DISASTERS AND SOCIAL VULNERABILITY IN THE CITY OF SÃO PAULO

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Purpose

According to the report of the Intergovernmental Panel on Climate Change (IPCC, 2018, 2021), we have probably increased the average temperature of the planet by approximately 1°C, and can reach the mark of 1.5°C to 2°C in the coming decades. The incidence of an average of higher temperatures brings us greater risks, favoring the occurrence of extreme weather events such as heat waves, heavy rains and droughts, in certain regions (IPCC, 2018).

Factors such as anthropic actions and the current model of life corroborate the occurrence and intensification of extreme weather events. The impacts of these episodes can be diverse, they affect the economy, urban mobility, they can facilitate the transmission of diseases, cause deaths and financial losses at multiple levels (Nobre, 2011).

Population densification and disorderly urban occupation, such as in precarious and informal settlements without adequate infrastructure, also intensify the disaster's risks. In the city of São Paulo, the pattern of development associated with population and urban growth and the increase in temperature, potentiate extreme events and disasters, contributing to the generation of a risk scenario.

Disaster risks highlighting a series of vulnerabilities present in our unequal and non-inclusive society. And it is in this combination of risk and vulnerability that disasters occur. If we maintain the current way of using and occupying the land, we will contribute to the increase of populations exposed to these risks in an increasingly intense way (Nobre, 2011). Thus, it is essential to discuss, elaborate and implement measures by the government, private institutions and organized civil society to minimize the risks and effects on the population and the environment.

This paper is part of the research being developed in the Graduate Program in Smart and Sustainable Cities at Nove de Julho University- Uninove. The main effort is for understanding how the combination of risk and disaster relates to the variable of social vulnerability within urban spaces, so that it is possible to contribute with discussions that deal with planning measures and risk reduction management. To address this gap, the qualitative research methodology will be used, through the interview tool, to analyze the perception and

approach of social vulnerability and disasters within the Civil Defense organization of the city of São Paulo.

Design/methodology/approach

This work aims to contribute to its research field in an empirical way, bringing as its main object the social vulnerability and disasters, through the study of actions of the Civil Defense of São Paulo and its performance facing the issue of disasters in the city. Thus, the qualitative methodology will be adopted to access and evaluate this knowledge in a scientific manner, because this strategy allows to assess a phenomenon broadly from a theoretical lens (Creswell, 2010).

From a systematic review, it will be possible to identify how knowledge of disasters relates to the theme of urban planning and cities, because according Nobre (2011), the growing urbanization acting in synergy with the increase in temperature, presents a potential for the occurrence and intensification of extreme events. Thus, we can understand the city as the space where social vulnerability and risk meet, generating a potential disaster.

The systematic review was chosen to understand how urban planning responds to the issue of disasters and their consequences generated within cities because, due to its rigor, it can decrease biases and bring benefits. By adopting a protocol, it is possible to provide more objectivity, description and information on the procedures and criteria considered while conducting it, becoming a transparent method, based on quality scientific evidence and replicability (Petticrew & Roberts, 2006; Tranfield et al., 2003).

To answer the main gap that guides this work, the qualitative methodology will be adopted due to research characteristics such as data collection, multiple data sources, interpretive, holistic and emergent, where the central idea is to learn about the problem addressed (Creswell, 2010). It also fits into the definition of descriptive research by Gil (2002), whose objective is to understand a given phenomenon and relate its interactions with variables.

The main data collection tool will be the interview, to be conducted with Civil Defense agents, with open questions in a structured, formalized way (Gil, 2002). Implying in this phase the development of a protocol to structure the questions, collection and recording of data in a clear and detailed manner to produce a quality analysis (Creswell, 2010; Gil, 2002).

Thus, through these research and analysis tools, this study seeks to assess how social vulnerability, understood as a factor that intensifies the risk and the effects of disasters, is understood from the perspective of the acting of Civil Defense, as an important corporation in this scenario in the city of Sao Paulo.

Originality/value

Understanding that combining the effects of the climate crisis and its various impacts, including the risk and occurrence of disasters, with anthropic action and vulnerable populations results in great risk, we can determine the importance of understanding the interaction of variables. Vulnerability is a recurring factor even in regions with greater economic capacity in Brazil, such as the city of São Paulo, where these populations can suffer from the impacts of climate change in an intensified way (Nobre, 2011).

Some authors have worked with indices to assess social vulnerability and disasters in a quantitative way, through comparisons between different groups or even at different levels within a given region (Cutter et al., 2003; de Loyola Hummell et al., 2016). This assessment technology is very interesting, but it can present some difficulties when put into practice.

For Kuhlicke et al. (2011) groups considered socially more vulnerable, such as women and the elderly, may present distinctions, i. e. not all elderly people are equally vulnerable during the cycle of a disaster. Furthermore, approaches based exclusively on statistical indicators, such as the census, and quantitative techniques to assess social vulnerability may present a certain challenge in representing their real situation (Kuhlicke et al., 2011).

Assessing the existing literature that discusses social vulnerability and its relationship with disasters, we can say that the presence of studies involving empirical evidence is still embryonic, especially in Brazil. Enabling a scientific contribution based on the experiences, knowledge, and practice of Civil Defense in the disaster cycle will enable us to understand how social vulnerability is addressed in practice by agents who are at the base, dealing directly with vulnerable people.

A relevant point of this study is the possibility of notice and disseminating Civil Defense actions, both in the phases of prevention and responses to disasters, so that this is a path to assist in the propagation of evidence-based scientific information. The results of this research can contribute to the understanding of social vulnerability in this field of knowledge and will be available to policy and decision makers.

Theoretical implications

Climatic changes can be observed in several regions of the world, global warming is already causing effects and highly reliable forecasts show us that we will move towards even

higher global temperature averages, with this the increasing occurrence of extreme events will become even greater in the coming decades, including for events until then considered rarer (IPCC, 2021).

Also, according to the IPCC (2021) report we may face intensification and increased frequency of heavy precipitation, extremes of dry and wet climate, implying floods and droughts, as well as other more intense events such as cyclones and tropical winds and the effects of El Niño. Another important factor related to the impacts of winds, precipitation and runoff in cities is urbanization, which also acts to intensify these phenomena (IPCC, 2021; Nobre, 2011).

When we talk about climate change and events such as extreme rainfall, we are referring to possible disaster triggers, but these are not the only ones. According to the United Nations Office for Risk Reduction (UNDRR, 2021), disasters result from the interaction of hazards with exposure, vulnerability, and capacity, and can cause impacts and human, material and environmental losses. Vulnerability is variable in time and space and involves social issues such as lack of access to information, knowledge, technology and resources, political representation and social participation, social capital, infrastructure, quality of settlements (Cutter et al., 2003)

Therefore, one cannot talk about disasters without considering the social element, since it is from the interaction of the risk with a vulnerability that problems arise. For Damacena (2017), disaster is socially constructed and is the result of vulnerability, so present in our unequal society. Thus, the combination effects of hazards and vulnerability are distinct when applied to different populations and places.

In Brazil, one of the entities responsible for addressing this issue is the Civil Defense. Among its attributions are the objectives and guidelines given by the regulatory framework of the National Policy for Civil Defense and Protection, established by Federal Law No. 12.608/2012, which highlights the scope of the actions of prevention, mitigation, preparedness, response and recovery actions focused on civil protection and defense, as well as integration with policies on territorial planning, urban development, environment, climate change and other sectoral policies, with a view to promoting sustainable development. (Law n. 12608, 2012).

Keywords: Disaster. Vulnerability. Social Vulnerability. Civil Defense.
Paper type - Academic Research Paper

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