present at a metropolitan scale, to provide tools and generate opportunities for intervention in socially segregated communities, especially, through the planning of sustainable and safe public spaces in fragmented urban environments through various strategies.

2. Problem statement

In the contemporary urban fabric faces the challenge of integrating sustainability, safety and quality of life in public spaces, which are positioned as a critical area of research, particularly socio-spatially segregated communities, where social and economic differences stand out. A series of challenges that deeply impact the daily life of communities, insufficient sustainable infrastructure, this leads to the presence of violence and insecurity encompassing historical, socioeconomic, political and cultural aspects, sometimes affecting social cohesion and well-being of all the people who live in these neighborhoods.

Public space is recognized as the heart of our cities and communities, being a tangible reflection of urban planning when it is present in the development of cities and of focused care for collective well-being. However, in many contemporary urban realities, the lack of effective planning in the design and management of public space has generated a series of challenges that negatively impact the quality of life of its inhabitants.

Starting with the industrial revolution, the alteration of ecosystems began due to the excessive use of natural services, an increase in the carbon footprint due to the use of machinery, a high population rate, as well as the expansion of the city to the periphery by job opportunities in the center of large cities, within the framework of accelerated production processes that from that moment to the present have affected the quality of life in cities and existing ecosystems.

Lezama & Domínguez (2006) mentions "... that the modern city represents the antithesis of sustainability, since it lacks responsibility to not affect future generations." "Therefore, the modern city currently faces a series of problems that affect the balance between growth and functionality, manifested in traffic congestion,

environmental pollution, lack of affordable housing, socioeconomic inequality, insecurity, lack of emotional well-being, loss of green and recreational spaces.

The deprivation of infrastructure in public space constitutes a multifaceted problem that negatively impacts the daily life of urban inhabitants. It manifests itself in various ways, such as the absence of green areas, inaccessible parks, to the scarcity of infrastructure for recreation and recreation. In many communities, especially those socioeconomically marginalized, the lack of adequate infrastructure significantly limits opportunities for social gathering, physical exercise, and enjoyment of the urban environment.

The above can contribute to spatial segregation, fragmenting the city into neglected and excluded areas where basic services are insufficient or non-existent, in addition to the absence of urban equipment and basic services severely affecting the public space it faces. Difficulties in terms of security, since areas deficient in lighting or with little physical maintenance, are more susceptible to increased criminal activities being perceived as insecure by residents. Ultimately, the deprivation of essential infrastructure in public spaces reflects the lack of vision and commitment on the part of urban authorities by not having inclusive and equitable environments for all citizens. In the case of Latin America, problems are accentuated in neighborhoods lacking public spaces due to external causes. For example, the "Favelas in Brazil" located in Rio de Janeiro and Sao Paulo face a shortage in the provision of safe public spaces for carrying out social activities, recreation due to high density, irregular topography and urban improvisation. On the other hand, peripheral neighborhoods in Mexico, such as Ciudad Monterrey, tend to have disconnected public transport connections with the consequent inaccessibility of mobility, as well as the scarcity of green areas or public spaces, which generates problems, as the insecurity caused by insufficient lighting, lack of people using them and little or no security.

Other problems are located in informal settlements, that face shortages in basic services such as drinking water, sewage network, among other infrastructure elements, occurs in "Villas miseria" in Argentina, or in Latin American "indigenous communities", which lack recreational spaces to carry out their social activities. The negative impact on public spaces can be identified by the insecurity of the community, sometimes it is shown in the abandonment of maintenance, on the other hand, lighting can cause difficulties in visibility, opening the way to theft, accidents and loss, finally Environmental risks may arise, for example air and water pollution, and in terms of health, there are toxic waste or the proliferation of vector-borne diseases that can threaten the well-being of residents.

While in these contexts, sustainability is scarce in public spaces, since it covers a variety of aspects that negatively impact the environment, society and the economy, as mentioned by Alva Fuentes B. and Martínez Torres Y. (2018, p. 01), on the other hand from the Habitat II conference, mentions Statterthwaite (1998) that There is little pressure and consensus on urban sustainability, reflected in the inefficient use of natural resources and green areas, as well as unsustainable mobility, inefficient design for pedestrians, inadequate waste management and limited accessibility.

It can be said that environmental problems are current challenges due to major transformations generated by man, causing crises such as environmental imbalance as mentioned by Serrano S. (2011, p. 17), since it is likely that the consequences can be seen reflected in urban complications, lack of employment, reduction of natural services, pollution in air quality, alterations of ecosystems, among other related aspects, While García Zarza (1997), Martin Lou & Múscar Benasayag (1992), Santos (1998), Schutz, (1996) establish that the search for environmental balance is crucial for the health and sustainability of ecosystems, this requires responsible management of natural resources and understanding of nature.

Give it this meaning, the growth in cities and the ambition for expansion to the peripheries, as mentioned by Alva Fuentes and Martínez Torres (2018), puts at risk the existence of green and protected areas, since the urban area itself generates different environmental threats, such as atmospheric alerts due to carbon dioxide (2022, p. 01). Indeed the growth of the city With high densification it reduces natural spaces, as Nohl pointed out in 2001, the result is violence when the landscape is transformed, which also leads to territories lacking organization.

On the one hand, it is possible that urban growth and expansion The sealing of soil at the expense of green and open spaces is also directly related to the urban heat island effect (UHI effect), which is common in urban areas and leads to greater increases in temperatures and heat stress within the cities. " Gabor, A.; Reinwald, F.; Damyanovic, D. (2023, p.01). While on the other hand Iracheta (2005) mentions the expansive and fragmented growth of human settlements, it presents a series of challenges to us. respect the environment, this uncontrolled expansion of cities and urban areas entails a series of environmental problems that threaten the health of local ecosystems and the quality of life of communities. Some of the characteristics of city growth include occupation of natural areas, the proliferation of infrastructure without adequate planning and the fragmentation of natural habitats.

