

Social representations on socio-environmental issues in the municipalities of São Luís and São José de Ribamar, Maranhão, Brazil



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ABSTRACT

This qualitative research sought to analyze the representations about local socio-environmental problems. Residents of the surroundings of a conservation unit, located in an urban environment, between the municipalities of São Luís and São José de Ribamar, in the state of Maranhão, Brazil, participated in this study. The participants signed a Free and Informed Consent Form, being aware of the confidentiality of their personal information. Then, they answered an interview with questions that deal with the problems perceived in the locality. The urban environment represented presents holes in the asphalt, chaotic traffic, crowded hospitals, schools with poor infrastructure, solid waste in inappropriate places and fauna and flora under threat. Several socio-environmental problems were pointed out, including deforestation, fires, waste disposal, soil sealing, illegal hunting, unnecessary water expenditure, rampant consumerism, etc. The issue of solid waste was the most discussed problem. The various imbroglios pointed out by the group represent the dissatisfaction of environment that needs improvements in the various socio-environmental aspects.

Keywords: Socio-environmental problems, Urban environment, Solid waste.

1 INTRODUCTION

The theory of social representations (SRT) was developed by the Romanian French psychologist Serge Moscovici in the 1960s. This theory, which addresses representations, emerged as an alternative in the field of Psychology to interpret social behavior and seek an understanding of knowledge, positions and different views among individuals. Social representations (SR) consist of a set of concepts, phrases and explanations that arise in people's daily lives throughout interpersonal communications (DURAN, 2013). Socially produced and shared, they can be considered as worldviews and manifestations of knowledge built in society (MURTA, 2012).

The environment is present in the daily lives and in the lives of people who belong to different social groups. The definition of environment cannot be simplified into a single vision for all. Thus, it



is possible to identify multiple views about the meanings about the environment. In the scientific community itself, it is recognized that there is no consensus among the notions of environment that allows the presence of a universal definition (REIGOTA, 2013).

In this sense, the researcher Marcos Reigota distinguished what should be treated as a scientific concept from what would be considered as a social representation. For the author, scientific knowledge is a term that has been defined, understood and taught in a standardized way by the scientific community, being used universally. On the other hand, "social representation is basically related to people who work outside the scientific community, although they may also be present there" (REIGOTA, 2013, p. 12). This author presents definitions of several specialists from different areas of the sciences on the environment, and considers that, in fact, there is no consensus on the environment in the scientific community in general. Following this logic, the notions of environment were considered as social representations.

Thus, studies on social representations are fundamental to understand the relationships that individuals establish with the environment in which they live. The behaviors and actions in relation to the environment are the result of the representations produced in the social environment. Thus, a group of people who throw solid waste into the soil, for example, performs this action due to the presence of a social representation of the environment supposedly based on anthropocentrism. Individuals are not concerned about how that environment can become polluted with such an action, but pay attention to their comfort, comfort and unwillingness to look for a suitable place to deposit them.

In contrast, a group of people who seek to know and care for the environment in which they live, possibly, presents a more reflective and critical view of their reality, because they consider that they are part of this environment and that a well-cared for place reflects on the well-being of all. Regarding these aspects, Moraes et. al. (2014, p.3) state that "in this way, the Theory of Social Representations is an option for the description and explanation of social phenomena, because they reproduce thoughts and behaviors common to a group of individuals."

Therefore, the study of social representations presents a great interpretative potential about what is analyzed, making it possible to verify also the perception of a group, as exposed in the following statement:

The theory of social representations, as a theoretical guide of analysis, confers high interpretative potential to the object of study, enabling the elucidation of the systems of signification that are produced and shared by a group (...) Thus, we can conclude that the theme "social representations" is fertile ground that allows us to verify the perception of a group about its reality, at a given moment, inserted in a specific social context, regardless of the current defended by the researcher (MORAES et al., 2014, p.13)

In this perspective, the socio-environmental diagnosis allows the community involved to have a knowledge of its reality from future projects. Works that follow the line of SR provide information

and data for the elaboration of an action plan. In the case of the present study, we sought to analyze the social representations of a group of residents in the surroundings of a conservation unit, located in the urban environment, about the socio-environmental problems that occur in the municipalities of São Luís and São José de Ribamar, located in the State of Maranhão, Brazil.

