RESILIENCE, REGENERATION AND SUSTAINABILITY IN BRAZIL IN THE 21ST CENTURY

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ABSTRACT

Objective: The objective of this study is to investigate resilience, regeneration and sustainability in Brazil, with the aim of discussing the process of occupation of urban areas; possible adverse effects on the environment and society; the impact of consumption and the construction of more sustainable cities and the commitment to future generations.

Theoretical Framework: The concepts of resilience, sustainable development and urban regeneration stand out as the basis of the research, providing an interesting foundation for understanding the context of the investigation.

Method: Exploratory, descriptive study with a qualitative approach anchored in a narrative review that allowed us to converge on an interpretative understanding of urban resilience in Brazil towards sustainable development.

Results and Discussion: It is not possible to slow down economic advances, however, as the 2030 Agenda prioritizes, bridges must be built for conscious consumption and production. Gentrification and favelaization are examples that can point to the consequence of the rural exodus and the development of cities that increasingly consume non-renewable natural resources. Two cases can be examples to mitigate actions that affect ecosystems: “Contingency Plan on the Hills of Rio de Janeiro” and the “ProMorar Project in Recife”.

Research Implications: Reflections involving the adverse effects arising from unplanned anthropogenic interventions and their impact on ecosystem imbalance point to changes aimed at actions to alleviate this process.

Originality/Value: The importance of conscious consumption is defended, linked to the process of minimizing the adverse effects of the urbanization process, as ways to protect future generations.

Keywords: Resilience, Regeneration, Urban Sustainability, Sustainable Development, Public Policies.

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RESILIÊNCIA, REGENERAÇÃO E SUSTENTABILIDADE NO BRASIL NO SÉCULO XXI

RESUMO

Objetivo: O objetivo deste estudo é investigar sobre resiliência, regeneração e sustentabilidade no Brasil, com o intuito de discutir o processo de ocupação das zonas urbanas; possíveis efeitos adversos ao meio ambiente e à sociedade; o impacto do consumo e na construção de cidades mais sustentáveis e o compromisso com gerações futuras.

Referencial Teórico: Destacam-se, como base da pesquisa, a conceituação de resiliência, desenvolvimento sustentável e regeneração urbana, fornecendo uma fundamentação interessante para a compreensão do contexto da investigação.

Método: Estudo exploratório, descritivo com abordagem qualitativa ancorado na revisão narrativa que permitiu convergir para a compreensão interpretativa da resiliência urbana no Brasil rumo ao desenvolvimento sustentável.

Resultados e Discussão: Não é possível desacelerar os avanços econômicos, no entanto, como prioriza a Agenda 2030, deve-se construir pontes para o consumo e a produção consciente. A gentrificação e favelização são exemplos que podem apontar a consequência do êxodo rural e desenvolvimento das cidades cada vez mais consumidoras dos recursos naturais não-renováveis. Dois casos podem ser exemplos para amenizar ações que afetam os ecossistemas: “Plano de Contingência nas Encostas do Rio de Janeiro” e o “Projeto ProMorar em Recife”.

Implicações da Pesquisa: As reflexões envolvendo os efeitos adversos advindos das intervenções antropogênicas sem planejamento e seus reflexos no desequilibrio do ecossistema apontam mudanças com vistas às ações para amenizar esse processo.

Originalidade/Valor: Defende-se a importância do consumo consciente, atrelado ao processo de minimização dos efeitos adversos do processo de urbanização, como caminhos para proteção de futuras gerações.


RESILIENCIA, REGENERACIÓN Y SOSTENIBILIDAD EN BRASIL EN EL SIGLO XXI

RESUMEN

Objetivo: El objetivo de este estudio es investigar la resiliencia, regeneración y sostenibilidad en Brasil, con el objetivo de discutir el proceso de ocupación de áreas urbanas; posibles efectos adversos sobre el medio ambiente y la sociedad; el impacto del consumo y la construcción de ciudades más sostenibles y el compromiso con las generaciones futuras.

