

# THE AMAZON BEYOND THE FORESTS, RIVERS AND SCHOOLS: SOCIAL REPRESENTATIONS AND ENVIRONMENTAL PROBLEMS<sup>1</sup>

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FRANCISCA MARLI RODRIGUES DE ANDRADE<sup>2</sup>

## 1 The Amazon and its social representations

The Amazon region has always been and continues to be represented from different perspectives in view of its biodiversity and multiculturalism. To highlight some of these representations it is necessary to go back to the beginning of the process of *invasion, appropriation and violence* known in historiography as colonization (ANDRADE, 2017), in particular the arrival of the Spanish navigator Vicente Pinzón in 1500, to remind us of the description of the Amazon as a *terrestrial paradise* (PORTO-GONÇALVES, 2017). However, this representation has undergone constant change, particularly since the middle of the last century, gaining unpleasant meanings today. Due to a series of conflicting economic, political and social interests that characterize postmodernity, the Brazilian Amazon has been converted into a complex subject involving an array of different dilemmas and challenges.

There is therefore a social demand stemming from the need to engage in an exploratory dialogue *with* the environmental problems facing the region. These problems are widely diffused in mainstream news outlets and social media, generating widescale public awareness. The access to information pertaining to these problems has favored the reaffirmation of existing social representations of the Amazon or the construction of *others*. Such representations are far removed from the image of a terrestrial paradise, “the lungs of the world”, “an inexhaustible source of natural resources”, and “the region of the future”, rather converging towards a “green hell”, invisible cities and populations, and a demographic and cultural void, among others (ANDRADE, 2014; PORTO-GONÇALVES, 2017).

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2. Professor of Health and the Environment on the interdisciplinary course *Educação do Campo* (Education in Rural Areas) at the Department of Human Sciences of Fluminense Federal University (UFF, acronym in Portuguese). Francisca Marli holds a PhD in Education, Sustainable Culture and Development awarded by the University of Santiago de Compostela - Spain. She collaborates with national and international research networks and is member of the Sustainability Standing Committee and Advisory Committee for the Planning, Implementation, Monitoring and Evaluation of Actions related to the Education and Sustainability Networks Project, both of UFF. Francisca Marli is also part of the *Grupo Encontro de Saberes* (the Meeting of Knowledge Group) at UFF, attached to the National Institute of the Science and Technology of Inclusion (INCTI, acronym in Portuguese), based at the University of Brasília. Email: marli\_andrade@id.uff.br

The dialectic that portrays the images of the Amazon described above shows that beyond these representations there lies a reality that is common to women, men and the nature of the Amazon. In other words, an array of aspects have drastically changed: the region's political, social and economic dynamics; its ecosystems and their biodiversity; and features that define the identity and lifestyles of Amazonian communities. With respect to the latter, it is worth highlighting rural populations, since they are more socioeconomically vulnerable and, therefore, potential victims of environmental racism (ACSELRAD, 2010; LIMA, 2014).

## 2 The commercialization of the Amazon: the overvaluation of economic capital and environmental neglect

An increase in the level of economic activity without a coherent environmental policy has led to a significant shift in the social and environmental dynamics of the Amazon region (ANDRADE; CARIDE, 2016), resulting in dire consequences, including an array of environmental problems (LIMA, 2016). In this respect, it is worth outlining the history of the urbanization of the Amazon, adopting a distinctively economic and political perspective to gain an insight into the region's commercialization. Below we underline the main activities that have driven and aggravated these problems since the middle of the last century and those that characterize the first decades of this century:

- *The construction of the Trans-Amazonian Highway* – the 4,223 km long Trans-Amazonian Highway is Brazil's third longest highway (PRATES; BACHA, 2011). Running through seven states (Paraíba, Ceará, Piauí, Maranhão, Tocantins, Pará, and Amazonas), work began on the highway at the end of the 1960s and was completed in 1974. Given the vast tracts of forest that were cleared to make way for its construction and the devastating impact it has had the region, it is considered one of the most controversial infrastructure projects undertaken by the military dictatorship.
- *The progressive increase in the price of agricultural products* – this phenomenon has historically encouraged deforestation for agricultural production and land speculation. With respect to agriculture, it is important to highlight the expansion of agribusiness and, more specifically, soybean production (DOMINGUES; BERMANN, 2012), while land speculation is related to a futuristic vision that believes agroenergy will one day be more profitable than agriculture, thus making it an economically attractive option for countries that still have scope for further expansion of agricultural land (GAZZONI, 2008).
- *The construction and operation of hydroelectric plants* - global warming emissions from hydroelectric plants built in tropical areas such as the Amazon Rainforest are much higher. This is because “the impact of dams in relation to fossil fuels is much worse if calculated in a way that best represents the interests of society” (FEARNSIDE, 2015, p. 10).