A clear example of this is the construction and expansion of highways or paved roads, which can generate a series of significant environmental problems, according to the amount of concrete or asphalt masses, the areas that were spaces for water transpiration are non-existent, this is how it generates water pollution. water supplies, which subsequently causes an increase in temperature on the site due to the same material that absorbs solar radiation.

The loss of habitat and the fragmentation of the landscape causes destruction of natural habitat, due to air and water pollution since it emits a variety of pollutants such as carbon dioxide, nitrogen oxides and suspended particles, in the same way affecting cycles. hydrological changes due to the alterations of natural runoff, in addition to the fact that we can think of the fragmentation of the habitat acoustically due to the noise generated by vehicles, as Azuela (2016) points out, the process of urban growth in the cities of Latin America constitutes one of the main challenges regarding environmental equity.

Another type of environmental problems can be observed in the use of the vehicle, this represents challenges that require actions to reduce the negative impact, as mentioned by Psara O., Fonseca F., Nisiforou O., Ramos R., (2023, p.02) since " ... the intensive use of automobiles includes traffic congestion, urban expansion, damage to the habitat and the consumption of space", or one of the possible consequences of excessive car use is air, noise, resource consumption, energy, road congestion and habitat loss.

The lack of sustainable mobility generates negative effects such as the contamination of natural resources such as air, soil and water, In addition to Gabor, A.; Reinwald, F.; Damyanovic, D. (2023, p.01) mention that a climatic variation, with the increase in average temperatures, which causes phenomena such as urban heat and extreme climatic events associated with precipitation, such as heavy rains or periods of drought, since the increase in land consumption causes increasing energy consumption.

Let's take as an example the case of Purrumpampa, Peru, this site was degraded and affected by the exploitation and use of the land, therefore the population considered the land to have great ecological and cultural value, which is why they determined to create a plan. use of land for protection of protected area, in this way having green areas within the community. Marta Vilela and Paola Moschella (2017, p. 06) determine certain urban improvements in the peripheries as strategies to avoid soil exploitation, considering training in sustainable agriculture, responsible forest management, land use planning, water and services management, environmental education and technological research and development.

For his part, Serrano S. (2011, p. 02) mentions that confronting environmental threats is the implementation of sustainability for the care of natural resources, empathy with the dynamic and unstable environment in which organizations and institutions operate today, which generates the need to adopt new management approaches for protected areas, which it implies strengthening its competitiveness at an international level. In addition, raise awareness about the regularization of the population in the areas through the recommendation of the Development Exchange Bank, which proposes maintaining a relationship of population increase between the growth rate of the area, which must be equal to or less than one.

Planning without sustainable strategies in Latin America raises the problems and challenges to be solved, Like inefficient public transportation, in many Latin American cities a high level of private transportation leads, causing a higher rate of pollution. Just as disorderly urban expansion unleashes a phenomenon of alterations in the ecosystem, inadequate waste management also produces contamination of soil and water, which can subsequently lead to the proliferation of diseases in communities.

The growing urbanization is based on the uncontrolled use of natural resources and the segregation of communities, due to the lack of classification and preservation of protected areas, whose protection becomes a challenge for environmental conservation. Marta Vilela and Paola Moschella (2017) expose some of the problems caused by "The occupation of protected areas by the self-construction of the community, segregates the inhabitants in situations of poverty", this situation is one of several consequent to the alteration of spaces natural. The expansion of the city to the periphery entails a series of problems that can affect local governments, since it generates socio-environmental consequences, Serrano S. (2011) refers to "The great transformations caused by man in the environment have led the planet to a crisis situation, which is why it is necessary to restore balance with nature." In addition, some of the characteristics that territorial expansion includes is the alteration of the soil that results in the fragmentation of natural and protected areas, for example the relationship between territorial consumption and the demand for services caused socio-spatial segregation in Córdoba, Argentina.

The peripheral expansion of cities entails impacts on urban functioning such as the breakdown of planning, loss of natural resources, automobile dependence, high infrastructure costs, socioeconomic segregation and deficiency in land use, conclusions that are, the peripheral expansion of cities. Cities generate a series of challenges that require comprehensive and sustainable urban restructuring to effectively address segregation. It is essential to adopt strategies that promote planned urban growth, the protection of natural and agricultural areas, use of sustainable transportation, social accessibility to public spaces as well as equity in access to services and opportunities.

Social segregation is a phenomenon that manifests itself in different contexts, but one of the primary causes is the urban expansion that generate impact on the communities of the peripheries, Fuentes B. and Martínez Y. (2023) mention that " ... growth when it lacks planning, is considered an uncontrolled problem due to the amount of population", besides about what Social challenges go hand in hand with the economic aspect and resource constraints, which is why communities are often excluded from planning processes. In accordance with Psara O., Fonseca F., Nisiforou O., Ramos R (2023) "The problems associated with urbanization have drawn the attention of planners, decision makers and researchers around the world to make cities more sustainable".

Likewise, insecurity in segregated communities leads to numerous disadvantages that significantly affect daily life. Limitations of segregated communities are observed from educational and work opportunities, deterioration of the social fabric and impediments to the development of safe mobility are detected by the following disadvantages such as the perception of the limitation of freedom of movement, impact on mental health, the presence of insecurity causes limitations in carrying out activities such as shopping, attending school, work, etc. Finally, the impact on community coexistence is undermined, the lack of foreign national investment, the cycle of violence and crime.

