

Housing, health and environmental conflicts in Brazil: Vila Santa Luzia in perspective

Habitação, saúde e meio ambiente em conflito no Distrito Federal: a Vila Santa Luzia em perspectiva

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Abstract

The article discusses the correlations between housing, environment and health in the Vila Santa Luzia community, Federal District, Brazil. It purports to investigate the perceptions, interpretations and representations of residents and community leaders about such correlations based on health promotion and healthy housing theoretical framework. Data were collected by means of interviews. Results point to a willingness between the parties to reach a satisfactory, reasonable and republican resolution for the conflict in question. In conclusion, the socio-environmental and health experience of Vila Santa Luzia is relevant and significant, both in empirical and analytical (public policies) terms.

Keywords: Health Promotion; Community Health; Urban Health; Housing; Built Environment; Health Vulnerability.

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Resumo

Neste artigo discute-se as correlações entre habitação, meio ambiente e saúde na comunidade da Vila Santa Luzia, no Distrito Federal. O objetivo geral do trabalho é conhecer as percepções, interpretações e representações da amostra de um grupo de moradores e líderes comunitários acerca das referidas vinculações. Em termos teóricos, o projeto fundamentou-se no enfoque da promoção da saúde e habitação saudável. Metodologicamente, os dados foram coletados com a técnica da entrevista. O principal resultado alcançado sugere que existe disposição entre as partes para alcançar uma resolução satisfatória, razoável e republicana ao conflito em questão. A conclusão do texto assinala que a experiência socioambiental e sanitária da Vila Santa Luzia é relevante e significativa, quer em termos empíricos, quer em termos analíticos (políticas públicas).

Palavras-chave: Promoção da Saúde; Saúde Comunitária; Saúde da População Urbana; Habitação; Meio Ambiente Construído; Vulnerabilidade em Saúde.

Introduction

Based on interviews with local actors, this article examines the tensions between collective health, environment, and housing observed in the case of Vila Santa Luzia, a community located in the Federal District. Vila Santa Luzia is a settlement that presents high social, health, and environmental vulnerability. Although the concept of vulnerability has different definitions, it is understood that it implies a condition generated by structural situations, derived from social inequalities, which limit capabilities, operating at an individual, programmatic, and social level (Mann, 1993). It refers to a political dimension and relates to the contexts and social actors involved in the analysis. Furthermore, this territory is characterized by a complex correlation with the Brasília National Park, which results in a growing and worrying socio-environmental and health conflict between the parties, as will be discussed later (Rezende et al., 2020).

The objective of the study was to identify residents' perceptions of health, environment, and housing. The guiding question sought to understand how and why Vila Santa Luzia experience become a case of interest for interdisciplinary studies and research in collective health. In theoretical-methodological and empirical terms, the study focuses on health promotion and healthy housing.

The central argument of the article corroborates the tense relationship between collective health, environment, and housing in that location, and proposes to contribute to a gradual understanding and action on the persistent socio-environmental and health conflict through the formulation of sectoral policies and awareness of the actors involved. It is understood that the lessons and knowledge acquired could serve as foundations in the formulation and implementation of more effective public policies for the aforementioned case, and can be reproduced in other similar or comparable socio-environmental and health conflict situations (Werneck; Carvalho, 2020).

Delimitation of the research problem

Vila Santa Luzia - also known as Chácara Santa Luzia or simply Santa Luzia - is an informal human settlement that exists since 2002. Since then, it has been characterized by its high social, environmental, and health vulnerability, as well as by spatial segregation, disorderly land occupation and the practice of illegal subdivisions. Currently, approximately 16 thousand people live in this occupation, living in precarious housing and without access to basic sanitation, having as aggravating factor the fact that it is located close to the old landfill in Brasília. Furthermore, the existence of problems with urban land regularization is confirmed, aggravated by a tense coexistence with the Brasília National Park, which is one of the most important natural reserves in the Federal District.

In theoretical terms, the analysis is based on the health promotion paradigm, the concept of healthy cities and housing, and the theory of social representations (Cohen et al., 2019; Moscovici, 2021; Opas, 2006). It is also grounded in public policy criteria and related fundamental practices, such as public health, the built environment, the conservation of natural resources, residential sanitation, popular housing of social interest, habitat, health vulnerability, public policy theory, community health, and sustainable development indicators (Lima; Lima, 2020).

