





Navigating the intersection: Sustainable territorial development and the transformation of the urban landscape in the Post-COVID-19 Era

Navegando en la intersección: Desarrollo territorial sustentable y la transformación del paisaje urbano en la Era Post-COVID-19

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The main contributions to generating Science and Technology in this research include: a systematic review on sustainable territorial development and territory concepts, bibliographic consultation on the impacts of Hurricane Otis, synthesis of the transformation of the urban landscape in Acapulco after the hurricane, development of a comprehensive map illustrating historical impacts on Acapulco, and creation of a comparative analysis of hurricane impacts. Additionally, the analysis of sustainable territorial development dimensions and the identification of similar challenges faced by populations in Brazilian and Mexican cities contribute to understanding the intersection of geographical, political, economic, cultural, and social factors in urban development and sustainability. Comprehensive Research: The paper likely involves comprehensive research on sustainable territorial development and the transformation of urban landscapes, considering various factors such as geographical, political, economic, cultural, and social aspects. Interdisciplinary Perspective: Given the broad scope of the topic, the paper may incorporate insights from multiple disciplines such as geography, urban planning, environmental studies, public policy, and sociology to provide a holistic understanding of the subject. Methodological Rigor: It is essential for the paper to adhere to rigorous research methodologies, employing systematic approaches to data collection, analysis, and interpretation to ensure the reliability and validity of its findings. Ethical Considerations: The paper should uphold ethical principles in conducting research, respecting the rights and privacy of individuals and communities involved, and ensuring transparency and integrity in reporting results. Critical Analysis: The paper likely involves critical analysis of existing literature, policies, and practices related to sustainable territorial development and urban transformation and opportunities for future research and action. Effective Communication: Clear and effective communication of research findings is crucial to ensure that the insights generated are accessible and understandable to various stakeholders, including policymakers, urban planners, community members, and researchers from different backgrounds. Continuous Learning: Given the dynamic nature of the topic, the paper may acknowledge the need for continuous learning and adaptation to new developments and challenges in the post-COVID-19 era, emphasizing the importance of ongoing research, collaboration, and knowledge exchange. By embodying these key aspects, the paper can contribute to the generation of universal knowledge that informs sustainable development practices and policies in urban areas worldwide, transcending geographical and cultural boundaries. The paper underscores the necessity of an interdisciplinary approach, integrating geography, politics, economics, culture, and society to comprehend sustainable territorial development and urban landscape transformation. It illuminates the shared challenges encountered by populations in Brazilian and Mexican cities, revealing the universal nature of sustainable territorial development and urban landscape issues. Through systematic review and comparative analysis, the paper delivers a comprehensive examination of sustainable territorial development, providing insights into the multifaceted dynamics shaping urban environments.

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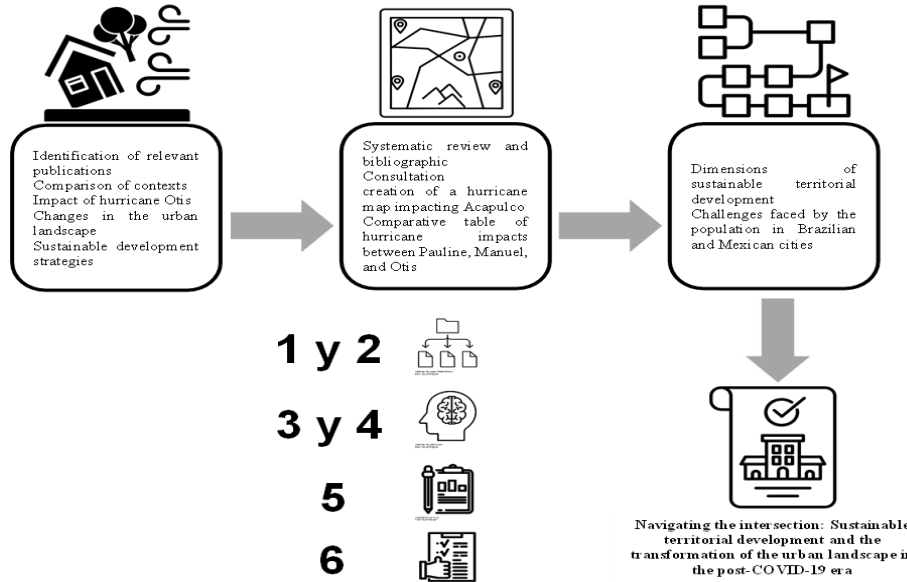
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Abstract