This article focuses on the case study of the Nuevo Israel neighborhood, located in the municipality of Tonalá, Jalisco, Mexico. It is characterized by its segregation and the irregularity of its location, given that its growth has been driven mainly by informal settlements, known as irregular housing, located in areas natural areas protected by the state. Furthermore, the community faces a low socio-economic level, which further aggravates their living conditions. Another distinctive element of New Israel is the lack of adequate public spaces for carrying out social, cultural and sports activities, which limits opportunities for integration and community development.

3. Olgly Method

The present research proposes to address the relationship between the concepts of sustainability, security and public spaces in segregated socio-spatial communities in a Mexican city, through a qualitative methodological approach and a documentary analysis, seeking to develop a critical and reflective understanding of the challenges these communities face in daily life. Particularly, the relationship between these three key elements will be explored, using tools such as the semantic network and the word cloud to visualize and analyze emerging concepts and themes.

socio-spatially segregated communities face a series of challenges that deeply impact the daily lives of their inhabitants. Among these challenges, the lack of sustainability and safety in public spaces emerges critical issues that deserve careful and thoughtful attention. This study aims to investigate the intersection between these elements, with the aim of understanding and addressing the lack of planning in these areas. protected natural areas that have been affected.

To conclude, the findings suggest that sustainability is not only an environmental goal, but also a crucial factor in improving safety and social cohesion in public spaces. Furthermore, it is highlighted that interventions in segregated areas must consider the integration of sustainable and security policies in a holistic manner, to address inequalities and promote safer and more equitable urban environments. This study provides a theoretical and exploratory basis that contributes to the understanding of the challenges and opportunities to improve the quality of life in large Latin American cities, underlining the need for multidimensional and participatory approaches in urban planning.

4. Results

The research carried out based on the methodology of information analysis and semantic networks, it can be inferred that the creation of public spaces satisfies the needs of the community to be able to respect and conserve natural areas that comes from prior planning with a conscious design approach. of protected areas, as well as spaces with institutional equipment, basic services and multifunctional infrastructures that promote social, environmental and economic well-being. In this article, the integration of urban planning practices through sustainability is explored, respecting the natural environment that can influence the creation of safe, accessible, inclusive public spaces adapted to the diverse needs of the population, thus promoting a balance harmonious between urban development and environmental conservation to reduce the segregation of communities in the periphery.

The growth of the city has been a phenomenon that has characterized the evolution of society, through expansion and transformation with the purpose of satisfying the needs of its inhabitants. There are a series of challenges and opportunities that influence the quality of life of its residents, such as economic, social and environmental development.

The city is characterized by its agglomeration and evolution, it is made up of infrastructure, buildings and services, Unikel (1978) defines "... the city as an inhabited area in use of a non-agricultural nature, it is part of a nucleus and presents physical continuity in all areas. directions to be interrupted by unused land ...", through the characteristics related to its geography, its history, its economy and society, the planning of the city can be interpreted, considering the population density, infrastructure, urban scale, culture, ethnic groups, which can help define the aesthetics of the city from an architectural and urban aspect.

Expansion to the periphery refers to the growth process of the city, in which the areas located on its outer limits or outside its central core increase. This phenomenon can be driven by various factors, such as population growth, housing demand, economic development and land availability. Bazant (2008) mentions "... urban expansion is constant, especially towards the peripheries of the city, gradually occupying the urban areas, finally being incorporated." The main purpose of the expansion is the reduction of gentrification in the city center; through certain urban design strategies, the flow of inhabitants can be developed in a controlled manner.

According to Serrano (2011), an effective operational strategy must be based on solid territorial planning and consistent advances in the sociocultural field; this aims to strengthen local host communities, allowing them to generate a high-quality offer and sustainability in their practices.

The Public spaces are essential to encourage social interaction, promote community well-being and guarantee equitable access to recreational areas, according to Vilela M. and Moschella (2017, p. 544) to promote these areas, the limitation of spaces is required. to form and protect existing green areas , he need to find a balance between urban expansion and the conservation of the natural environment through sustainability. It can be seen in the “ Public” Diagram spaces and characteristics that can make them up” the functionality and objectives of public spaces.