Regarding spatial and temporal delimitation, it is important to note that Vila Santa Luzia emerged as an expansion zone of Cidade Estrutural. It turns out that a large part of Cidade Estrutural was recently regularized. However, Vila Santa Luzia, as it is located on the edge of this neighborhood and interacts with the Brasília National Park, continues to be in a situation of urban land irregularity, with the aggravating factor of being under legal investigation due to a possible risk to the said park. This is the origin and evolution of a complex, multidimensional, and highly relevant socio-environmental and health conflict.

In summary, the socio-environmental and health conflict, which is the focus of this study, is marked, on the one hand, by its residents' struggle for the recognition and fulfillment of basic human rights.

On the other hand, it is not possible to disdain or ignore the specifically environmental dilemma of the controversy - conservation of natural resources. Both principles previously mentioned, besides visions, positions, and values are enshrined in Brazil's Constitution, in the Organic Law of the Federal District, and many other legal norms. It is precisely at the interface of this socio-environmental and health conflict that the research problem is delimited.

Methodology

The interview is a technique that forms part of the set of qualitative research methods in the social sciences in health, in particular, and in the human sciences, in general. Shortly, the qualitative interview seeks to approach the perceptions and interpretations of a research problem based on verbal reports provided by key interlocutors. In the words of Taylor and Bogdan (1996, p. 101), the interview can be understood as "face-to-face meetings between the researcher and the informants, meetings aimed at understanding the perspectives that the informants have regarding their lives, experiences or situations, as they express them in their own words."

In general, interviews are flexible, dynamic, and open. This research opted for the semi-structured interview, where one used an interview script composed of 15 open-ended questions, divided into three blocks, containing five questions each. The first question block deals with housing and health. Five questions were asked that sought to identify how the interviewees perceived their housing conditions, the built environment, and their health. The second question block addressed issues about governance, urban planning, infrastructure, and the government authorities' role from the perspective of local actors. The third question block sought to map the interviewees' impressions as to the socio-environmental and health conflict arising from their tense correlation with the equally necessary preservation of the Brasília National Park.

It is known that there are three basic types of interviews: life history, small-N research, and intermediate- and large-N research. On this occasion, the second alternative was used. In fact, through convenience sampling, 10 interviewees

were selected - hereinafter identified as E1 to E10. The study participation inclusion criteria were: living in Vila Santa Luzia for more than five years and agreeing to sign the Informed Consent Form (ICF). The exclusion criteria were: not living in Vila Santa Luzia, living in this community for less than five years, or disagreeing about signing the ICF.

All interviewees - eight women and two men - declared themselves to be mixed race. In educational terms, five of the participants stated that they had incomplete primary education; three of them had complete primary education; one stated having incomplete higher education, and one stated being illiterate. The average number of children per family was 2.5 people. Regarding the period of residence in Vila Santa Luzia, the interviewees stated living there from six to 20 years. The houses are generally built in an improvised manner, and called shacks. The average interviewees' monthly income was around R\$938.00. The community does not have basic sanitation. Therefore, access to water and electricity is illegal. Briefly, it is an informal community, with high socio-environmental and health vulnerability, and some land irregularity (CODEPLAN, 2021).

Data collection was carried out between April 1st and 10th, 2022. The meetings included the application of a questionnaire to identify the socioeconomic profile and an interview that followed a script containing 15 questions. This instrument sought to map and capture Vila Santa Luzia residents' perceptions. The information was collected at the interviewees' residences. Whenever possible, the interview was carried out in an isolated location, so that the interviewees felt comfortable expressing their points of view on the topic covered. Participants were previously informed about the research purpose and the anonymity of the information obtained. At the same time, permission to record their responses was requested. At the end, the interviews were transcribed in full and the interviewees were identified as "Interviewee" using numbers from 1 to 10. Then, interviews were decoded and transcribed. Subsequently, an interpretative data analysis was carried out, supported by content analysis technique according to Bardin (2016).

The research was approved by the Research Ethics Committee of the University of Brasília under no. CAAE 39177620.5.0000.8093, as it meets all ethical requirements common to research involving human beings. Furthermore, all standards established for experimentation on humans were respected, in accordance with CNS/MS Resolution no. 466/2012.