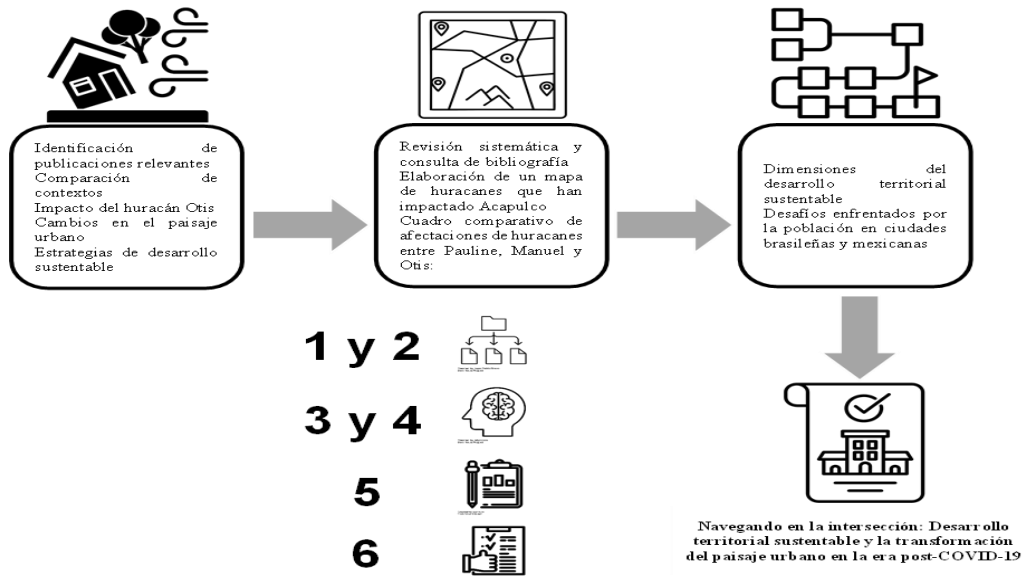
In the context of the nature-society relationship in Brazil, it is similar to the characteristics of sustainable territorial development in Mexico, and for this, the case of the municipality of Acapulco, Guerrero will be exemplified. Objectives: To identify and compare six publications on sustainable territorial development in Brazil and Mexico. Additionally, to synthesize the transformation of the urban landscape in the case of Acapulco, Guerrero after Hurricane Otis in October 2023. Methodology: It consisted of a systematic review of the concept of sustainable territorial development and territory; consultation of literature on Hurricane Otis; creation of a map showing the impact on Acapulco between 1921-2023; and creation of a comparative table of hurricane impacts between Pauline-Manuel-Otis. Results: The approach facilitated the identification of impacts occurring in the stages of solid waste management across various geoeconomic activities within society, namely: extraction of inputs/raw materials, transformation/industrialization of inputs/materials, commercialization and distribution of industrialized goods, and respective services. Conclusions: It advocated for the articulation between hegemonic socio-economic structures and other actors in territorial development, emphasizing natural diversity, local cultures, and community participation as key elements for sustainable territorial development



COVID-19, Sustainable territorial development, Geography, Urban landscape, Sustainability

Resumen

En el contexto de la relación naturaleza-sociedad en Brasil, es similar a las características del desarrollo territorial sostenible en México, y para ello se ejemplificará con el caso del municipio de Acapulco, Guerrero. Objetivos: Identificar y comparar seis publicaciones sobre desarrollo territorial sustentable en Brasil y México. Además de, sintetizar la transformación del paisaje urbano en el caso de Acapulco, Guerrero después del huracán Otis de Octubre del 2023. Metodología: Consistió en revisión sistemática sobre el concepto de desarrollo territorial sustentable y territorio; consulta de bibliografía sobre el huracán Otis; elaboración de un mapa que han impactado Acapulco entre 1921-2023 y elaboración de un cuadro comparativo de afectaciones de huracanes entre: Pauline-Manuel-Otis. Resultados: El enfoque facilitó la identificación de los impactos que ocurren en las etapas de la gestión de residuos sólidos a través de diversas actividades geoeconómicas dentro de la sociedad, a saber: extracción de insumos/materias primas, transformación/industrialización de insumos/materiales, comercialización y distribución de bienes industrializados y los respectivos servicios. Conclusiones: Se abogó por la articulación entre las estructuras socioeconómicas hegemónicas y otros actores en el desarrollo territorial, enfatizando la diversidad natural, las culturales locales y la participación comunitaria como elementos clave para el desarrollo territorial sostenible.



COVID-19, Desarrollo territorial sustentable, geografía, paisaje urbano, sustentabilidad

Introduction

In the preparation of this work, publications addressing conceptual aspects and territorial sustainability in Brazil were consulted. Consequently, a simplified understanding of territorial characteristics and the concept of sustainable territorial development was acquired, along with insights into the dynamics, socio-economic impacts, and effects of territorial public policy. This exploration aimed to identify potential successful strategies for sustainability.

In this context, studies and relevant proposals on the subject were selected, theoretical contributions regarding territoriality, development, and sustainability. These contributions served to enhance comprehension of sustainable territorial development. The presented results contribute to knowledge by emphasizing the imperative of achieving sustainable development in territories where individuals interact with each other and with nature, particularly within the current mode of production and consumption of goods.

A retrospective analysis of bibliographic sources revealed that a plausible definition of the concept of Territorial Sustainable Development (TSD) involves addressing the territory at the local, regional, and/or national levels through the lens of sustainability principles in environmental, geoeconomic, political, and social domains. This definition underscores the importance of considering multiple dimensions to attain truly sustainable development across various territorial levels.