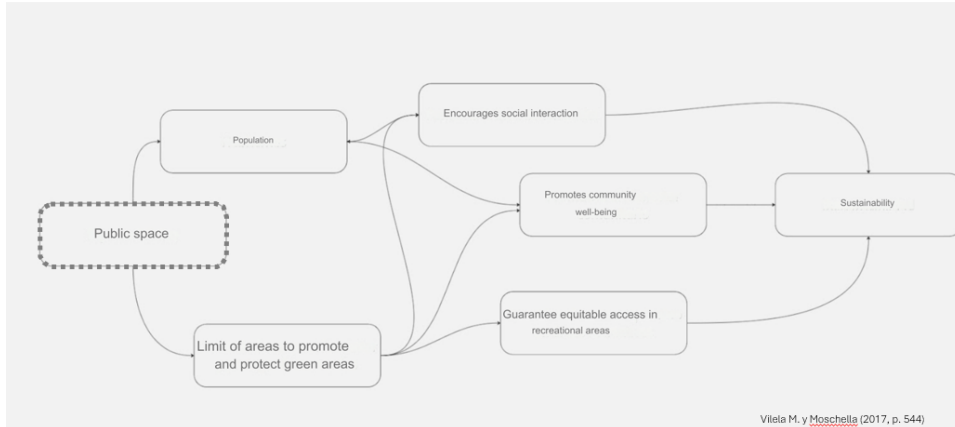
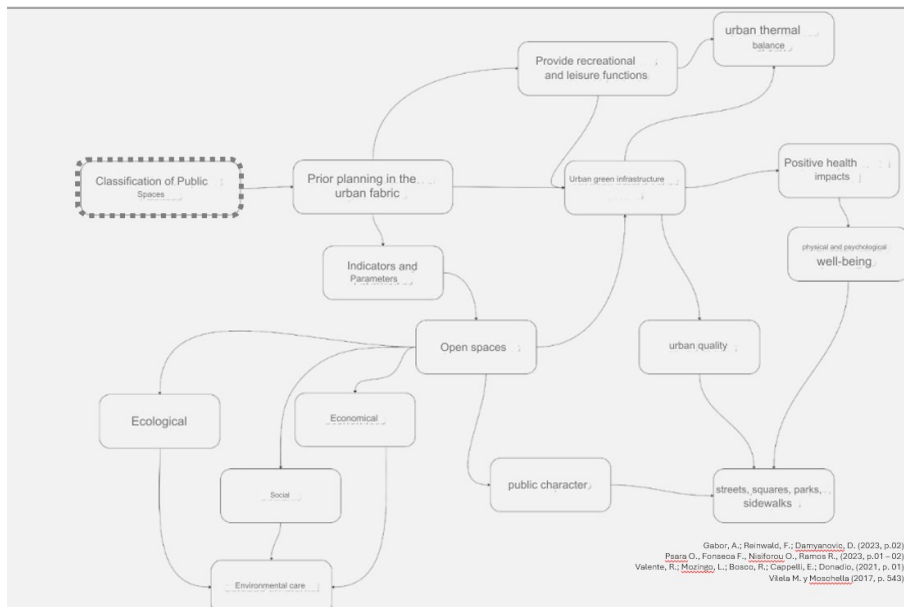


Diagram "Public spaces and characteristics that can make them up", Author. Karol Lopez

Planning recognizes in the urban fabric certain characteristics of public spaces, as mentioned by Psara , Fonseca, Nisiforou and Ramos (2023, p.02) , “Open spaces , public and private, covered with vegetation, which are directly or indirectly available to users, providing recreational and leisure functions. Urban green infrastructure provides multiple environmental benefits with positive impacts on people's health and physical and psychological well-being. This includes the regulation of urban thermal balance, carbon sequestration, as shown in the diagram “ Classification of public spaces ” the key concepts can be related in the following diagram .



Gabor, A.; Reinwald, F.; Damjanovic, D. (2023, p.02)
 Psara O., Fonseca F., Nisiforou O., Ramos R., (2023, p.01 – 02)
 Valente, R.; Mozzogno, L.; Bosco, R.; Cappelli, E.; Donatello, (2021, p. 01)
 Vilela M. y Moschella (2017, p. 544)

Diagram "Classification of public spaces", Author. Karol Lopez

So that public open spaces, particularly streets and squares, exhibit great versatility in their functions, covering functional, ecological, social and economic aspects in a significant way , therefore the adaptation of these spaces promotes climate care. environmental as mentioned by Gabor, A.; Reinwald, F.; Damjanovic, D. (2023.)Of course, the prevention of side effects through planning and classification in the city can be through indicators and parameters, as mentioned by Para O., Fonseca F., Nisiforou O., Ramos R. , (2023, p.01) “Urban spaces are

inherently complex and defining indicators of urban sustainability and sustainable urban development is a challenge due to the numerous entities and phenomena that interact in these spaces.”

Valente, R.; Mozingo , L.; Bosco, R.; Cappelli , E.; Donadio (2021, p. 01) mentions that “ Public space and street networks constitute an important and central determinant of urban quality”, on the other hand, public spaces are considered essential elements for urban life, which has led the community to focus its attention on what could be considered the "lungs of the city."

In the case of the “ Problems” diagram of protected areas ” represents the positions of Marta Vilela and Paola Moschella , (2017, p.13), which provides meaning to growing urbanization , since it generates pressure on natural resources , since it begins the increase in the cost of classification and preservation of protected areas, occupying them for the same self-construction of the community due to the situation of poverty, these actions result in alterations to the spaces and segregation of the inhabitants themselves.