Marco Teórico: Los conceptos de resiliencia, desarrollo sostenible y regeneración urbana se destacan como base de la investigación, brindando una base interesante para comprender el contexto de la investigación.

Método: Estudio exploratorio, descriptivo, con enfoque cualitativo anclado en una revisión narrativa que permitió converger en una comprensión interpretativa de la resiliencia urbana en Brasil hacia el desarrollo sostenible.

Resultados y Discusión: No es posible frenar los avances económicos, sin embargo, como prioriza la Agenda 2030, se deben tender puentes para el consumo y la producción conscientes. La gentrificación y la favelización son ejemplos que pueden señalar las consecuencias del êxodo rural y el desarrollo de ciudades que consumen cada vez más recursos naturales no renovables. Dos casos pueden ser ejemplos de acciones de mitigación que afectan los ecosistemas: el “Plan de Contingencia en las Sierras de Río de Janeiro” y el “Proyecto ProMorar en Recife”.

Implicaciones de la Investigación: Las reflexiones sobre los efectos adversos derivados de intervenciones antropogénicas no planificadas y su impacto en el desequilibrio de los ecosistemas apuntan a cambios dirigidos a acciones para aliviar este proceso.
1 INTRODUCTION

The United Nations (UN) Agenda 2030 in one of its Sustainable Development Goals - SDG 11 - seeks to “make cities and human settlements inclusive, safe, resilient and sustainable”, which inspires us to set global goals to be achieved by the year 2030, to obtain resilient, sustainable and inclusive urban spaces.

To achieve this objective, it is crucial to understand the three dimensions of sustainability, which involve environmental, social and economic aspects. The environmental axis means satisfying needs at the expense of environmental efficiency and that the ecological system must be protected for future generations; the social is achieved when procedures, initiatives, constructions and internal/external alliances actively promote the ability of present and future generations to create healthy and sustainable communities; The economic aspect refers to the way we use, safeguard and maintain resources in urban management to produce long-term value through optimal use, regeneration and recycling (Zeng, et. al., 2022).

These principles are not just theoretical, but require practical and transdisciplinary approaches. Resilience, regeneration and urban sustainability have multiple dimensions and require transdisciplinary approaches, involving not only urban planning, but geology, hydrology, meteorology, biology, sociology and psychology. (Frank & Sevegnani, 2009).

In this context, it is essential to examine concrete cases of urban resilience in Brazil, such as the Contingency Plan on the Hills of Rio de Janeiro and the ProMorar Project in Recife, both in Brazil. These examples demonstrate how cities are seeking to strengthen their capacity to face urban challenges and, at the same time, promote sustainable development, in line with the goals established by the UN 2030 Agenda.

Therefore, the article aims to investigate resilience, regeneration and sustainability in Brazil, with the aim of discussing the process of occupation of urban areas; possible adverse effects on the environment and society; the impact of consumption and the construction of more sustainable cities and the commitment to future generations and contribute to critical thinking through two practical examples involving urban resilience to overcome adversity.
2 THEORETICAL FRAMEWORK

2.1 URBAN RESILIENCE AND SUSTAINABLE DEVELOPMENT AND ITS FACETS

For Dubbeling et al. (2009), resilience is the ability of a location to absorb shocks and stresses, being the opposite of vulnerability. De Souza and Flanery (2013), believe that the resilience of cities reflects the ability to absorb, adapt and react to urban changes, that is, the extent of the city to rebuild itself in the face of a disaster, including the preservation, restoration of its essential structures and functions, and outlines “the extent to which changes are triggered and tolerated by cities, before they reorganize around new structures and processes” (Gonçalves, 2017).