It is crucial to underscore that, on certain occasions, lower-income classes are excluded from the dynamics of the production and consumption mode within the context of the social sustainability principle. This exclusion arises from the system's failure to consistently account for their processes of continued reproduction and to grant prominence to this social category in production and consumption activities.

In this context, the reflections of [Barcellos et al. \(2018\)](#) and the methodological approaches of Geography are essential for comprehending the dynamics of the mode of production and consumption and its impact on the environment. These considerations enable the identification of the cause-and-effect relationship between the performance of the economic system and changes in the original geo-environmental conditions of territories. In other words, they emphasize the existing imbalance in the interaction between human activities and the natural environment, underscoring the importance of an interdisciplinary perspective to address the challenges of environmental sustainability.

It is important to bear in mind that the concept of the mode of production and consumption, as used here, has one of its possible definitions as the predominant socio-economic, spatial, and environmental system in human relations with nature. This system can be subdivided into various interdependent stages, with its current version characterized by the intensive use of financial capital and the perpetual creation of consumption needs for the population. The environmental consumption of natural space by this system takes shape from the extraction stage of raw materials and/or agricultural and livestock products, along with their respective processing. It extends to the manufacturing of products, durable or not, for various purposes, often influenced by numerous innovation and marketing strategies, where continuous and growing consumption becomes inherent to human nature, even when constrained by individuals' purchasing power ([Baltazar & Ferreira, 2020](#)).

On the other hand, the relationship between the urban landscape and solid waste aims to contribute to the creation or improvement of strategies for managing urban landscape components ([Rodríguez et al., 1995](#)), including solid waste generated by human activities. Moreover, it calls attention to the need for deeper reflections on the topic, both in academic and professional contexts, and in the business and implementation of public policies addressing urban space organization. Therefore, upon reviewing the considerations of these authors, it appears that the use of the Geography approach in this study was a fitting choice. This scientific discipline provides methods and techniques to demonstrate the cause-and-effect relationship between the operational forms of the production and consumption system and the various environmental impacts, sometimes negative, at various scales of geographic space. Additionally, the geographical approach allows for pinpointing the successive and continuous occurrence of such impacts in the resource management stages, whether in the primary (extraction of inputs/raw materials), secondary (transformation/industrialization of inputs/materials), or tertiary (marketing and distribution of industrialized goods and respective services) sectors of geoeconomics.

It is worth noting, however, that despite the crucial nature of demonstrating the cause-and-effect relationship between the operations of production and consumption systems in the phases of natural resource management, from extraction to disposal and subsequent consumption, this focus is beyond the scope of the present study. Therefore, it is pertinent to clarify that this study also incorporated an excerpt from the academic article titled Sustainable territorial development of the winegrowing territories of the Brazilian state of Rio Grande do Sul.

In a non-exhaustive analysis of this excerpt, it was deduced that the current civilizational stage of territorial valorization would follow a reaction to the constant expansion of productivity and standardization of products by raw material extraction chains, materials, and industrial production on a global scale.

In this same study, it was found that the phenomenon in question is characterized by the term globalization, i.e., the interaction and/or integration of markets, generating a socio-spatial and geoeconomic impact of an environmental nature, as mentioned, both at the local and global levels. Faced with this, it was observed that several Brazilian states have created spaces for discussion, exchange, and coordination of local actions for the formulation, implementation, and evaluation of territorial policies under different dimensions and among institutions of interest.

Regarding public policies to address the issue of sustainable territorial development, the consulted literature (Costa et al., 2021) allows us to assert that it is necessary to integrate both the territorial and sustainability dimensions into development practices. Similarly, it is imperative to bring this new approach to the topic through the academic sphere and other forms of knowledge production to create mechanisms for its dissemination to society as a whole. From this perspective, deficiencies in the local, regional, and national governance of the Brazilian territory can be perceived, as long as the topic is not widely conveyed through the academic sphere and other forms of knowledge production, environmental damages will persist to the detriment of society in general.

Environmental governance of municipal solid waste is of utmost importance in both the current context and the future, driven by several key factors: *a)* Environmental and health impact: Inadequate management of municipal solid waste can have severe environmental and health consequences. Improperly managed landfill waste can contaminate soil, water, and air, adversely affecting human health and the environment (ABNT, 2004); *b)* Resource scarcity: Municipal solid waste contains valuable resources that can be recovered and recycled, such as metals, plastics, and organic materials. Proper waste management can contribute to the conservation of natural resources and reduce dependence on virgin raw materials; *c)* Climate change: Solid waste management is also linked to climate change. Poorly managed landfills are a significant source of greenhouse gas emissions, such as methane. Adopting more sustainable waste management practices, such as composting and recycling, can help reduce these emissions and mitigate climate change (Morita et al, 2021).

d) Circular economy: Effective management of municipal solid waste is crucial for progressing towards a circular economy. Implementing policies and practices that encourage waste reduction, reuse, and recycling can promote the transition to a more sustainable and resilient economic model (Hentges et al, 2021) and *e)* Waste crisis risk: With the increase in population and consumption, the generation of municipal solid waste is constantly rising. If not addressed properly, this can lead to waste crises, with overflowing landfills and public health problems. Effective environmental governance is crucial for preventing and managing these risks (Couto et al., 2022).