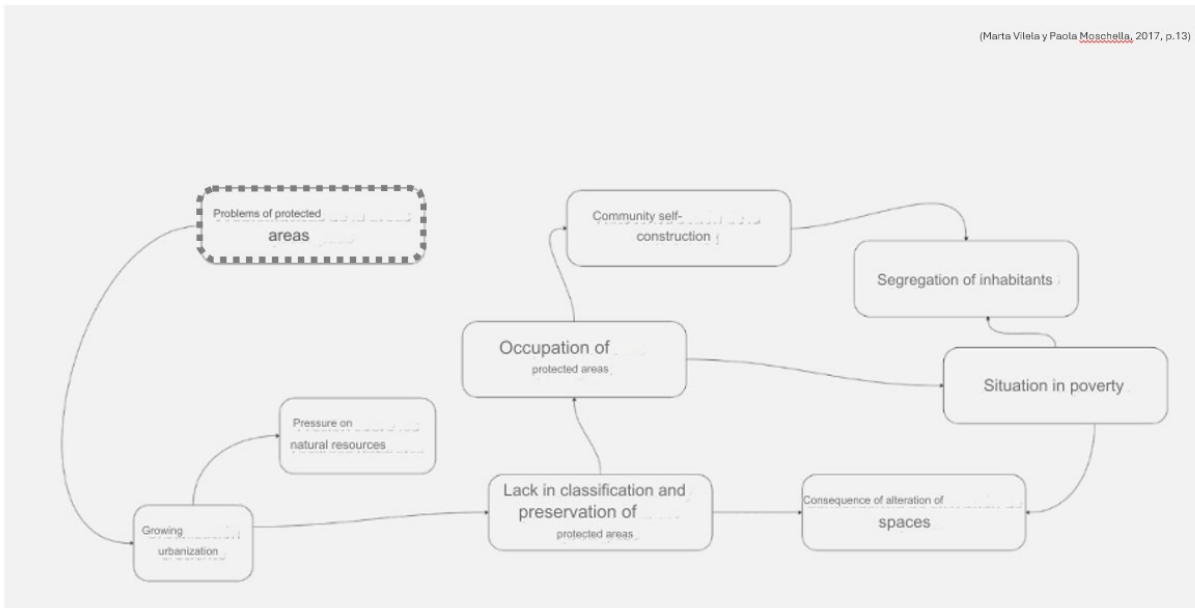


Diagram "Problems of protected areas", Author. Karol Lopez

Now soil is a fundamental natural resource that supports life on earth , as it provides nutrients and support for vegetation , as well as habitat for a variety of organisms , as shown in the “Soil conservation process” diagram, generating alteration in the soil within protected areas can have devastating effects on ecosystems, including loss of biodiversity, landscape degradation and alteration of ecosystems. hydrological cycles, Alva Fuentes B. and Martínez Torres Y. (2018) mention that “Soil as a natural resource must be used under a vision of respect to guarantee the quality of life of the following generations ... ” which is related to the definition of sustainability.

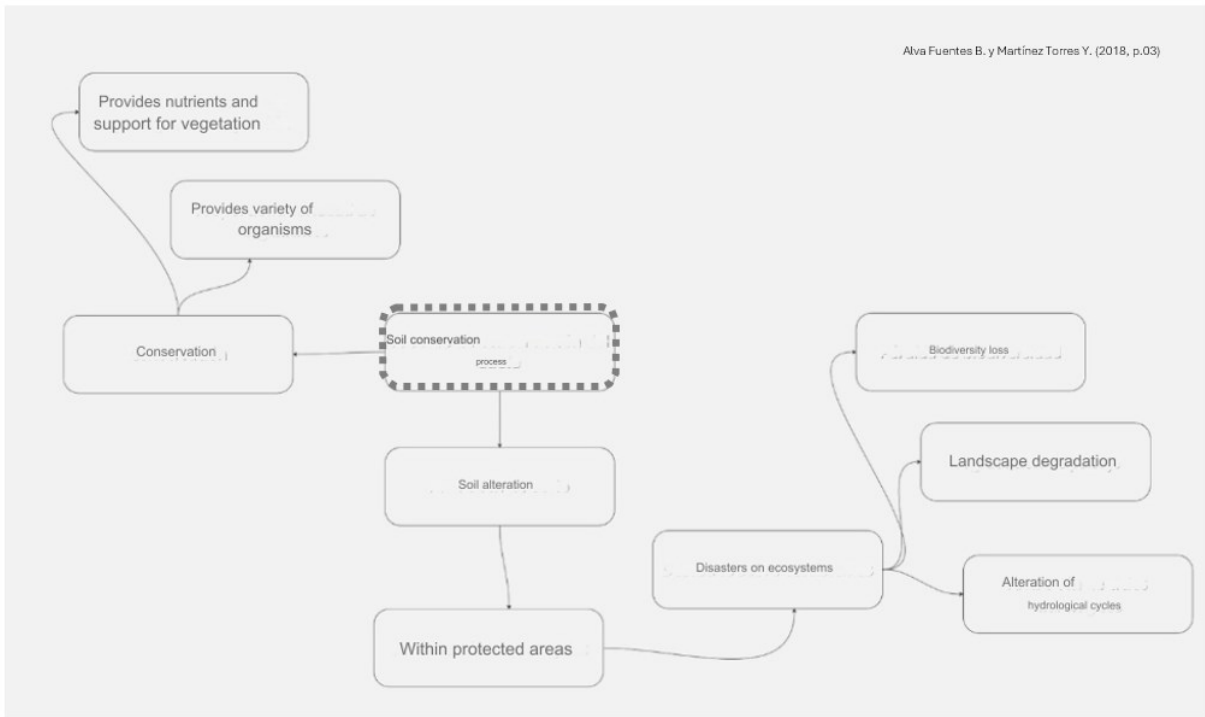


Diagram "Soil conservation process", Author. Karol Lopez

Defines Serrano S., (2011, p. 36) establishes that "The protected area must contain outstanding or unique natural resources, be large enough to protect ecosystems, be protected by the government and must be used in spatial conditions by the public " represents in the "Protected Areas" diagram the qualities that make it up, on the other hand there is the definition of García-Gil, Gerardo, Sosa-Escalante, Javier Enrique, Aguilar-Cordero, Wilian de Jesús, Flores-Guido, José Salvador , & Fernández Martínez, Yolanda, (2020, p. 03)

"Conservation areas represent surfaces that play an indispensable role for the human population by virtue of multiple environmental and ecosystem services, water service in quality and quantity, carbon capture, absorption of pollutants, generation of oxygen, regulation of "temperature, cushioning the impact of natural phenomena, with the purpose of maintaining ecological processes essentially for the conservation of the habitat . "