2 METHODOLOGY

This work is characterized by being a qualitative research, of the case study type, allowing the interpretation of subjective data and implying in a field of human meanings such as values, perceptions and attitudes that cannot be reduced to a quantification. For Minayo (2016, p. 22), "the qualitative approach deepens in the world of the meanings of human actions and relationships, a side that is not perceptible and not graspable in equations, means and statistics." This study presents a qualitative approach, in order to explore meanings produced in the relationship of the human being with the environment. The work takes the form of a case study, seeking to understand the reality of an environment through the analysis of social representations about local problems.

The study area focuses on the municipalities of São Luís and São José de Ribamar, in the state of Maranhão, Brazil. In recent decades, the city of São Luís has expanded demographically, reaching a population of 1,094,667 inhabitants (BRASIL, 2018). According to Lima (2017), the Ludovicense population was able to produce daily about 1,400 tons of solid waste that accumulate in various places of the city. In São José de Ribamar, the population has 176,321 inhabitants (BRASIL, 2018); smaller compared to the state capital. However, urban problems such as asphalting and sanitation are pertinent over time. In order to understand the social representations about various socio-environmental problems, a group of residents living in the vicinity of a conservation unit was selected in order to investigate their representations.

In the surroundings of the environmental protection area (APA) of Itapiracó, a conservation unit located in an urban environment, at the confluence of the two municipalities, in the metropolitan region of São Luís – MA, there is an inhabitant population of the neighborhoods Ipem Turu, Cohab Anil, Parque Vitória, Cohatrac, Matões Turu, Canudos and Terra Livre. The APA of Itapiracó is located between the two municipalities, presenting a densely populated environment.

Considering that qualitative research does not prioritize the sample size, it was concerned with a small number of participants so that the analysis of the data occurred in a deeper and more detailed way. Thus, in the vicinity of this conservation unit, only 15 residents over 18 years of age were randomly selected for research purposes. The participants signed a Free and Informed Consent Form (ICF), complying with the ethical precepts of research with human beings, being aware that, in case of publication, their personal information would not be disclosed.

Then, the participants participated in an interview with questions that addressed the socio-environmental problems. For the use of excerpts of speech of the different interviewees, the code E (interviewee) was adopted, followed by the order in which the interviews were conducted. The discourses obtained by the investigation were described, analyzed, systematized and discussed based on the method of critical discourse analysis (CDA), which proposes analysis based on three main dimensions: the text, discursive practices and social practices, understanding their interrelations (FAIRCLOUGH, 2019).

3 RESIDENTS' DISCOURSES ON SOCIO-ENVIRONMENTAL ISSUES

The residents interviewed were aged between 20 and 69 years. The interview included 15 residents of the surroundings of the Itapiracó APA, eight women and seven men. During the interview, we raised the following question: "Do human actions harm the environment?" The residents interviewed answered yes, and most of them showed conviction in the answer.

Interviewee E10 showed an initial hesitation when answering "Sometimes". According to his discourse, humans can pollute the environment when, for example, they cut down a tree and thus do something bad for nature. In the answer provided, the researched confuses pollution and deforestation, however, emphasizes that human beings become modifying agents of the environment, being able to destroy it.

Through a contextualized analysis of the discourses, the hesitation and doubts of E10 becomes understandable, who has a notion of environment with a pragmatic perspective, focusing her representations on practical actions of her daily life. Human actions harmful to the environment represent practices far removed from their routine, being, for example, concentrated in the isolated act of cutting down a tree.

Interviewee E14 stated that "We humans are the main problems." According to the idea defended by the researched, human beings destroy the environment in which they live, and in this same space they establish their relationships with other human beings. She argued that people exploit, use, enjoy and transform the resources that the environment can offer in the most diverse ways. Thus, in his view, urbanization, population growth, industrialization and economic development establish unfavorable conditions for the protection of the environment.