Results and discussion

The interviews carried out resulted in five hours of dialogue and information collection. After the corresponding decoding and transcription, they become data susceptible to interpretative analysis. For the purposes of this research, and maintaining the sequence of the three-question-and-answer blocks referred to in the theoretical-methodological section, it was possible to advance in the appreciation and resolution of the research problem, including the subsequent descriptive and causal-explanatory inferences.

Regarding the first question-and-answer block, it intended to highlight, from the interviewees' perspectives, the representation of housing conditions, built environment, and health. Therefore, a general analysis of Vila Santa Luzia interviewees' health social determinants allowed the identification of patterns of self-perception, positioning, and social representation.

Among the aspects that please people who live in Vila Santa Luzia, friendship and good relationships with neighbors stand out. Besides, we can see the formation of a network of solidarity and support among residents. Furthermore, it is evident that they share the dissatisfaction and displeasure of living in a place with poor basic sanitation, with a lack of water, sewage, paving, and electricity.

Another factor that marks Vila Santa Luzia residents' lives is living next to the old landfill. Despite having already been partially deactivated and today containing layers of protective earth over the area, alleviating the bad smell and the proliferation of disease-carrying animals, the environmental damage present at the site associated with the lack of basic sanitation intensifies the risk of illness. Not to mention that the production of leachate and the gas constantly

emanating from the old landfill is another major problem that needs to be resolved. On this subject, Giacomazzo and Almeida (2020) highlight the need to monitor the migration of these gases on a daily basis to assess more accurately the degree of danger that these biogas emissions can represent for the population living close to the location. Leachate and biogas production in Santa Luzia is undoubtedly a major concern for interviewees. This assessment can be confirmed in the following statement:

There was the old garbage dump, which is no more. There is no longer that rot, that rubbish. The risk of people getting sick has decreased. But one danger is that there is a lot of gas left. They set it on fire. It burns day and night so that it doesn't explode. I went there. I saw what it's like. Each location had a hole, and a torch of fire burning day and night. It's just forming more gas, more leachate. It is a terrible thing that goes into the ground and ruins the soil. Then people want to start a vegetable garden, plant some things but they can't because of the leachate. (E1)

From the statement above, it is clear that, in the interviewee's view, the old landfill, even inoperative, represents a constant public health risk. In addition, the stigma of living close to what remains of the old landfill appears in the interviewees' statements. Socio-spatial segregation was mentioned as a barrier that makes it impossible to enter the job market. Borges and Carvalho (2017) call this phenomenon the "territory effect," that is, the place where people live interferes with their insertion into the job market, mainly influencing people who live in the peripheral and marginal areas of urban centers, such as the case of Vila Santa Luzia.

Sometimes we can't find a job outside because people don't want to hire someone from Santa Luzia. I've seen several people losing their jobs and even lying about where they live, asking for the address of a colleague who lives in Estrutural. (E6)

I myself have already lost a job for saying that I live in Estrutural. It wasn't even in Santa Luzia.

If I said I lived in Estrutural, it was already a big discrimination [sic]. (E9)

Interviewee 9 even mentions how the treatment was in stores when they stated living in Vila Santa Luzia:

When I entered a store people asked: "Do you want to take out a loan, credit card, buy with a bank payment slip?" I said "no, I don't have a salary." They said "let's do it, at least the payment booklet." When it came time to ask for the address and we said that we lived in Santa Luzia community in Estrutural, suddenly the salesperson walked throughout the whole store, roaming around, trying to make an excuse: "unfortunately the system is not approving it." (E9)

Despite all the difficulties reported by the interviewees in relation to the conditions in which they live, when asked about what their house represented for them, the statements had in common a vision of protection, security, refuge, and home. Evidently, the subject is important from the perspective of health promotion, healthy cities, community health, and health social determinants. It is worth noting that the Brazilian Institute of Geography and Statistics (IBGE) formally calls this type of urban-peripheral community a "subnormal agglomeration" (IBGE, 2010), as it is an irregular occupation in a public area and without access to basic public services. In this context, consider the following excerpts from the interviews:

For me, all I have is this little shack, and I pray to God that the government doesn't take it away. It's still like that, but for me it represents everything! Because I'm not in the sun, I'm not under a tarpaulin, nor under a bridge. (E7)

It's my refuge. The only place I have to live. My safety net. (E3)