The lack of respect for human beings, especially in the current mode of production and consumption, which includes a significant portion of national and global governance, transcends natural boundaries and ecosystems. It is timely to emphasize the urgency of implementing, improving, and/or expanding the impact of public policies for sustainable territorial development from now on (2024). This aims not only to act as a contributing factor for preventing or reducing the negative environmental impacts of the production and consumption mode, as enumerated above but also to mitigate the occurrence of social tension manifested by the persistent increase in fuel prices, other goods and services, and primarily, the basic food items for a significant portion of the low-income population in Brazil and other parts of the world. This can potentially escalate the geographical scale of famine.

On the other hand, it is important to highlight that, to manage the methodology for addressing the discussed topic, as utilized in the aforementioned article. In this reflection, the terms "environment" and "sustainability," which guide the construction of the term "environmental sustainability," are considered metaphors formulated in international institutions. These terms, laden with political significance and lacking geographical support, would constitute contradictory elements to the socio-spatial reproduction of the mentioned mode of production and consumption.

It is necessary to clarify, therefore, that the term environmental sustainability, classified as a metaphor due to the absence of a conceptual theoretical foundation in Geography, is used here in the context of the society-nature relationship, whose theoretical foundation is well-developed in this discipline. The use of this term is justified by the meaning of the word metaphor, according to [DICIO \(2021\)](#), which denotes a rhetorical figure in which there is a transfer of the meaning from one word to another through an explicit non-comparison. Therefore, it is assumed that the term environmental sustainability would have been coined for didactic purposes, expressing a meaning more in line with the capitalist need to consider the limitations of nature in its development process than the society-nature concept validated methodologically by Geography.

In the context of the nature-society relationship in Brazil is similar to the characteristics of sustainable territorial development in Mexico, and for this, it will be exemplified with the case of the municipality of Acapulco, Guerrero. With these considerations in mind, the problem at hand can now be characterized by the following question: What are the contributions of the approaches used in the summaries and conclusions of the publications studied in this work, where the development of the territory is related to sustainability, ¿to promote discussion on the topic?

The central objective was to conduct an analysis of academic literature and relevant documents published between 1973 and 2023 to identify trends with a geographical focus related to sustainable territorial development and the transformation of the urban landscape. This includes the examination of a case in a subdivision in Acapulco, Guerrero, Mexico (Figure 1).

Box 1



Figure 1

Hurricane Otis and its impact on a site in Acapulco Diamante

Source: Own photograph

The methodology employed was as follows:

- a) Specific criteria were established for the selection of academic literature and relevant documents. This involved utilizing keywords related to sustainable territorial development, urban landscape transformation, and specific geographical terms such as "Acapulco, Guerrero, Mexico." Academic databases and virtual libraries were utilized to access pertinent information.
- b) Literature and document collection: A comprehensive search was conducted using the established criteria in databases such as Google Scholar, Dimension, Web of Science, Scopus, and other relevant sources. Both academic articles and technical documents, government reports, and other pertinent materials were gathered.

- c) The search results were reviewed to identify studies and documents that met the inclusion criteria. Those not directly related to the topic of interest or lacking relevant information for analysis were excluded.
- d) Critical analysis of the selected studies and documents was undertaken, identifying trends, approaches, and relevant findings related to sustainable territorial development and urban landscape transformation. Syntheses of the collected information were performed to identify recurring patterns and themes.
- e) A detailed study of the La Sabana river area in Acapulco, Guerrero, Mexico, was conducted. This involved gathering specific information about the area, including demographic data, urban landscape characteristics, urban development policies, and any other aspects relevant to understanding the particular situation of the case.
- f) Findings from the literature review were compared with the data obtained from the case study in Acapulco. Efforts were made to identify similarities, differences, and lessons learned that could contribute to a broader understanding of the challenges and opportunities related to sustainable territorial development and urban landscape transformation.
- g) Conclusions were drawn based on the analysis of the literature and the case study, highlighting key findings, trends, challenges, and opportunities identified. Recommendations for future research and practical actions in the field of sustainable territorial development and urban planning were provided.

The research question to be addressed pertains to how the relationship between sustainable territorial development and the transformation of the urban landscape has manifested in the southeastern context, specifically within the vicinity of Acapulco Bay, Guerrero, Mexico, from 1991 to 2023. Furthermore, what lessons have been gleaned from this exploration?

The geographical method was employed, encompassing geographical location, identification based on geographic coordinates, and the discernment of patterns such as road infrastructure, green areas, and residential zones, among others.

Additionally, a rapid assessment of the environmental vulnerability of the study area was conducted, taking into consideration factors such as exposure to natural risks (e.g., floods, landslides) and the community's capacity for response and adaptation. All these facets were undertaken with the aim of attaining a comprehensive and enriching understanding of the nexus between sustainable territorial development and the transformation of the urban landscape in the southeastern region of Acapulco, Guerrero, Mexico, within the specified study period.