- *Port construction and activities* – the construction of the ports of Itaituba and Santarém in the State of Pará led to a significant increase in deforestation and loss of biodiversity (DOMINGUES; BERMANN, 2012), negatively affected the livelihoods of local communities, and resulted in a significant increase in emissions of greenhouse gases (LIMA, 2016).
- *Mining activities* – the majority of Brazil’s mineral resources are located in the Amazon, meaning that the region has historically drawn the interest of major national and international investors. Mining has devastating environmental and social impacts (PORTO-GONÇALVES, 2017).

The abovementioned activities have triggered a diverse range of impacts on the region’s ecosystems and local communities. In this respect, the construction of the Trans-Amazonian Highway and other major highways at the end of the 1970s opened up the region, leading to the deforestation of large swaths of previously untouched rainforest (PRATES; BACHA, 2011). At the same time, the construction of hydroelectric plants has also led to an increase in flooded and deforested areas, resulting in the loss of biodiversity and negatively affecting the livelihoods of rural populations, particularly indigenous communities, artisanal fishermen and riverine *caboclos* (FEARNSIDE, 2015).

Part of the population of the Amazon is aware of these consequences and has therefore attempted to dismantle the network of interests and power that overvalues economic capital, while at the same time drawing public attention to environmental neglect. These attempts have been historically built on the back of public participation and social movements such as the *Revolta da Cabanagem* (1835-1840), *Manifesto do Rio Negro* (1970), José Lutzenberger’s “The End of the Future: A Brazilian Ecological Manifesto” (1976), the *Aliança dos povos da Floresta* (the Forest People’s Alliance), led by Chico Mendes (1980), and the *Movimento Xingu Vivo para Sempre* (the Xingu Alive Forever Movement) (ANDRADE; CARIDE 2016). Despite varied social mobilization efforts to thwart the implementation of megaprojects, principally the construction and operation of hydroelectric plants, the expansion of this economic sector has intensified in recent years, reaching its apex with the construction of the Belo Monte dam (FEARNSIDE, 2015).

Apart from hydroelectric and highway megaprojects, the Amazon also faces challenges posed by the social and environmental impacts of port construction and activities and mining, leading to social impacts, loss of biodiversity, environmental degradation, and “a sharp rise in air pollution and the production of waste and effluents that find their way to water bodies, modifying their natural characteristics” (LIMA, 2016, p. 9).

Within this context, it is important to emphasize that both ports and highways attract investors seeking conditions which allow for the adequate transportation of production, especially in regions with poor technical and technological capacity, such as the Amazon. In this context, environmental safeguards to mitigate the risks of deforestation and the emission of CO<sub>2</sub> are extremely lacking, especially when it comes to environmental licensing, monitoring and enforcement (FATORELLI, 2010). In short, there is a lack of investment and effective action by the government to ensure the effective implementation of such safeguards.

These issues characterize and emphasize the “operation of the land market, whose ‘coordinating action’ means that harmful practices occur in undervalued areas with the absence of policies to limit the actions of this market” (ACSELRAD, 2010, p. 110). This observation has mobilized a group of people in the Amazon who understand the existing relationship between environmental injustice and “ideological domination historically imposed together with the process of invasion, appropriation and violence” (ANDRADE; CARIDE, 2016, p. 36). Understanding the meaning of these harmful actions and the economic practices that have devalued and stigmatized Amazonian peoples helps to intensify the social movement that fights for environmental justice, namely:

[...] the set of principles that ensures that no group of people, whether they be ethnic, racial or class groups, bears a disproportionate share of the negative environmental consequences resulting from economic operations, local, state and federal policies and programs, and the lack and omission thereof (HERCULANO, 2008, p. 2).

In this case, the environmental justice movement is underpinned by the understanding that the Amazon region has been victim over the centuries of a political, economic and educational model which has acted strategically to conceal the appropriation of its natural resources. These strategies persist in invisibilizing the local population, devaluing their culture and, above all, disqualifying their knowledge (ANDRADE, 2014). These factors have reinforced a network of social exclusion and environmental problems resulting from colonization and policies designed to promote the “settlement” and commercialization of the Amazon (PORTO-GONÇALVES, 2017). Public participation is needed to tackle these problems and, in this respect, teachers are essential to the process of diffusing and constructing *other* knowledge and social representations.