It's my comfort, here I feel safe. There is a lot of insecurity here. So my home is my everything. (E9)

Thus, it is clear that in these people's imagination there is the possibility of having a place that can be

called their own. In other words, this place is where they feel safe and protected, even in the midst of precarious living conditions and the risks that this may imply for their health. Many seek that place to live because they have no other option. Study by Castelaneli et al. (2019) on an occupied area in Campinas, state of São Paulo, pointed out that among the main reasons for people looking for the place to live were: (1) it was an option to not stay on the street; (2) ensure housing for children; (3) unemployment; (4) difficulty paying rent, and (5) possibility of purchasing a property. At the same time, it is important to mention that the issue of lack of security at the site was mentioned by most interviewees. Nevertheless, in one interviewee's perception, public safety and social order in Vila Santa Luzia have gradually improved in recent months:

Gone are the days when Estrutural was really dangerous. That's how it started during the time of Cristovam [Buarque, former governor of the Federal District, between 1995 and 1999]. So yes, it was dangerous. But it's not anymore. These days are a blessing. The police plays rough on the scoundrels. There's no space for scamps. (E1)

Still on the representation of housing, built environment and health, interviewees were asked what social isolation and coexistence were like during the period of the Covid-19 pandemic that devastated the country, between 2020 and 2022. The intention of question five was, precisely, to learn about Vila Santa Luzia residents' desires and feelings regarding the pandemic and its impact on their lives. In this regard, it was possible to take the following statements:

There was no way to be in social isolation because we survive on the basics. The good thing was that there was a lot of help. The bad side was that people did not respect social isolation. Here at home, I think that if one person got it, I think everyone would get it because of the infrastructure. There are only four rooms. (E3)

The pandemic period was very difficult. A lot of insecurity regarding health. Many people living in the shacks, elderly people, children. (E4)

Everyone had to go to work, make a huge effort. Everyone had to struggle to get their daily bread. Fend for themselves, as people say. (E1)

Within this context, Bógus and Magalhães (2021) state that the spread of the virus occurred in metropolitan areas basically due to two factors: housing conditions and work. For the authors, home office for low-income people was something impossible to happen for economic reasons, even in the presence of emergency aid approved by the National Congress.

From this first questions-and-answers block we can infer the great relevance that housing, built environment, and health have for the interviewees. Therefore, the social representations most present in the interviewees' symbolism have to do with the stigma of living in a territorial community characterized by the lack of basic sanitation – water, sewage on the streets, lack of electricity –, as well as urban by land irregularities and socio-spatial segregation. Good coexistence with neighbors was one of the positive aspects mentioned by interviewees. Despite the risk of illness for being next to an old landfill and the lack of basic sanitation, it was clear from the interviewees' statements that the concern about having a place to live is much more important than the risk of illness.

The second questions-and-answers block in this research addressed the representation of governance, infrastructure, and urbanism. Thus, when asked about the expectation of improvement in Vila Santa Luzia infrastructure, the participants' statements showed once more the concern about being discriminated and government neglect. The expectation of land regularization in the area is associated with the idea of removing the slum stigma imposed on the community.

What I wanted was it to be regularized. I think the entire people of Brasília see Santa Luzia as a slum. They should build a little town, a housing complex, something to make it better. (E3)

I hope that one day the government will look after us. There is no infrastructure here. There's nothing here. No water, no electricity, no sewage system. Everything is illegal. (E6)

There were reports about client politics, paternalism and populism of certain candidates, especially in election years, and in relation to the regularization process of Vila Santa Luzia. According to the information obtained, during electoral periods there are many visits from candidates interested in votes, as well as promises of land regularization in the area. Therefore, it is related to the idea of Gonçalves (2011) that the breaking point of client politics is the achievement of full citizenship, otherwise this type of behavior can be perpetuated in this type of territory. However, it was noted that in the interviewees' symbolism there is great distrust and skepticism towards politicians due to several unfulfilled promises. In this sense, consider the following statement: *"A million promises, they come making promises that it will be regularized, that it will improve and it never comes. So, the political issue [sic] has no eyes for Santa Luzia"* (E9).