Theoretical framework

The theory of ecosystem resilience, developed by C. S. Holling, constitutes a fundamental tool for comprehending how natural systems respond to disturbances and changes. Applied to sustainable development in contemporary urban landscapes, resilience theory provides a conceptual framework for designing policies and practices that foster adaptability and long-term sustainability (Holling et al., 1998).

The concept of resilience refers to a system's capacity to absorb disturbances, adapt, and reorganize in a manner that preserves its fundamental functions and structures. In the context of urban landscapes, this entails the ability of cities and their natural environments to withstand and recover from events such as climate change, pollution, biodiversity loss, and other adverse impacts (Holling, 1986).

The theory advocates for identifying key components of the system, recognizing that socioecological systems are complex and composed of interconnected elements, including both natural and human elements. In the urban context, this implies considering both natural aspects (such as local ecosystems, biodiversity, water cycles) and social aspects (such as infrastructure, urban planning, human activities) (Raeyze et al., 2022).

Two situations can arise in urban landscapes: adaptability and transformability. Holling distinguishes between two types of resilience: adaptability, referring to a city's ability to withstand changes without losing its function, and transformability, referring to a city's capacity to fundamentally reorganize in response to major changes, whether natural or anthropogenic. In the urban context, this involves designing cities that can adapt to minor environmental and social changes while being prepared for deeper transformations when necessary (Holling, 1973).

Adaptive management is an approach recommended by resilience theory, acknowledging the uncertainty and complexity of socioecological systems in cities. This involves experimentation, continuous learning, and flexibility in decision-making. In the urban context, it could translate into policies and practices that encourage collaboration among various stakeholders, the integration of scientific and local knowledge, and capacity-building to address environmental and social challenges. Resilience theory suggests that diversity and redundancy are fundamental for system resilience. In the urban context, this implies promoting diversity in land use, biodiversity in urban green spaces, cultural and economic diversity, as well as ensuring redundancy in urban infrastructure and services to prevent excessive reliance on a single resource or system.

The theory of ecosystem resilience provides a valuable conceptual framework for addressing the challenges of sustainable development in contemporary urban landscapes. By focusing on the capacity of socioecological systems to adapt and transform, this theory can guide the planning and management of more sustainable, resilient, and equitable cities. These authors are also relevant in the context of Latin America and have influenced the theory and practice of sustainable development in urban landscapes in the region. Although none of the three mentioned authors specifically originated in Latin America, their ideas and concepts have been applied and adapted by professionals, academics, and urban planners in Latin American countries. It is crucial to recognize that, while there are Latin American authors who have made significant contributions to the development of the theory of sustainable development in urban landscapes in the region, the global influence of the aforementioned authors has also been notable in Latin America. Their ideas have been adapted and contextualized to address the specific challenges faced by Latin American cities in terms of urban growth, socioeconomic inequality, climate change, and sustainable development (Sánchez, 2016).

This adaptation of global concepts to local contexts enables a deeper understanding and application of sustainable principles in Latin American urban development. The amalgamation of ideas stemming from both local authors and renowned international experts contributes to a comprehensive and contextualized approach to tackling the complex challenges faced by cities in the region.

Conceptual framework

Concerning the methodology, the study utilized the consultation of indirectly available documentation on Internet sites to select the content used in the present research. It is essential to note that the concepts of public policy and environmental sustainability used in this study are defined as follows:

1. Public policies: These refer to the actions of the State aimed at meeting the social demands of societies (Höfling, 2001).
2. Urban solid waste management: Encompassing a set of actions addressing how waste is utilized, collected, transported, stored, treated, disposed of, and other steps related to waste from a company or residence, with the goal of minimizing its impact on the environment.
3. Circular economy: Refers to an economic system that replaces the traditional linear production model, specifically focusing on regenerative systems where the consumption of resources, waste, emissions, and energy dissipation is minimized.

Regarding the methodology, during the development stage of this study, the most relevant facts listed in the abstract and/or in the conclusions and recommendations of each selected publication addressing the relationship between territorial development and public policy for environmental sustainability were highlighted. The data were presented, either verbatim or with adaptations, from the relevant facts of the original publication, following the sequence of the study's development. Let's now delve into the details below:

Results

The findings presented in the aforementioned publications addressed facts that can positively contribute to sustainable territorial development, emphasizing the importance of coordination between hegemonic socioeconomic structures and other stakeholders involved in territorial development. Implicitly underscored is the notion that the success of this coordination depends on considering the inherent specificities of the territory, such as natural diversity and local/regional cultural manifestations (Niño-Gutiérrez, 2023). The contributions of the approaches used in the summaries and/or conclusions of the studied publications stand out, establishing connections between territorial development, environmental sustainability, and the coordination between hegemonic geo-economic structures and other actors interacting in the territory. In summary, these publications propose measures to advance sustainable territorial development, emphasizing the need to reconstruct the relationship between society and its mode of production and consumption with nature.

This process involves respecting natural ecosystems, adopting sustainability measures in both urban and rural environments, and coordinating action among hegemonic socio-economic structures and other actors in territorial development. Likewise, it seeks to reduce inequalities and address segregation among people. These strategies pave the way for future research to delve deeper into the subject, fostering the creation of new articles that more effectively and comprehensively disseminate the content of sustainable territorial development for all individuals, without distinction. For example, a recent diagnosis reveals that deforestation in Vista Hermosa, Acapulco, increases year after year, and the problem of solid waste persists (Niño-Gutiérrez, 2022).