### 3 Research as a strategy for denouncing environmental injustice: epistemological and methodological aspects

The abovementioned notion of environmental justice has helped to broaden discussions of the theory and epistemology of environmental studies. On the one hand, the term *environmental injustice* has been adopted to describe a phenomenon in which disproportional risks are imposed on populations less endowed with financial, political and informational resources (ACSELRAD, 2013, p. 63), while on the other we are challenged to think that “the notion of *environmental justice* was coined to denote a picture of desirable life in which the environmental dimension of social injustice is overcome” (ACSELRAD, 2013, p. 63-64). Hence, its principles induce researchers in their everyday activities to envisage other ways of doing research and, therefore, include certain social demands; which, in the case of this study, includes the denouncement of:

The imposition of a logic of nonexistence that emphasizes the disqualification of the everyday realities of the Amazon, in which people, individuals and groups are being submitted to processes of ‘develop-

ment' that bear marks of oppression, stigmatization, exclusion, and violence, in the widest sense (ANDRADE; CARIDE, 2017, p. 1601).

In the Brazilian Amazon of this temporality, the logic of disqualification of everyday realities and, therefore, the environmental problems resulting from industrialization and deforestation, show strong evidence of exhaustion. In an attempt to denounce such problems, we turn our attention to a study whose objective is to gain an insight into the social representations of environmental problems and the impacts of these problems on the daily lives of teachers working in the local government education network in Castanhal in the State of Pará.

The study uses a theoretical and methodological framework based on Social Representation Theory (SRT), justified by the idea that SRT constitutes an emerging field of research whose findings reveal the variety of conceptions and meanings used to designate, perceive and understand environmental issues and their impacts on the everyday reality of the Amazon (ANDRADE, 20014). The contributions of SRT to research may be described as follows:

- Social Representation Theory, originally developed by Serge Moscovici in 1961, seeks to understand the process of “organization of a group’s knowledge of a social object” (MOSCOVICI, 1979, p. 45). Social representation studies have gained visibility in the academic sphere due mainly to three factors: a) because, regardless of their origins, subjects suffer the repercussions of representations in their knowledge and cognitive production; b) because social representations induce the conceptualization of what is real through prior knowledge activation; and c) they permit the reconstruction of reality and, therefore, can also be considered cognitive-affective structures (MOSCOVICI, 2010).

Given the intertwining possibilities of SRT, this study draws on the principles and methods of the field of ethnography developed by Serge Moscovici and Denise Jodelet. Ethnography centers on the elements that characterize the three dimensions that determine the formation of social representations - *information*, *field of representation*, and *attitude* (MOSCOVICI, 2010) – and how these dimensions help to describe and interpret a given social reality (JODELET, 2001).

According to Jodelet (2001), social institutions and informal communication or media networks intervene in the modes of elaboration of information. In turn, the field of representation “brings us to the idea of image, social model, and the concrete and limited content of representations that refer to a precious aspect of the object of representation” (MOSCOVICI, 1979, p. 46). Finally, “attitudes do not express knowledge as such, but a relation of certainty and uncertainty, belief and disbelief in relation to that knowledge” (MOSCOVICI, 2010, p. 319).

This study was conducted in the Brazilian Amazon in the city of Castanhal in the State of Pará, chosen for the different political and economic interests in the region, which, from an environmental point of view, have drastically altered its social and political

dynamics. Our choice of an educational-school context was based on the need to engage in an exploratory dialogue *with* the refoundation of everyday pedagogy, in particular, with the possibilities of transformation engendered by social representations in “social struggles and through the power of resistance which, notably, characterize post-hegemonic times” (ANDRADE; CARIDE, 2016, p. 46).

A total of 121 teachers with a degree in pedagogy working in the local government education network participated in the study. Each teacher answered an ad hoc questionnaire, while 13 participated in two discussion groups and two accepted our presence in their classes to conduct participant observation. Each activity was planned to meet the research demands, particularly addressing the previously established categories of analysis. The research data was analyzed respecting ethnographic criteria within SRT using The Statistical Package for the Social Sciences (SPSS).