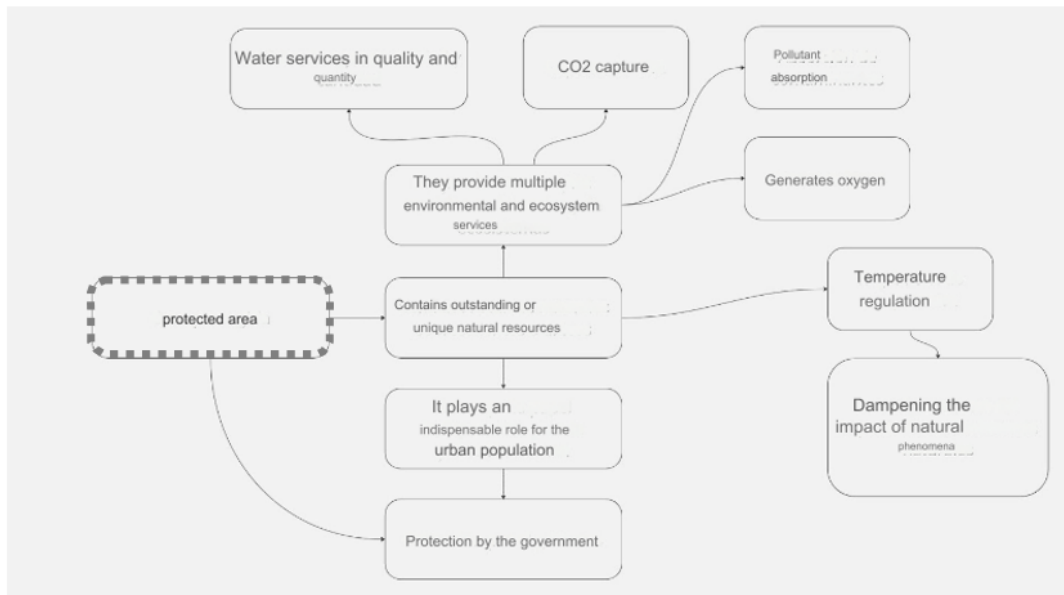


Diagram "Protected area", Author. Karol Lopez

To complement the relationship of the planning of public spaces respecting protected areas or land use, it can be determined that sustainability emerges as an imperative commitment that demands deep integration and execution of changes in the urban environment, Alva Fuentes and Martínez Torres (2018) highlight this commitment by addressing it in cities.

Since the appearance of the Sustainable Development Goals (SDG), recognition of the relevance of evolving in the economic, cultural and social spheres to catalyze a significant transformation in cities has been consolidated. In this context, this research delves into the analysis of the challenges and opportunities that cities face on their path towards sustainability, exploring the key strategies to promote equitable, resilient and sustainable urban development.

Lezama & Dominguez (2006) , mention that "Sustainability does not limit, but rather promotes the guarantee of equitable access to green and natural areas" , however sustainability can be implemented in a wide variety of areas, such as in the social sphere it comes from hand in hand with the connection of social networks and civic commitment with trust and reciprocity.

Sustainable public spaces being an opportunity for innovation towards the design, construction and management of the environment, as mentioned by Psara O. , Fonseca F., Nisiforou O., Ramos R. (2023) are a planning challenge sustainable depending the entity and problems of the site . Regarding the opinion of the community in analyzed background shows interest in urban green spaces by integrating them as part of active recreation places, focusing on the protection of the natural environment.

By integrating sustainability, various economic activities are promoted , including tourism by highlighting the identity of the place, but it also creates a space of pride for residents, as mentioned by Marta Vilela and Paola Moschella (2017) , it can be concluded that the planning of Sustainable spaces invite you to reflect on how design and lifestyle can contribute to the creation of healthier and more equitable environments.