The significance of satisfying society's consumption needs worldwide, as well as the detrimental effects on the urban landscape caused by the improper handling of solid waste generated in the mode of production and consumption in question, must always be considered. The use of a geographical approach emerges as a viable option, as the overall landscape and the urban landscape, in particular, foundational aspects of this scientific field, can demonstrate the cause-and-effect relationship between the operational forms of the production and consumption system and various environmental impacts, sometimes negative, caused by poorly managed urban solid waste. This approach facilitated the identification of impacts occurring in the stages of solid waste management across various geoeconomic activities within society, namely: extraction of inputs/raw materials, transformation/industrialization of inputs/materials, commercialization and distribution of industrialized goods, and respective services. Consequently, it can be inferred that the constant increase in productivity of geoeconomic activities at the local and global scale results in the escalation of solid waste generation, among other consequences. If mismanaged, these wastes can adversely affect the urban landscape. This phenomenon may be exacerbated by globalization, defined as the interaction and/or integration of markets, which can generate even more improperly managed solid waste and, consequently, further negative impacts on the urban landscape, both at the local and global levels. A growing concern is observed among academic, business, and governmental institutions in various countries, seeking ways to develop and improve public policies to reduce the generation and improper management of solid waste, thereby mitigating their negative impacts on the urban landscape.

The circular economy can be realized in the urban system through new business models that promote reuse, remanufacturing, recycling, durable design, the development of biodegradable materials and packaging, and material recovery in the production, distribution, and consumption phases. A commitment among entrepreneurs, manufacturers, distributors, consumers, and governments is essential to achieving sustainable development and promoting benefits for current and future generations (Uhlig et al., 2022).

Key principles of the circular economy: *a)* Promoting the design of products and systems that minimize resource usage, are durable, repairable, and recyclable, and can be safely reintegrated into the biosphere or supply chain; *b)* Maintenance of products and components in use: Extending the lifespan of products through reuse, repair, and remanufacturing is encouraged. This involves keeping products and components in the economy for as long as possible, avoiding premature disposal as waste; *c)* Encouraging recovery and recycling of materials at the end of their lifespan for reintegration into the supply chain as secondary raw materials. This reduces dependence on virgin resources and decreases waste generation and *d)* Optimization of production and consumption systems: Seeking to optimize production and consumption systems to reduce the quantity of resources used, energy consumed, and waste generated.

This includes practices such as energy efficiency, demand management, and the promotion of more sustainable lifestyles. From this perspective, a deficiency in governance applied to solid waste management and its relationship with the impact on the urban landscape is evident, as well as a lack of effective public policy applied in preventing the spread of contagions and impacts of the COVID-19 virus (SARS-CoV-2 and its variants) (Auerach et al., 2021). It is timely to emphasize the urgency of implementing, improving, and/or expanding the impact of public policy on public health and the enumerated mode of production and consumption. The sense of perplexity observed at all levels of (mis)global governance in the face of the reality of risk and suffering caused by COVID-19 highlights the need to rethink the geoeconomic model of production and consumption (Morillo & Van Roekel, 2022).

In geography, this geoeconomic system can also be simply designated as a type of socio-spatial formation based on the continuous and increasing pursuit of the excessive concentration of material goods, economic, ideological, political, and cultural management in the hands of a few individuals, corporations, and/or countries. It is essential to note that often, these entities concentrating material goods and means of management are labeled by university researchers from different subject areas as hegemonic actors due to their decision-making power to influence their counterparts. An example of the increase in municipal solid waste, which surpasses sustainable territorial development and the transformation of the urban landscape in many Latin American cities, is the aftermath of hurricanes, cyclones, and torrential storms, as demonstrated over the last 102 years in the municipality of Acapulco, Guerrero, Mexico (Niño-Gutiérrez, 2023) (Figure 2).