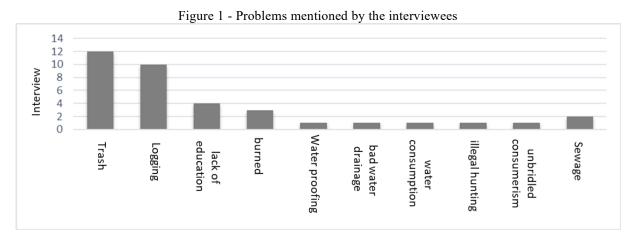
The interviewee E01 is one of those who expose, in a more critical discourse, his opinion on the human potential to harm the environment:

In a more macro view, human actions actually harm the environment because there will never be a perfect balance between human activity and the environment, which today they call disguised as Sustainability – something I do not believe (...) And the word they sought for balance is Sustainability. But it is something in disguise, because it will always be necessary to demand more from the environment, from the fauna, from the flora, from the biome... It will always be needed more by the main, the raw material for the production of



all the necessary means that are found in the human environment. So, I don't believe that the human being will be there and will live healthily with the environment. I believe there may be proportional actions there. One will always lose. It's incredible. It's a fight of interests.

Several socio-environmental problems were mentioned by the residents interviewed, such as the deposition and accumulation of solid waste, deforestation, lack of education of people, fires, soil sealing, poor water runoff, which causes flooding in houses in rainy seasons, unnecessary water expenditure, illegal hunting, rampant consumerism of the capitalist system, sewage, among other problems resulting from the relationship of the human being with the environment (Figure 1).



Source: Prepared by the authors.

Deforestation was associated, basically, with stereotypical ideas of logging, the removal of forest and the destruction of trees. Interviewee E05 related deforestation to the destruction of forests in his speech: "*Man destroys the forest*." The interviewee E06 associated it with the extraction of vegetation, however, in a smaller proportion, which he called: "*A bit of bush*". Interviewees E09 and E13 further limited their representative field of deforestation, associating it with the destruction of trees.

E04 and E08 used the metonymy figure of speech, which replaces the whole by the part. In this case, the extraction of wood becomes part of the representation of deforestation. Regarding the fires, the interviewees only mentioned it briefly, associating them directly with the act of touching fire.

The issue of solid waste was the most discussed socio-environmental problem. The accumulation on the streets of the two cities from which they come represents a worrying problem. Interviewee E13 reported that: "[...] *They sent me by WhatsApp group a photo of Carnival, which showed a lot of garbage in the streets. People don't think about the consequences when they throw the garbage.*"

In turn, the interviewee E04 showed his indignation about the problem, stating that: "It's crap, even everything ... On the beach, in everything that is place has disgust. Everywhere we go there's



dirt." The adjectives "crap", "disgusting" and "dirt" represent the way the city is perceived by the individual, who observes solid waste deposited irregularly in the places where he frequents.

This waste consists of everything that is discarded, because it no longer has human utility. The way these materials are discarded by the population often does not occur properly, being a fact mentioned by interviewee E09, who considered the act of "putting garbage in inappropriate places" as one of the human actions harmful to the environment. Domestic "waste" presents a variety of material waste, including organic matter and potentially recyclable materials. Organic matter, such as food leftovers, wears away rapidly by the action of decomposers.

Thus, when saying that "Garbage emits a gaseous and liquid form", interviewee E01 refers to slurry, which is the product of this decomposition of organic matter. The accumulation of organic matter deposited in inappropriate places provides the necessary conditions for the proliferation of bacteria, fungi, protozoa, also attracting some insects and rodents, among other animals. In his speech, he manages to relate the deposition of waste with public health problems, as can be observed in this excerpt of his speech: "Garbage ends up unfolding other problems such as diseases." The accumulation of these materials attracts disease vectors, increasing the risk of disease occurrence to the local population.