When asked about the government's project to build multi-family buildings and a housing complex on the site, opinions differed. On the one hand, some interviewees think that it would be a good alternative to resolve the situation in Vila Santa Luzia. *"It's really good because there will be basic sanitation, improvements. It would be a blessing from God to put an end to that mess. Everything new. Everything with documents. It would be wonderful,"* interviewee E1 highlighted. On the other hand, some residents do not consider it a suitable alternative for the community. Such as the statement below:

I don't approve it, because if we can have a building here, we can have a house. And so, there are families here with ten people, children with disabilities, older parents. How is a person going to climb the stairs with a wheelchair? Because in the project that they implemented, that they presented, there are no elevators. How can a person who already has a back pain go up the stairs with a child in a wheelchair? It doesn't help the people who live here. (E9)

From the interviewees' perspective, there was a great deal of insecurity regarding the construction of multi-family buildings, with the support from government institutions. Among these concerns, the possibility of losing the place where they live

stands out, as well as giving up the expectation of becoming owners of those currently irregular lots (Santos et al., 2017). That is, a place that, despite the lack of basic infrastructure, is considered as their space and source of individual, family, and social (collective) identity. This is because to build multi-family buildings in the same location, their homes would have to be demolished. Evidently, this hypothesis generates a lot of suspicion and uncertainty:

In my opinion, it would be better if the house of person who is already here was regularized, instead of tearing down everything and making people's lives even more complicated. Since everyone already has their own place, they should regularize it. (E3)

I saw the prototype and I didn't like it very much. There are large families where 15 people live in a single house. It wouldn't be possible to put everybody in an apartment. How would I live in an apartment? I have children, dogs and cats. (E6)

From this second questions-and-answers block, we can deduce the existence of social representations that contribute to discrimination, insecurity, fear, and political opportunism. All of these representations are built around the idea of eventual removal and eviction of local residents, as well as the proposal presented by the government to build multi-family buildings. It was noticed that fear of losing the only place they have to live was present in the interviewees' symbolism, given that in order to construct the buildings it is necessary to demolish all the existing houses on the site. Associated with this, it was also noticed that there was a lot of uncertainty as to whether they would actually receive an apartment to live in.

Regarding public authorities, the statements pointed to the perception of total neglect and abandonment. Associated with this perception, the threat and the specter of the ruling of the public civil suit appeared, which claims the removal of all houses located within 300 meters of the Brasília National Park. Hopelessness in a peaceful solution to the socio-environmental and health problem of Vila Santa Luzia appeared in several of the interviewees' statements. This discouragement was also noticed

when interviewees mentioned that they are victims of candidates for elected office, who only seek out the community to get votes and get elected, promising solutions that are never fulfilled, particularly with regard to urban land regularization.

The third questions-and-answers block addressed the representation of the socio-environmental and health tension of Vila Santa Luzia residents in relation to the limits of the Brasília National Park - the main environmental conservation reserve in the Federal District. As already mentioned, one observes the existence a socio-environmental and health tension to be resolved. On one side, there is the Brasília National Park, responsible for a significant part of the water supply - including the vital Santa Maria reservoir - and other environmental public goods of enormous district relevance. On the other side, there is Vila Santa Luzia, a human occupation that, located in the extreme south of the park, interacts and puts pressure on the limits of this protected area through the high and growing risk of fires, depredation of fauna and flora, disposal of garbage, and contamination of water sources.

Additionally, from a legal point of view, there has been, since 2015, a public civil suit that demands the removal of all houses built less than 300 meters from the park fence. Such a legal ruling implies, for example, the urgent performance of concrete actions to relocate the families who live there, including in multi-family buildings, as mentioned earlier.

Furthermore, it is important to highlight that the threat to Brasília National Park does not only come from Vila Santa Luzia. In fact, the very presence of the old landfill has long been a socio-environmental and health challenge of great relevance in the Federal District. However, a study by Miranda and Andrade (2019) points out that there are other commercial, residential, and industrial developments close to the location, such as the so-called Cidade do Automóvel. Comparatively, these other ventures may even represent more serious threats to the conservation of the National Park natural resources than the housing installed, whether at Vila Santa Luzia or at Cidade Estrutural.