According to Saccaro Júnior and Coelho (2016), research into urban resilience in relation to sustainable development represents one of the great challenges of the 21st century. Motivating resilience is part of the spectrum pursued to achieve sustainable development, which envisions changes in the production and consumption patterns of contemporary society. In this context, urban centers play a fundamental role, as these urban conglomerates are responsible for the largest fraction of consumption and industrial production. Therefore, cities are centers of economic development, with various tools and methodologies available to help them assess vulnerabilities and test resilience in the face of shocks and stress.

As Lele (2013) teaches: “sustainable development is the evolution that meets the needs of the present without compromising the ability of future generations to satisfy their own needs”.

Soderbaum (2019) preaches that: “ideology can be described as a means-ends relationship ”. In this sense, Pinheiro (2004) states that the concept of resilience is surrounded by ideologies related to the notion of success and adaptation to social norms.

The UN outlines an estimate of global population growth of 9.7 billion by the year 2025 and states that by the year 2030, 60% of the world's population will live in cities (United Nations, 2022).

According to Dubbeling et. al. (2009), the urbanism process is called 'urbanization of poverty', where approximately ¼ of the world's poor live in cleared areas, and it is estimated that this number will increase by 50% by 2050, meeting SDG 1 which seeks to “reduce by at least half the proportion of men, women and children, of all ages, who live in poverty, in all its dimensions, according to national definitions” (UN, 2015).
In Brazil, from 1970 onwards, urbanization reached more interior areas, including the Amazon forest region. After 1980, occupation, influenced by government policies, caused the region to be characterized as an urbanized forest (Becker, 1985).

Thus, in the country, in the last 50 years, cities have emerged as an imposing geospatial element. Most of the cities are small urban agglomerations, with less than twenty thousand inhabitants, with little infrastructure, dependence on transfers of public resources for survival and interdependence of regional centers (Oliveira, 2006). According to data from the Brazilian Institute of Geography and Statistics released in July 2023, 70.6% of Brazilian cities have up to 20 thousand inhabitants, equivalent to 3,935 municipalities, corresponding to 33.5 million inhabitants (IBGE, 2023).

2.2 URBAN REGENERATION

Urban regeneration permeates urban dynamics, aiming at alternatives to increase citizen satisfaction, avoid uncontrolled urbanization, preserve local cultural heritage, avoid excessive use of natural resources and improve the community's quality of life. It is believed that sustainable development is urgent where the biggest problems are concentrated and it is clear that cities will provide feedback so that we have a more sustainable future, as they are the largest consumers of resources and responsible for generating the largest amount of waste on the planet. Thus, urban regeneration is considered one of the fundamental mechanisms for achieving sustainable urban development (Turcu, 2012).

According to Mendes (2013), especially in more developed countries, regeneration
already consisted of a way of thinking and producing urban space.

For Dale and Newman (2009), urban regeneration is used as a tool to create “incubation zones” for sustainable development, and employment has been allocated to long-term projects, aimed at citizens and the locality, at the intervention site.

Aware that urban regeneration projects in a sustainable way, such as public policies, boosting cities, defining good sustainable practices and best benchmarks to articulate as support for urban planning to obtain better results in projects under development.

3 METHODOLOGY

This is an exploratory, descriptive study, with a qualitative approach that discussed the process of occupation of urban areas, the possible adverse effects that may have on the environment and society; articulating the impact of sustainable consumption; impacts of building more sustainable cities, the commitment to future generations and the continuity of life on Earth.

Anchored in the narrative review, which is defined as an analysis of literature published in books and journal articles respecting the author's personal interpretation and critical analysis, a literature review was combined based on the concepts of “Resilience”, “Regeneration”, “Urban sustainability ” and “Sustainable Development” with two case studies: “Contingency Plan on the Hills of Rio de Janeiro” and the “ProMorar Project in Recife” (Sallum; Garcia; Sanches, 2012).