These wastes may also contain potentially recyclable materials such as plastic, aluminum, paper and glass. However, much solid waste produced is not reused. Plastic bags, cans, paper and glass bottles take a long time to decompose, gradually accumulating in the environment. This solid waste can clog storm drains, making it difficult for rainwater to drain on city streets. Interviewee E13 addressed this issue, stating that "rainwater can take garbage to drains in order to clog them, causing flooding in the streets."

The clogging of culverts occurs through the accumulation of waste in the streets of the city, causing the problem of poor water runoff. Still under this same approach, the interviewee E12 said that: "When it rains, my house has already been flooded due to lack of runoff, because of this madness of clogging the culvert, of having nowhere to drain the water."

Among the various types of solid waste, we highlight the plastic grocery bags that pack the solid waste present in the urban environment, being released in large quantities into the environment. Produced by synthetic resin from petroleum, these bags are not biodegradable. Plastic can take about 400 years or more to decompose, causing many environmental impacts. In addition to clogging storm drains on city streets, plastic bags affect the lives of animals such as turtles, whales, dolphins and seabirds, among others, who ingest pieces of plastic materials by mistaking them for food. In addition to the impacts that these materials can cause, residents also discussed possible solutions to this problem.

The replacement of plastic bags by bags was proposed by interviewee E02, who realizes the importance of his attitude towards the environment, when he states:

I particularly when I go shopping, I see that bag horror and I'm like: Our people, I'm contributing too (...) So, I'm trying to replace this medium of small bags and I already have some big bags that I take now. And I think that's it too... bags, people who throw bottles. Very much the garbage issue.

The discourses based on the ideology of Sustainability use the 5R Policy, which prioritizes the reduction of consumption and the reuse of potentially recyclable materials. The 5R indicate five actions that are expressed in the verbs "reduce", "rethink", "reuse", "recycle" and "refuse". Thus, the 5R policy belongs to the educational process that seeks: to reduce unbridled consumption and waste; rethinking values and practices; reuse the materials, extending the useful life of the products; recycle solid waste; and refuse the consumption of products that generate socio-environmental impacts.

In the discourse of interviewee E02, it is implicitly observed the presence of 2R, which consists of "rethinking" values and "refusing" the consumption of plastic bags. These human actions suggest changes in habits in people's way of life. The concern with the disposal of waste and the collection of "garbage" is evidenced in the discourse pronounced by interviewee E11, who considers "throwing garbage in streams, not treating and not doing selective collection" as an action harmful to the environment.

The "garbage", portrayed by the researched, presents different types of materials that can be destined for different purposes. Organic matter can be used for composting and plastics can be destined for recycling. However, the different types of materials are often destined for some inappropriate location in order to impact terrestrial and aquatic environments.

Selective collection represents an important step towards recycling. Through selective collection, the separation and selection of the different materials are made. Thinking about selective collection refers to the common image of containers of different colors. However, the presence of these containers does not indicate the only way to apply selective collection. The containers or small warehouses of different colors correspond to the voluntary delivery posts. Each color of the deposit represents a type of solid waste, the most common being red for plastic, yellow for metal, green for glass and blue for paper. The deposits are placed in different physical points of the city, encouraging the population to deposit the recyclable materials in the appropriate places.

In addition to the voluntary delivery stations, selective collection can occur due to the presence of vehicles that travel through the residences in order to collect the selected materials. With regard to the reality investigated, to assist in the selective collection, Ecopoints were built in different points of the metropolitan region of São Luís - MA. With the capacity to store more than 100 tons of garbage per month, Ecopontos can receive different types of materials that are not collected by regular

collection. Anyone can take the solid waste to Ecoponto. In these places, the waste is sent to associations and cooperatives responsible for selecting and marketing the materials.

When dealing with the problems of waste in the city, the interviewee E08 reported that

The report appeared there of the place where it is having the selective garbage collections of Ecoponto, which is not going much waste there. Because people prefer to play close to their home. Go further up front and play in the next place. It has that comfort of not having work when leading to Ecoponto.