In this order of ideals, an interviewees' discontent and dissatisfaction with the government's role

over the years can be seen in the statement below, especially with regard to controlling the expansion of Vila Santa Luzia towards the park area:

The strong growth of Santa Luzia is also a political issue, because if the government doesn't look at Santa Luzia, it doesn't see that it's growing... What does the government claim? That there is the National Park. But it doesn't care about the person who needs to live there. It doesn't work on prevention. Then there's no point in it wanting to remove [houses] to 300 meters away, because there are already people who have been installed there for three years. It has to do something preventive, so that those people don't end up needing to live there. So it doesn't have to remove [houses] later (E10).

This same interviewee, who is among the people who live less than 300 meters from the park fence, and who, therefore, is at risk of losing their home, brings in their speech representations of anger and disillusionment, in relation to the removal court order. In this regard, the interviewee stated that

In fact, I even stopped following the news regarding this court order. I stopped, because I was getting sick, this leaves us very stressed. We go to sleep without being sure about where we will stay when wake up. If they at least had the common sense to remove people and put them in a better place, that would be fine. But they put us defenceless against rats, cockroaches, dust, no water, no everything. They put the individual aside and the residents are the ones who suffer the consequences. (E10)

Therefore, it is clear from the interviewees' statements that a supposed lack of action by government bodies in relation to the land regularization process could end up worsening the problem, as it would lead to other people also starting to occupy the area. In this sense, an interviewee brings the following argumentation:

In the [Brasília National] Park, there must be surveillance to avoid these problems. Because the people who live there, when they see someone in

need, take them to their home. Then there comes a certain point where they no longer wants that person [in their house] and they manage to find a little piece of land there to give to that person, who builds a shack. In a few days this person will be the owner. As a result, the population in these areas increases. (E1)

It should be noted that, for the participants, the National Park represents a great challenge, that is, the biggest obstacle to the desired land and Vila Santa Luzia regularization. However, the place is home to a rich diversity of the Central Brazilian Plateau Cerrado biome, protecting hundreds of springs and micro-basins, which form the Santa Maria dam, responsible for providing approximately 25% of the Federal District's water supply. In other words, the National Park is of crucial importance for the water system and human development in this federation unit. Therefore, any irresponsibility or negligence on the part of public authorities in managing the research problem should not be accepted.

An interviewee stated the following: *"We don't have much contact with the park. We know it's there. You know some people live close to it. And that Santa Luzia was not regularized because of its proximity to the park"* (E6). Other problems are also mentioned. These interviewees revealed other perceptions of the insecurity that the park supposedly represents for them:

I've seen tapirs, maned wolves, capybaras, snakes, all kinds of animals. We didn't see the jaguar yet. But we saw the footprint of the jaguar practically inside here, because there is a fence there. But it's like there's no fence. People cross that lane to go here. It's an advantage to have the park nearby because of the nature. But it is a disadvantage. It's just that it's very dangerous! (E3)

The park is so close and yet so far. The community is afraid to go to the park because they don't know the place. There are [evil] people who go there to misuse the park. To burn, throw garbage, knowing that it could spread fire. We don't go there because of insecurity. (E10)

In broader terms, despite living next to the Federal District's main environmental conservation park, some residents reported that they do not use the place for their own or community benefit. This finding may help explain the tense relationship with it, and the persistent socio-environmental and health conflict between the parties. On this topic, Dias (2021) discusses environmental perception from the perspective of "perceptual ischemia," that is, an expression that signals that nature is still seen as an endless provider of resources, as well as hostile, frightening, enemy, and vengeful. Ultimately, according Dias, nature is represented as an obstacle and impediment. Therefore, the author wonders what the main catalyst would be to awaken people from this illusion and failure of perception. The concern of Dias (2021) about the aforementioned "perceptual ischemia" could be supported in the following interview excerpt:

Even though we live next to the National Park, we can't enjoy the environment. We have a park within Estrutural, which is the Estrutural park. But we don't go there because of insecurity. There are drug users. People go and leave horses. The streets here are unpaved. There is no sewage treatment. There are trash bags on the street. Dog abandonment here in Santa Luzia is very high, especially after the pandemic. There are times when you see a dog fighting in the middle of the street. Insecurity is also very high. And the surroundings here are quite ugly. (E9)

The statements presented confirm that the main environmental conservation park in the Federal District appears as a challenge for the community. It turns out that, in part, the socio-environmental and health conflict in question is also due to the practice of illegal subdivisions, land grabbing, and disorderly land occupation. These irregularities cannot be ignored by actors linked and interested in the research problem. In other words, Vila Santa Luzia residents must assume their responsibilities within the general framework of this issue of possible segregation, whether from a socio-spatial and health perspective, or from an environmental perspective (Gomes-Ribeiro; Queiroz-Ribeiro, 2021).