The reflective analysis provided an opportunity to discuss the empirical material arising from the studies carried out, generating an interpretative understanding of urban resilience in Brazil towards sustainable development, through the relationship between the revised concepts and analysis of the two case studies, providing an understanding of the importance of urban resilience as tool to respond to the challenges of the contemporary era, so that cities can follow a path towards a more inclusive and sustainable future.

4 RESULTS AND DISCUSSION

Articles and books were selected that highlighted the challenges of the contemporary era in relation to new consumer habits and population habits that often disrupt ecosystems and affect lifestyles. To this end, the main aspects were presented during the analysis of the relevant literature.
4.1 POSSIBLE ADVERSE EFFECTS OF URBANIZATION

4.1.1 Gentrification

The term 'gentrification' was used, after 1964, by sociologist Ruth Glass, to address the transformation of working-class neighborhoods in central London, which were being occupied and transformed by upper-class residents and, consequently, expelling the less favored (Guerra, 2024).

Gentrification characterized as socio-spatial change, marked by the middle class or commercial activities, is guided by the alternation of the lower-income population through social hygiene, in order to meet the needs that the market has been bringing through a series of social impacts, such as the differentiation of the space of cities (Mendes, 2015).

Through the process of transforming spaces in cities, structural improvements consequently occur, generated by greater tax collection, increased investment and performance of the furniture market, cleaning of urban space and hidden, political and ideological project of the State and the class with greater financial power, which facilitates the process of repelling the less desirable people from urban space (Shin, 2018).

Defenders of the gentrification process welcome the action of neighborhood recycling, improvement, modernization, in short, ways of moderating the racial and classicist connotations that only benefit the upper class (Smith, 2012; Graham, 2011).

What stands out in the construction of urban centers is that power holders, the elite, companies with strong potential, in short, fortunate people demarcate certain areas within the urban perimeter and add value to the region.

The construction of cities is a collective action that indicates the right to build the urban process. The city is the place of differences, so that different people in different processes diverge to define the forms of the city. In contemporary cities, the problem is that as a dominant class controls aspects of the city, there is no interest in making the city a place where differences cohabit (Mitchell, 2003).

In Brazil, the rural population has decreased at a rate above the world average in the last two decades. The percentage of the country's inhabitants residing in the countryside fell by 33.8% in the period from 2000 to 2022; compared to the global school, the reduction was 19.2% (World Bank, 2022).

According to data from IBGE (2022), mass migration in Brazil occurred in the period between 1950 and 1980, a phase in which the rural population fell from 65% to 25%.
Comparatively, in 2000, around 18.8% of Brazilians lived in the countryside; in 2022, it fell to 12.4%.

Corroborating the literary findings, it is highlighted that “the strong migration without a necessary reception in public housing, health and education policies created urban catastrophes in the country. At the same time, it disorganizes an essential production system, which is food” (Konchinski, 2024).

The rapid and disorderly growth that led cities to serious problems with urban infrastructure, sanitation, housing and transportation is highlighted. Maintaining the population in the countryside should be the country's strategy to avoid the collapse of cities, especially when we consider the issue of food and nutritional security (Contag, 2024).

4.1.2 Favelization

The birth and growth of cities in a disorderly way or with inefficient planning, are unable to meet the demands of the urban population, especially in relation to infrastructure and urban services, becoming the cradle of various social, environmental, economic and political problems (Martins, MF & Cândido, GA, 2014).

Often, when we think about urban sustainability, we forget the three-dimensional reflection (social, economic and environmental) in the process of composition of urban centers. Antonymous with the gentrification process are favelas, characterized as informal urban settlements, densely populated, with precarious and miserable housing.

Cities, especially Brazilian ones, face enormous challenges due to urbanization, territorial fragmentation and great socio-spatial inequality and consequently, social and socio-environmental vulnerability and reflections on the health of individuals, very characteristic of the Latin American phenomenon (Rolnik, 2013).