Box 2

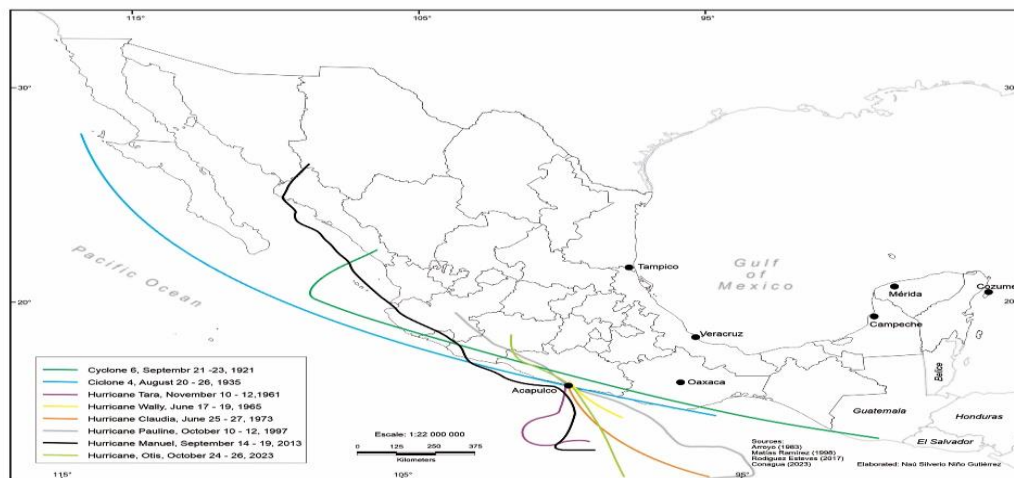


Figure 2

Hurricanes that have impacted Acapulco, Guerrero 1921-2023

Source: Matías (1998); Rodríguez (2017) & National Meteorological Service-Conagua (2023)

On the other hand, it is possible that they envision maintaining this hierarchical position because they have succeeded in the face of successive advancements in telematics, warfare technologies, aerospace programs, intercontinental transport routes, including railways. As if that were not enough, they are also on the list of successful achievements of this system, now under the control of COVID-19, such as luxurious architectural buildings, electronically-driven cities, sophisticated devices for virtual gains, as well as the rise of speculative money (Ruggerio, 2021).

However, the direct beneficiaries of the system now under discussion have demonstrated their myopia, to say the least, in how they view the world as a human construction, of all and for all, at various other moments, including recent demonstrations of armed force and the military intelligence system to maintain hegemony over the control of material goods. For this reason, it is inferred that the scale of change in socio-spatial conditions, including health and geoeconomic conditions, for the majority of the population to become protagonists of the new post-COVID-19 world, which will undoubtedly come, sooner rather than later, is directly related to the degree of social mobilization for this agenda (Tae-Woo & Song, 2023).

To address this situation, identifying the causes of COVID-19, as the initial content of the agenda for changes in the dominant geoeconomic model of production and consumption so far, is a suggestion to consider due to the scope of the impact of this disease on the world. In the aforementioned case, misguided policies to manage public interest in favor of the minority holders of the geography of extraction, production, reproduction, and distribution of material and financial goods can be highlighted. Among the misguided public policies, striking ones include the unsustainable model of production and consumption of goods, housing deficits, income shortages for a large portion of the population, the increase in family and urban violence, and deficiencies in public services such as drinking water, sewerage, stormwater drainage, waste management, and healthcare (Trajanoska et al., 2022).

It is important to note that the health crisis and its global geographical effects at all socio-spatial scales, caused by COVID-19, clearly exposed the lack of preparation by the governments of countries, including those called "world giants", to efficiently and collaboratively address diseases ranging from endemic to pandemics. This lack of preparedness to handle the current pandemic was also evidenced by the industrial concentration of the production of strategic health inputs, especially in China. Undoubtedly, this was a blatant geoeconomic error in global governance with the acceptance of society as a whole. Faced with this unfortunate reality, an unquestionable truth can be stated: the world before COVID-19 was one, and what will come will be very different because it will no longer be possible to live with these numerous socio-spatial problems of environmental, cultural, geoeconomic, political, health, etc., nature that make the lives of the majority of the population suffer indignity (Li et al., 2022).

It is worth noting that, paradoxically, the solution to these problems responsible for the recurring deprivation of material and financial assets from the majority of the world's population to live with dignity is also an intelligent solution to the worsening economic depression caused by COVID-19, with a positive cost-benefit for micro and macroeconomics. In other words, the solution to the aforementioned socio-spatial problems constitutes one of the ways to restructure and activate various national economic sectors of production and consumption affected by the crisis imposed by the pandemic, while promoting socio-economic justice and public health in the countries (Auerach et al., 2021).

Therefore, communication through the Internet, in its various forms, can be an important tool in disseminating data for the formation and mobilization of global public opinion, including public authorities and industrial, financial, technological corporations, etc., with the aim of initiating the process of consensual construction of the new world that is for everyone and by everyone.

For these reasons, it is emphasized that the proposal for the consensual construction of a new world, although absolutely necessary, is not only utopian but also extremely complex, as well as arduous and long-term in its application. The analysis of COVID-19 was related to the relationship between the pandemic, political, institutional, environmental, social, and economic factors of the population with certain marginalization in the cities of Brazil and the south of Mexico (Niño-Gutiérrez, 2021).

It is important to highlight that one of the reasons for the complexity of implementing the proposal to build a new world for everyone is the fact that the mode of production and consumption before COVID-19 is part of the culture of several generations, including those not benefited by it but aspiring to it during their lives. It should also be considered that a proposal with this objective has never been more timely than it is now in the context of COVID-19. Therefore, it is worth spreading this public call to mobilize world society with the aim of starting to discuss the foundations of the new world now in gestation (Dey et al., 2022).

A transcendent issue in healthcare services anywhere in the world is hospitals, as complex organizations that produce and offer healthcare services to the general population. Their organization follows a 21st-century model that functions hierarchically, integrating various clinical services, namely: internal medicine, general surgery, orthopedic surgery, pulmonology (highly demanded between 2020-2022), cardiology, pediatrics, psychiatry, rehabilitation and physiotherapy, emergency care, pharmacy, among others. Additionally, there are complementary non-clinical services such as administrative and logistical support.