The report commented on in the interview was not referenced by the interviewee. However, it is possible to perceive the influence of television reporting for the construction of its representation on the socio-environmental problems in the city. The interviewee recognizes the importance of the construction of Ecopoints in the region, and considers the comfort of people as the main cause for the problem of garbage. Although the collection of "garbage" is done regularly by the public cleaning system, the presence of solid waste on the streets has become a serious problem noticeable to the population.

The interviewee E08 complements the previous idea, and explicitly portrays the problem, stating that "our city has a lot of garbage, despite having collection. There is a lot of garbage not because there is no garbage collection, it is because - as I told you - the culture. People don't have a habit of storing the garbage, of putting the garbage in the proper place."

The deposition of solid waste, in the interviewee's speech, is highlighted as a simple individual attitude. From this it is assumed that a person discards the material from the consumption of his house in any place that suits him, without at least critically reflecting on the fate of this waste. In the view of this same interviewee, this individual attitude could acquire a greater proportion, becoming common to the collective. However, interviewee E08 adds that people "[...] they don't have a culture of looking at garbage, picking up, storing, storing it correctly (...) It's a cultural issue here, and this culture to change is difficult."

The problem of "garbage" is ingrained in the culture of our society. Generally, people recognize that their actions affect the environment. Throughout their lives, they learn that it is wrong to "not put garbage in the proper places", as put by respondent E05. However, practices do not depend exclusively on knowledge of theory. People practice actions beneficial to the environment when their values, feelings, beliefs, opinions, habits and traditions are favorable for it.

The "culture of self-indulgence" also influences the behavior of the collective. Interviewee E12 brings his personal experience linked to the idea of the collective, stating that: "In relation to ourselves, we do not take care of our things, you know. And I speak for myself too of: Oh, it's just a little paper! And play in the streets or else don't keep it in the bag." The act of throwing a simple paper on the floor of the streets seems irrelevant. A person discards the residue in order to get rid of that which would no



longer be of value to him. The commodity is in the passivity of the subject who dispenses with the responsibility of taking care of the environment to which he belongs, worrying only about his own ease and comfort.

The lack of education was mentioned as an important factor that contributes to the practice of many attitudes in the relationship between human beings and the environment. The interviewee E05 considers as problematic "the lack of education even of the people". Respondent E07 states: "Lack of education, all of it. Many have no education. For the most part, it's all education that a lot of people don't have, and then it entails all of that." In turn, respondent E08 also considers that people "do not have adequate education to protect the environment."

In this perspective, it is worth mentioning that education has a transformative role in the formation of people, encouraging more reflective and critical thinking about things. With education, people have the opportunity to know and act critically on the various phenomena of life. Thus, it is important to mention that the pedagogical intervention goes beyond the school environment.

The basis of education is in the performance of the family, from the early childhood of the individual. Imbued with this view, interviewee E15 reported the importance of the family's role in education, stating that: "I educated my three children to put the garbage in the garbage. I raised my children, putting garbage in the trash, asking excuse me, the person sneezing and you say health. It's a way to educate my children for this environment." Education begins in the family and assumes an important function with the performance of educational institutions.

Interviewee E01 proposed the implementation of Environmental Education projects that act in this teaching and learning process in schools and colleges:

I feel the lack of education that will generate attitudes... It's a lack of environmental education, a lack of education about garbage more assiduously. It's not just an action that the government will do one day here. It is the implementation of a project that sometimes does not even require much money. Sometimes what it takes is willpower and enormous confidence. Only with people's trust can we begin to do (...) Environmental education is the implementation in school, in college, wherever you are. It's an issue that has to be ingrained from the very first generations. I'm not talking about things that take millions for us to do now that we're going to solve. I'm giving a problem with a reasonable solution. So I believe that.

Educational institutions contribute significantly to education, however, the poor infrastructure of many schools and the absence of school places drastically affect the training of children and adolescents. The interviewee E08 said that "there are still many children, especially here in the region, with difficulties of school places". The difficulties permeate the dimension of education and affect other sectors of society. The interviewees also reported problems in the city's infrastructure, traffic, water treatment, basic sanitation, health, public safety, social inequality, public investment, system organization and corruption.