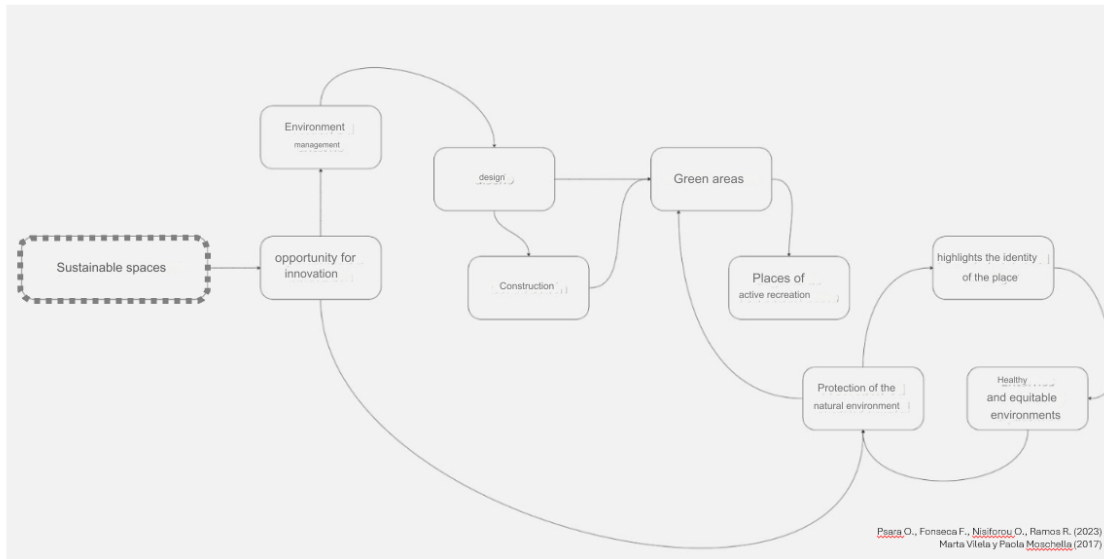


Diagram "Sustainable spaces", Author. Karol Lopez

In the “Sustainable spaces” diagram, it represents how sustainable spaces provide opportunity and innovation through environmental management, the design and construction of green spaces where recreation is provided . The characteristics of sustainable public spaces , according to Para, Fonseca, Nisiforou and Ramos (2023) describe open spaces, both public and private, that are adorned with vegetation and available to users, either directly or indirectly. These places offer recreational and leisure opportunities. In addition, urban green infrastructure, as they call it, carries multiple environmental benefits that positively impact the health and physical and mental well-being of people , among these benefits include temperature regulation in urban environments and carbon absorption. To summarize the analysis methodologies, the following table includes different strategies to design sustainable public spaces , according to the authors Meza &Moncada (page 56), Valente, R.; Mozingo , L.; Bosco, R.; Cappelli , E.; Donadio (2021, p. 17), Gabor, A.; Reinwald , F.; Damyanovic , D. (2023, p.02-08):

Table of “Sustainability strategies applied to urban planning compiled from various authors”, author Karol López

Sustainability strategies applied to urban planning compiled from various authors	
1.0 Urban planning with sustainable strategies	Authors
1.1 Open spaces, public and private, covered with vegetation, that are directly or indirectly available to users	For O., Fonseca F., Nisiforou O., Ramos R., 2023, p.02
1.2 Provide control of the use of protected areas and ecological conservation of wetlands	Marta Vilela and Paola Moschella , 2017, P.17
1.3 Manage urban sprawl, mitigate extreme heat events, expand pedestrian paths, and provide a bicycle network	Valente, R.; Mozingo , L.; Bosco, R.; Cappelli , E.; Donadio , 2021, p. 01
1.4 Adaptation services needed in developing cities in terms of ecosystem services	Gabor, A.; Reinwald , F.; Damyanovic , D. 2023, p.01
2.0 Public mobility and transportation for citizens	Authors
2.1 Implementation of pedestrian and bicycle paths	Psara O., Fonseca F., Nisiforou O., Ramos R., 2023, p.02
2.2 Limitation of recreational area in ecological and historical protection areas	Marta Vilela and Paola Moschella , 2017, P.11
2.3 Spaces that provide physical security and acceptable air quality	Valente, R.; Mozingo , L.; Bosco, R.; Cappelli , E.; Donadio , 2021, p. 02
3.0 Recreational areas for community activities	Authors
3.1 Recreational and sports area to promote activities in your daily life	Marta Vilela and Paola Moschella , 2017, P.14
4.0 Green areas	Authors
4.1 Consider 9 square meters of green areas per inhabitant	Meza &Moncada, (Page 56)
4.2 Implementation of spaces such as roads , urban green oases , use permeable pavement and implement tall trees, planters.	Valente, R.; Mozingo , L.; Bosco, R.; Cappelli , E.; Donadio , 2021, p. 17
4.3 Vegetation elements in urban green and open spaces as an effective and efficient measure to reduce heat due to their shade and evapotranspiration	Gabor, A.; Reinwald , F.; Damyanovic , D. 2023, p.08

Complementing the recommendations mentioned above for the generation of sustainable and safe public spaces, it is necessary to consider the infrastructure that includes the set of physical and functional elements designed to facilitate and improve the experience of people in urban and rural environments of common use.

Guarantee basic public services, promote safe and efficient mobility, as well as social interaction, through public roads, squares, streets, among others, these design elements represent sustainable accessibility. For example Valente, R.; Mozingo, L.; Bosco, R.; Cappelli, E.; Donadio (2021) points out that “Green streets that can be navigated safely on foot or by bicycle allow, and even encourage, sustainable personal mobility, with positive effects due to the presence of vegetation, shade and cleaner air, stimulating better conditions for physical activity and safe socialization.”

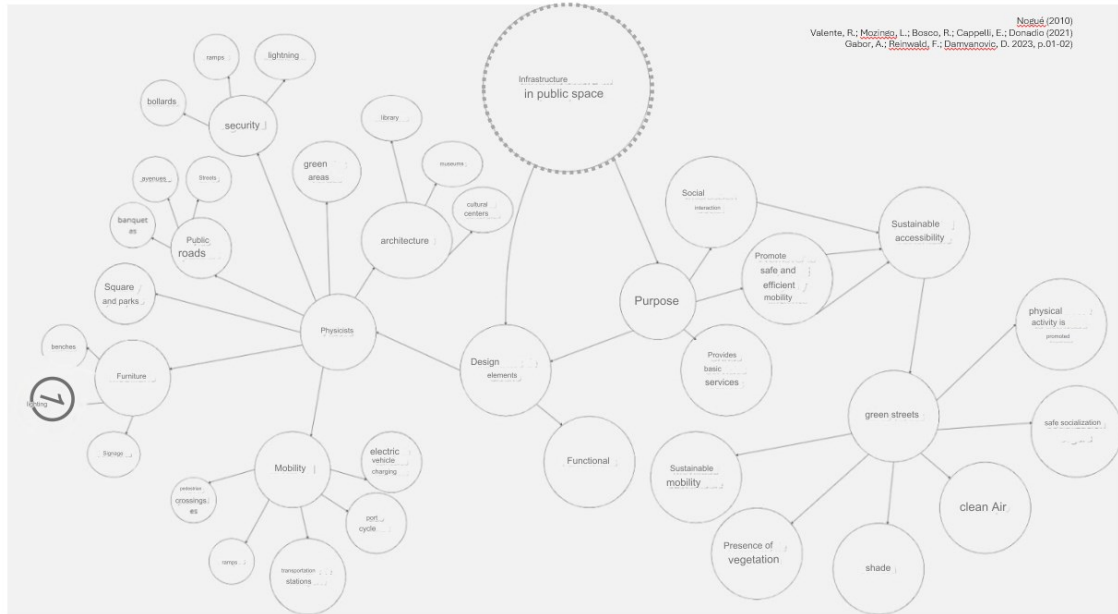


Diagram "Infrastructure in public space", Author. Karol Lopez

In the “Infrastructure in public space” diagram, the main branch can be detected with the design elements classified by functional and physical with the presence of social architecture, as well as green spaces, security through bollards, ramps and lighting, in addition to aligning public roads with streets, sidewalks and avenues, in the same way complementing the space with squares and parks.