Conclusions

In summary, this work advocates for the articulation between hegemonic socio-economic structures and other actors in territorial development, emphasizing natural diversity, local cultures, and community participation as key elements for sustainable territorial development. The implementation and expansion of public policy in this area are presented as a priority measure to prevent socio-spatial, geoeconomic, and socio-environmental damages. Contributions related to urban landscapes and solid waste management are based on an environmental approach, highlighting how inadequate municipal solid waste management can have negative impacts on the urban landscape. The separation of urban solid waste is presented as a cultural element and beneficial practice, enhancing the urban landscape from aesthetic, sanitary, and public health perspectives. Proper management of municipal solid waste, focusing on selective collection and the use of recyclable and reusable materials, is crucial. The study emphasizes the importance of implementing these practices and how they can contribute to deeper reflections, the production of new studies, and the publication of academic articles. Furthermore, the relevance of these issues in reshaping governance and public policies at the local and global levels is highlighted.

The literature review evidenced the importance of addressing geoeconomic development and territorial sustainability from a multidisciplinary perspective, considering both socio-economic and environmental factors. This comprehensive review emphasizes the vital significance of adopting a multidisciplinary approach when tackling geoeconomic development and territorial sustainability. This approach entails integrating various disciplines, such as geography, economics, sociology, and ecology, among others, to fully understand the complex challenges faced by territorial development. By considering socio-economic and environmental factors jointly, the interdependence between human well-being, economic growth, and environmental health is recognized. This broad perspective allows for the more effective identification and addressing of interactions and tensions between economic development and conservation of the natural environment. Furthermore, it facilitates the formulation of policies and strategies that promote balanced and sustainable development, meeting present needs without compromising opportunities for future generations. The results highlight the urgent need to continue researching and debating the concept of territory and its interrelation with sustainability in specific national contexts such as Brazil and Mexico. This call to action is grounded in the understanding that the sustainable and equitable development of these regions largely depends on how their territories are managed and conceptualized.

Firstly, the term "territory" encompasses not only geographical dimensions but also political, economic, cultural, and social aspects. It is essential to understand how these multiple facets interact and affect the development process in each country. The relationship between territory and sustainability involves considering how natural resources are utilized, how economic activities are planned, and how the benefits and burdens of development are distributed in the geographical space. Brazil and Mexico face similar challenges in terms of territorial development. Both countries possess rich geographical and cultural diversity but also grapple with issues of social inequality, environmental degradation, and territorial conflicts. Therefore, studying how these issues intersect and can be comprehensively addressed to promote fairer and more sustainable development is crucial.

Achieving this objective requires continuous and rigorous research analyzing various aspects of territorial development, including socio-economic, environmental, political, and institutional factors. Moreover, it is essential to foster dialogue and knowledge exchange among academics, professionals, community leaders, and policymakers in both countries. This interdisciplinary and transnational collaboration can generate new perspectives and innovative solutions to address territorial development challenges more effectively.

This chapter explores the intersection between sustainable territorial development and the transformation of urban landscapes in the post-COVID-19 era. It delves into the implications of the pandemic on urban planning and development, highlighting the need for resilient and adaptable strategies to address the challenges brought forth by the crisis. The chapter examines how the pandemic has reshaped urban environments, emphasizing the importance of sustainable practices in mitigating future crises and promoting long-term resilience. Additionally, it provides insights into potential pathways for integrating sustainability into territorial development policies and urban planning initiatives to create more inclusive, livable, and environmentally sustainable cities in the aftermath of the pandemic.

Declarations

Conflict of interest

The authors declare no interest conflict. They have no known competing financial interests or personal relationships that could have appeared to influence in this chapter.

Author contribution

Antonio-Vieira, Elias: Conducted primary research, collected data, and drafted sections related to sustainable territorial development.

Niño-Castillo, Jacob Elías: Focused on analyzing the transformation of urbna landscapes in the post-COVID-19 era, gathering relevant literaure, and synthesizing findings.

Belandia-Silva, César Augusto and Condori-Chura, Delia: Contributed by providing expertise in urban planning and offering insights into policy implications and recommendations for sustainable development strategies.

Availability of data and materials

Availability of Data: The collected data as well as supplementary materials accompanying the publication of this research are accessible to other users. Through request to the authors.

Availability of Materials: The authors specify that the materials are freely available for other users to use without any restrictions or conditions associated with access to them. This means that the materials, such as data sets, experimental protocols, software code, or other resources, can be accessed and utilized by anyone interested in the research without requiring permission or facing any limitations. This commitment to open access promotes transparency, reproducibility, and collaboration in research, allowing others to verify findings, replicate experiments, or build upon the work without barriers.

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Abbreviations

Conagua: National Water Commission
 COVID-19: Coronavirus Disease 19
 NMS: National Meteorological Service
 NMS-Conagua: National Meteorological Service-Conagua
 SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2
 TSD: Territorial Sustainable Development
 List abbreviations in alphabetical order.

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