Table 1	- Different	socio-	environmental	problems t	that were	mentioned by	y the interviewees
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Socio-environmental problems in the view of the residents surveyed:								
Infrastructure	Traffic	Education						
- Hole	- Traffic Jam or Congestion	- Lack of education						
- Dark Streets	- Lack of signage	- Poor infrastructure in schools						
- Unpaved streets	- Vehicle smoke	 Absence of school places 						
- Cars on the sidewalks	- Movement of cars	 Lack of social inclusion 						
- Broken sidewalks	 Poor quality of public 	 Need to implement environmental 						
- Lack of pavement	transport	education in schools						
- Lack of cleanliness in the city	- Chaotic transit	Health						
- Lack of squares	- Car flow	 Lack of doctors 						
 Lack of Basic Sanitation 	- Vehicle overcrowding	- Crowded hospitals						
- Clogged culvert		- hospitals that don't work						
 Lack of water runoff 	Garbage	Society						
- Flooded Houses	-Dump	- Social inequality						
- Lack of decent housing	- Garbage on the streets	- Poverty						
- Lack of water treatment	-Dirt	- Abandonment of people						
- poor food preservation in	- Irregular garbage	- people sleeping on sidewalks						
supermarkets	collection	-drug						
- Rampant consumerism		 Lack of public safety 						
- Poor infrastructure	Visual pollution	-corruption						
	Noise pollution	 Lack of public investment 						
	Air pollution	- Lack of organization of the system						
	Defendation							
	Deforestation							
	Burned							

Source: Prepared by the authors.

4 FINAL CONSIDERATIONS

This article dealt with the social representations related to local socio-environmental problems. Participated in this research 15 individuals over 18 years and residents of the surroundings of a conservation unit located in an urban environment, between the municipalities of São Luís and São José de Ribamar in Maranhão. Respondents acknowledged that human actions are harmful to the environment, and that human beings establish a disproportionate relationship with the environment, exploiting the maximum of their resources to meet their needs. People use and transform the natural elements into different possible resources to live in a capitalist society, centered on the continuous pursuit of human well-being. The socio-environmental problems reach ever greater dimensions, being a reflection resulting from human actions in the relationship with the environment.

Several socio-environmental problems were pointed out by the residents interviewed, among which: deforestation, fires, solid waste disposal, soil sealing, illegal hunting, rampant consumerism, etc. Problems in infrastructure, education, health and society in general were also mentioned by the research participants. The issue of solid waste was the most discussed issue.

The deposition of "garbage" in inappropriate places, from the perspective of the interviewees, is part of a cultural issue. In the urban environment, people have become accustomed to discarding



materials without at least reflecting on the fate of this garbage and what real consequences the deposition can provide for humans, other living beings and the entire environment. The accumulation of these materials in inappropriate places stimulates the proliferation of disease-causing vectors. On the sidewalks and streets of the city, waste clogs culverts, preventing water runoff and causing flooding in rainy seasons. Household waste is often dumped anywhere, being justified by the commodity and lack of education of the people. This practice can be rethought, as well as many other socioenvironmental problems that need to be mitigated so that the relationship of human beings with the environment is healthier.

This waste contains potentially recyclable materials such as plastic, aluminum, paper and glass, which can be collected for recycling, generating income for families in need. Utensils that are no longer considered useful in a home can be reused, acquiring other purposes. In this way, the reduction of consumption is also a valid way, which works as a practical measure for this problem. Capitalist society encourages exaggerated consumption, in which people buy and consume in large quantities, the result of which implies the exaggerated production of garbage and the difficulty for the destination and disposal of these materials.

Today's society is marked by secular problems that operate in various sectors, such as education and health. The set of problems consists of a reflection of a political and social situation that requires less corruption and a better organization in fundraising and public investments. The urban environment represented in this research presents holes in the asphalt, chaotic traffic, crowded hospitals, schools with poor infrastructure, waste on the sidewalks, homeless people, little and devastated vegetation, even in the area surrounding a conservation unit. The numerous problems pointed out by the group represent, therefore, the dissatisfaction of an environment that needs improvements in the various aspects of society.

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