Likewise, the furniture can be integrated through benches, lighting and signage, considering that mobility is complemented by the existence of pedestrian crossings, ramps, transport stations, cycle ports, and electric vehicle charging. All with the purpose that the infrastructure in public space favors social interaction and promotes safe and efficient mobility, as well as providing basic public services, so that all of this conforms to sustainable and safe accessibility.



Case study mapping Colonia Nuevo Israel, Tonalá, “Soil classification”, Author. Karol Lopez

A mapping of the case study is carried out, highlighting the use of land in the Nuevo Israel neighborhood, located in the municipality of Tonalá, Jalisco. Mainly residential use is identified, the central church, the contour that delimits the neighborhood, empty or unbuilt areas. an informal public space. An interesting aspect of the research is the lack of formal public spaces, which forces the community to appropriate land in the context of unregularized land, therefore lacking security in its tenure.

Table of “Characteristics of irregular public spaces in Colonia Nuevo Israel, Tonalá. Author. Karol Lopez

Characteristics of the irregular public spaces of Colonia Nuevo Israel, Tonalá, Jalisco		
Irregular Public Space	Site Image	Characteristics
Cafeteria and School		This space is one of the most important for the community, based on interviews it is commented that various learning, religious and social activities are carried out.
Stairs		The main stairs are the means of connection between the neighborhood that is located at the top called “La Jalisco second section”. The community describes this space as a meeting point. Another characteristic that is mentioned is insecurity and lack of accessibility.
Pedestrian paths		Pedestrian paths are characterized by the irregularity of the ground to be able to walk, specifically in rainy weather they usually have changes due to landslides of the same material.

This limited presence of public spaces limits the satisfaction of social, recreational and meeting activities of the community, which goes to the church and a single cafeteria operated by the community where activities are carried out to unite the community.

4. Discussions

Based on the research proposed, it was perceived that the contemporary urban fabric faces a significant abyss between sustainability, safety and quality of life in public spaces, especially in socio-spatially segregated communities. The profound social and economic differences in these areas generate critical challenges that affect the daily lives of their inhabitants. The insufficiency of urban facilities, basic services and sustainable infrastructure in the neighborhoods as well as in the public spaces of these marginalized communities in Latin America exacerbates violence and insecurity, negatively impacting the historical, socioeconomic, political and cultural dimensions, as well as social cohesion and general well-being. Therefore, addressing these problems is essential

to promote more equitable and sustainable urban development , which guarantees the use of public spaces . for all citizens.

The results obtained through the exploratory methodology and problem analysis, supported by diagrams of findings, indicate that urban growth is inevitable , however, prior planning is essential to ensure adequate consideration of public spaces. In the case of segregated colonies, it is possible to implement change measures that provide sustainability through their infrastructure, integration of green areas, thus reducing the negative impact on the protected areas where they are located.

In addition, the existing research can be applied to future studies that analyze in an explanatory and practical way the segregated colonies located in protected areas, a result of urban expansion. In addition, it will be possible to apply improvement strategies to create sustainable public spaces that offer social, cultural and sports functions to the community.



Colonia Nuevo Israel, Tonalá, “Children looking at their colony”, Author. Karol Lopez

To conclude, the limitations found during the methodological research were the lack of information on how to apply sustainability for the analysis of public spaces and the absence of specific parameters or strategies for its implementation in segregated neighborhoods . In addition, there were some difficulties in accessing, visiting and obtaining information about the case study neighborhood, since belonging to a very closed religious group (Church of the Light of the World) it is difficult to access the residents without prior permission from their leaders. religious, in addition to the fact that it is an area considered dangerous, which is why field visits have been limited and always under the gaze of those who allow us access to carry out surveys or interviews , which further complicated the study. To conclude, it is proposed to investigate in deepens the strategies applicable to public spaces in socio-segregated neighborhoods located in Latin America .

5. Conclusions

The conceptual analysis of the relationship between public spaces, sustainability and security in socio-spatially segregated areas reveals the complexity and relevance of these elements in the configuration of daily life in peripheral communities. This article, through a critical and reflective approach based on documentary analysis, has identified how accessibility and inclusion in public spaces can foster meaningful connections in isolated communities, facilitating social, cultural and commercial activities that are essential for safe daily life. and sustainable.

The findings highlight that the integration of sustainability and security policies in the planning of public spaces is crucial to mitigate the effects of socio-spatial segregation in Latin American metropolises through planning strategies . Through this research , it is demonstrated that a multidimensional approach , using tools such as semantic networks and word clouds, can offer a clear view of the interconnections between these concepts, providing a solid foundation for effective intervention strategies.

In conclusion, this study accounts for the spatial conditions that affect security in segregated areas, it also provides theoretical and practical tools for sustainable urban planning. The implementation of strategies based on these

findings can significantly contribute to improving their activities in daily life in marginalized communities, promoting safer, more inclusive and sustainable urban environments in Mexico and Latin America.

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