Especially in Brazil, large cities play a significant role in marginalization, despite the country having many inclusive public policies, there is a percentage of excluded population, with low income and low employability. Coupled with the fragility of popular housing programs, leading to the process of marginalization with the occupation of irregular areas, characterized by outskirts or favelas, which emerge as a point of contradiction between the formality and informality of cities, generating urban conflicts (Ferreira, 2007).

Brazilian favelas are known worldwide, cohabited by 17 million people, according to IBGE research data (2023). According to IBGE, Census 2022, the two largest favelas in Brazil in terms of number of inhabitants and households are located in Sol Nascente, a suburb located...
in Brasília, in the Federal District and in the community of Rocinha in Rio de Janeiro/RJ, respectively.

However, it is very important to consider the impact that urban changes have on people's lives. Therefore, an increase in public policies for communities is necessary, presupposing dialogue with invisibility, in an active way and aiming to contribute to solving the challenges of public policies for favelas and cities.

4.2 INTERRELATION SUSTAINABLE CONSUMPTION AND SUSTAINABLE CITIES

Sustainable consumption arose from the need to modify patterns that began to be incorporated by individuals, exacerbating the consumption patterns of goods and services influenced by media strategies, globalization, economic growth, opening of economic markets, growing wave of individualistic characteristics, incorporation of new technologies, among others.

According to Anantharaman (2018), sustainable consumption is framed as an invitation to individuals, companies and nations to reduce their resource footprints in favor of environmental, social protection, ecological and human integrity.

The terminology emerged at the United Nations Conference in Rio de Janeiro, in 1992, Eco 92 and in 1994 (Brazil, 2024), the concept of sustainable consumption was presented in the Oslo Declaration (UNEP, 2011):

“use of related products and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources and toxic materials, as well as waste and pollutant emissions, throughout the life cycle of the product or service, so as not to compromise the needs of future generations”.

Zeng et al. (2022), outlines sustainable development as an instrument to evaluate and restructure policies to improve urban management. Sustainability science faces the global increase in urbanization. New and expanding cities present challenges and opportunities for sustainability. Cities around the world face challenges including population explosion, inadequate or deficient infrastructure, as well as economic and environmental disruption. (Childers, 2014).

Sustainable consumption can be considered a “consumption pattern resulting from the interrelationship of social actors, from a political interaction perspective” (Silva, 2012). Sustainable consumption is not limited to a purchasing process, going beyond the vision of consumption. A new ethical form is created, overcoming the barrier of reducing consumption,
highlighting the more efficient use of resources, aligned with the new social reality (Jackson, 2007). In the wake, the search for sustainable consumption directly contributes to sustainability (Nascimento et al., 2014).

Urban sustainability is understood as a transversal science, which articulates perpendicularly with different dimensions that constitute and move cities. The transdisciplinary nature of contemporary urban ecology, with its concern for the ecological processes underlying ecosystem services, aligns well with sustainability science (Childers, 2014).

Sustainable cities must chart directions to stimulate Strong Sustainable Consumption policies, raising the need for changes in consumption levels and patterns to achieve sustainable consumption in individuals (Lorek & Fuchs, 2013).

Thus, sustainable consumption is a process that encompasses all sectors of society, presupposing a multidisciplinary approach that favors inquiries into patterns and levels of consumption. Therefore, the reduction of excessive consumption must be a gradual transition, envisioning smaller socio-environmental impacts.

### 4.3 URBAN RESILIENCE IN BRAZIL

Globalization has accelerated the spread of global emergencies such as epidemiological (COVID-19), climate change and terrorist actions (Beck, 2011; Robertson, 1999).

Resilience is discussed as “the ability of the social, economic and environmental system to cope with a dangerous event or trend or disturbance, responding or reorganizing in a way that maintains its essential function, identity and structure, while maintaining the ability to adaptation, learning and transformation” (IPCC, 2014).