In short, it can be seen, from this third questions-and-answers block, that urban land regularization

demands responsibility. The uncontrolled Vila Santa Luzia expansion - even if in undesired or unplanned circumstances -, for reasons of social vulnerability, constitutes a threat to the Brasília National Park, in particular, and to the sustainable development of the Federal District, in general. With that being said, it is understood that, in the search for solutions to the aforementioned socio-environmental and health conflict, a criterion of social and environmental co-responsibility have to be considered, as suggested by the authorities and Brasília National Park managers, as well as researchers, organized civil society (environmental movement) representatives, and public authorities. Last but not least it is the fact that the National Park is under the responsibility of the federal government, and managed by the Chico Mendes Institute for Biodiversity Conservation (ICMBio). Consequently, the fate of this environmental conservation park is of national interest.

Final considerations

Based on evidence, it is clear that a complex, transcendent, and urgent socio-environmental and health conflict persists in Vila Santa Luzia. In fact, there is an overlap of environmental, health, and social factors at the site that imply serious risks of illness, with emphasis on the presence of the old landfill. It turns out that this landfill continues to produce toxic gases and leachate. Furthermore, Vila Santa Luzia residents question the lack of basic sanitation - especially treated water and sewage system -; lack of paving and its problems - such as dust during the dry season, mud and humidity during the rainy season -; excess of garbage on streets; presence of abandoned domestic animals; persistent irregular subdivision and use of land; housing precariousness, and socio-spatial segregation, among other related issues (Cohen et al., 2019).

It is clear from the narratives that having a place to live is so important that they subject themselves to existing conditions, putting their health and even their own lives at risk. The Brasília National Park, which should be seen as a space that promotes health for these people, appears in

the interviewees' statements as a challenge, as it makes land regularization in the area unfeasible. In this case, it is necessary to promote technical and educational actions that assist in peaceful and harmonious coexistence in the location. One believes that investing in environmental primary care programs could result in optimization tools, which would result in a gradual process of quality-of-life improvement. To this end, it is urgent to consolidate proposals aimed at the eventual urban land regularization of Vila Santa Luzia, and a rigorous policy to preserve the limits of the Brasília National Park - as it is the main environmental conservation park in the Federal District.

It is recognized that community involvement in the search for improvements is essential. It has been demonstrated that poor housing conditions and lack of sanitation influence the local ecosystem negatively. This situation highlights the need to improve the effectiveness and efficiency of public policies, especially those aimed at health, housing, environment, and local infrastructure. The expectation is that the knowledge obtained can support decisions that will reinforce calls for the creation of healthy cities with decent housing conditions that promote health. These are opportunities and challenges for an even more comprehensive research agenda on this topic, particularly with regard to local actors' intervention in the formulation and implementation of sectoral public policies.

In this line of thought, some of the authors of this study believe that the government project to construct multi-family buildings of social interest would contribute positively to resolving the socio-environmental and health conflict observed. Even though certain interviewees in this research have positioned themselves unfavorably in relation to the project of multi-family buildings, other similar experiences in the Federal District suggest that this type of initiative is plausible, timely and relevant, both in social terms and in environmental and health terms. Unless better interpreted, other alternatives suggested - such as definitive removal, compliance with a court order, governmental inaction or irregular penetration

and occupation of land within the limits of the park - could be less satisfactory for the parties involved.

In short, the aim is that the knowledge gathered can contribute to alleviating the striking injustices and socio-environmental and health problems of the population living in Vila Santa Luzia, mainly with regard to subsidizing the formulation and implementation of public policies to construct healthy buildings. Therefore, it is understood that there is sufficient evidence to propose a constructive, global, and republican solution to this socio-environmental and health conflict of local, district, and national interest.

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Authors' contribution

Domínguez and Avila were responsible for the study design. Domínguez performed the data collection. Domínguez, Avila, Cohen, Díaz and Merchán-Hamann were responsible for the preparation, review and approval of the final version of the manuscript, in addition to the accuracy and integrity of all aspects of the research.

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