In this way, it is expected that cities will be prepared to act in a responsive and resilient way, seeking the best alternative considering: understanding the dangers and possible risks of disasters; strengthening disaster risk governance for adequate management; investment in disaster risk reduction for resilience and improved disaster preparedness to provide an effective response and rapid recovery, reconstruction and rehabilitation (UN, 2015).

Resilient cities must be urban areas capable of facing adversities and being prepared for the next ones, however, they are not areas exempt from disasters, but cities aim to mitigate impacts, mainly seeking fast, balanced and efficient responses, in the face of extreme situations (Serraglio, Ferreira & Robinson, 2019).

In this context, two cases of urban resilience strategies stand out, such as the projects implemented in the cities of Rio de Janeiro and Recife, in Brazil.
4.3.1 Case of Rio de Janeiro: The contingency plan on the slopes

The city of Rio de Janeiro, located in the Southeast region of Brazil, accommodates almost 7 million inhabitants, the largest portion in the urban area and a topography favorable to intense rainfall. The average total annual rainfall in the West Zone of the municipality is 1,200 mm. In the Tijuca Zone, these values increase considerably, reaching 2,200 mm, due to the characteristics of the region and its proximity to the sea (Amorim et al., 2014).

The city is exposed to situations that encourage risks: disorderly growth and construction in risk areas such as hills and slopes, favoring the occurrence of landslides. Climate change has also helped to increase the frequency and intensity of heavy and/or prolonged rains in the municipality (Amorim et al., 2014).

Torrential rains hit the mountainous region of the state of Rio de Janeiro in January 2011, leaving 911 dead and almost 35,000 homeless. This emergency promoted the implementation of the Emergency Plan for heavy rains in Rio de Janeiro (PEM-Rio). This was prepared in 2012, by the Civil Defense of the City of Rio de Janeiro, with the aim of protecting the physical integrity of inhabitants of risk areas by defining protocols for quick and safe eviction of residents (CENAD, 2012; PEM-Rio, 2012).

In 2011, in the city of Rio de Janeiro, a contingency plan was carried out based on data collection by the local City Hall in partnership with the Civil Defense, adopting preventive measures through the Eviction Plan, based on the Correlation Report between rains and landslides for the city of Rio de Janeiro.

PEM-Rio (2012) plans to temporarily move the inhabitants of the risk area to safe locations, known as Support Points, a place for a short stay until the risk passes. After studies and mapping of risks in the municipality, Civil Defense together with the city hall monitored and prioritized actions to prepare residents for the A2C2 system, the Siren Alarm System (Oritz, 2011; GEO-Rio, 2013).

In cases of heavy rain forecast, the contingency plan is activated, through a free channel in which those responsible for the Support Points are contacted via message (SMS). To display the A2C2 system, 66 sirens were installed in communities with buildings in high-risk areas. In 2012, a further 35 sirens were installed, activation is carried out remotely by the operations center or manually using a master key held by Community Leaders or people responsible for each Support Point (PEM-Rio; 2012).

In the period from 2011 to 2014, the municipality invested in slope containment works with a total value of approximately 190 million dollars (Torres, 2014).
PEM-Rio is updated annually to meet new demands. The preparation of community residents and the implementation of A2C2 are fundamental measures for reducing disasters and impacts on communities and the city (PEM-Rio, 2012; PEM-Rio, 2013).

4.3.2 Recife/PE Case: ProMorar Project

ProMorar project stands out, which is relevant in relation to urban resilience actions.

ProMorar social project is developed by Recife City Hall and is an example of a public initiative in response to rain disturbances and which guarantees urban resilience for people residing in risk areas of Recife, mainly in relation to climatic events (ProMorar, 2023).

ProMorar's objective is to drastically reduce the flooding that affects the city of Recife, guarantee decent housing and save lives. The Program works on urban resilience and uses innovation to solve problems. Approximately 2 billion reais were raised through credit operations through the Inter-American Development Bank (ProMorar, 2023).

The intense rains of May 2022 highlighted the need to intensify prevention measures, strengthening the resilience and capacity and adaptation of Recife's urban structures in the face of extreme climate change (ProMorar, 2024).

ProMorar project is made up of 3 components: integrated urbanization, resilient infrastructure and innovation in urban and housing policy and tackling climate risks (ProMorar, 2024).

The integrated urbanization zone is represented by water supply, sanitation, paving, drainage, sidewalk requalification, leisure spaces, new equipment and social services, housing services for 40 communities of social interest in Recife. The following were highlighted as priorities for communities: greater precariousness of infrastructure; compatibility of planning for expansion of sanitary sewage systems; greater concentration of precarious homes; areas at greater risk of flooding; highest rate of intentional lethal violent crimes (ProMorar, 2024).

Innovation in urban and housing policy influences climate risks through the implementation of a Climate Risk Monitoring Management System; urban housing and socio-environmental data management system; development of an automated urban control system; training of women community agents in climate risk prevention and management (ProMorar, 2024).

It is noteworthy that the implementation of ProMorar in precarious settlements in Recife is shared with state management, through COHAB-PE and municipal management. The precarious settlements where Recife City Hall implements urbanization works function as a
municipal management office at the construction site, with access to community leaders and technicians from construction companies (UFPB, 2021).

5 CONCLUSION

This article presented resilience, regeneration and sustainability in Brazil in the 21st century. However, the discussions presented can be scaled and feasible at a global level.

Resilient cities are spaces capable of absorbing, adapting and reinventing themselves to urban changes. Worldwide, changes have been constant and have consequences for humanity. In this scenario, not only Brazil, but the world finds itself in a constant exercise of urban resilience.

Reflecting on sustainable development on the globe is complex, as it means balancing the satisfaction of the needs of the present without compromising the needs of future generations. It is relatively simple, overcoming adversities so that future generations have continuity and a preserved quality of life.

Observing the prism of advancing population growth and poverty in the world, it is highlighted that the prospect of doubling the number of people in poverty in large centers is worrying, as consequently there will be a decrease in the population's quality of life, which will probably will be affected by social limitations.

Urban regeneration is another perspective to achieve SD through urban incubator perspectives with long-term projections aimed at the community. Perpendicularly to evolution, in the current global scenario, it is not possible to slow down economic advances, but as the 2030 Agenda prioritizes, we must build bridges for conscious consumption and production, with a view to minimizing the adverse effects of urbanization.

The possible adverse effects on the urbanization process, such as gentrification and slums, are examples that lead us to consider as a possible consequence of the rural exodus and the development of cities that increasingly consume natural resources.

Considering gentrification, the most worrying point is the evolution of the rural exodus in the world, as Brazil follows a global trend. Thus, the biggest concern is the possible consequences of the swelling of cities, if positive measures are not employed to minimize urban heating, deforestation, urban mobility, cultural impacts in large centers and the compromise of food and nutritional security.

Thinking about food and nutritional security related to DS is fundamental, since the world's population already exceeds 8 billion inhabitants, the vast majority of whom live in large
cities. Reflecting on the scarcity of foods with nutritional value is fundamental, as population growth in urban areas, a marked accelerated rural exodus in the world, provide an opportunity for future studies to discuss mechanisms to overcome world hunger and stimulate sustainable agriculture, considered as requirements for the country is classified as developed, as set out in SDG nº 2 of the 2030 Agenda.

Finally, two success stories regarding urban resilience are used to illustrate that it is possible to overcome adverse challenges and strengthen, mitigating impacts and seeking innovative solutions to make environments increasingly sustainable and balanced.

It is concluded that this research is a reflection on the possible transformations that urban areas can undergo, aiming to strengthen them to face the transformations of cities and, consequently, social changes and the adverse effects arising from unplanned anthropogenic interventions and their consequences in the imbalance of the ecosystem, with a view to actions to alleviate this abrupt process in ecosystems.

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