The results show that 89.3% of the 121 teachers were women, confirming that women account for the majority of teachers in the initial years of primary education. With respect to *academic background*, the results show that 71% had completed their degree in Pedagogy between 2001 and 2010. The teachers attended 12 different higher education institutions, 52% of which were private and 45.5% public, most notably the Federal University of Pará (UFPA, acronym in Portuguese), which was attended by 38% of the group. With respect to *professional background*, the results reveal that 54.5% of the teachers had over ten years of teaching experience and 95% had permanent civil service status.

#### 4 Environmental problems and social representations: the Amazon in discussion

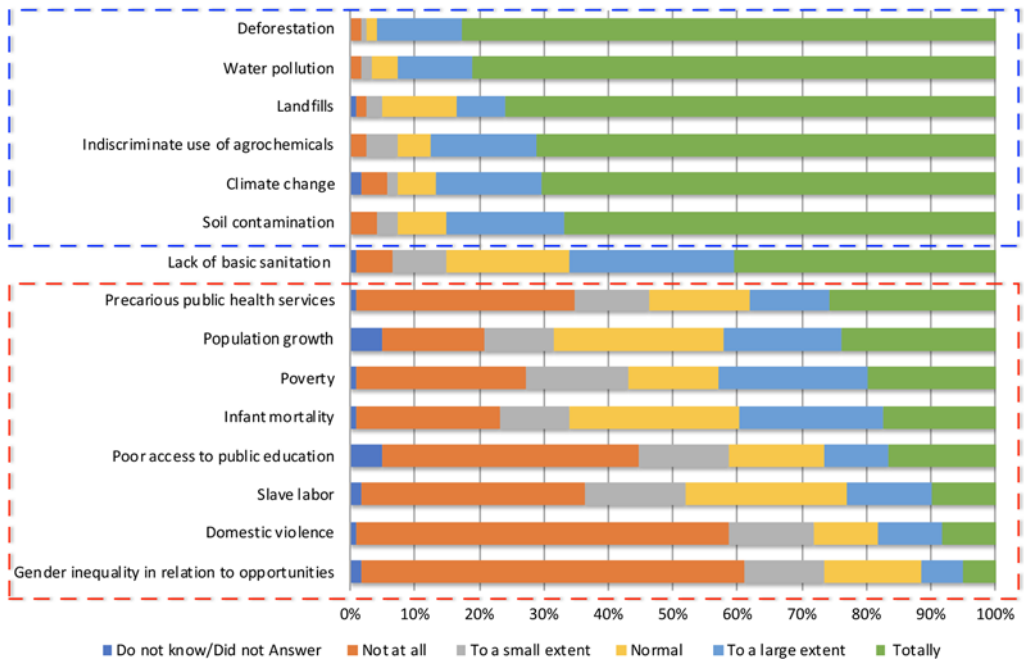
Since the last decades of the 20th century, the Amazon has been a constant dialectic on the agenda of global economic dialogue. On the one hand, international political interests have converged to pressure the Brazilian government to preserve the Amazon, while on the other investment in megaprojects has been encouraged, leading to deforestation and exploitation of the region’s natural resources (PORTO-GONZALVES, 2017). This exploitation has become a subject of debate in mainstream news outlets and social media and social media, which highlight the “increase in illegal logging, clearing of areas of forest to make way for agriculture, and the increased use of agrochemicals” (LIMA, 2016, p. 9).

The abovementioned dialectic and messages and debates generated by mainstream news outlets and social media have helped reaffirm and/or deconstruct social representations of the region’s environmental problems. It is precisely this reaffirmation and/or deconstruction that interest us in this empirical part of the study, given the way in which subjects perceive and understand social reality. We therefore proceed to analyze two elements of the social representations of environmental problems, more precisely, the *understanding* of these problems and their *impacts* on the everyday reality of the women, men and nature of the Amazon from the perspective of the participants of this study.

#### 4.1 Environmental problems in the Amazon: everyday life in social representations

In recent years, environmental problems have gained other meanings in the eyes of international bodies, who use other linguistic signs – such as the Millennium Development Goals – to represent and distinguish them as a social object (CARIDE, 2011). Within the sphere of school education, particularly in the Brazilian Amazon, certain pedagogical approaches have been decontextualized from reality to convert them into such goals (ANDRADE, 2014), disregarding the fact that everyday life affords an understanding of reality stemming from historical and cultural aspects perceptible in the social codes and normative models imposed on groups. This understanding is transformed into the social representations illustrated in Graph 1.

**Graph 1. The reality of the Amazon: situations that the teachers consider environmental problems (N=121)**



Source: Developed by author

Note: This graph represent the answers to the following question put to the participants: To what extent would you say the problems listed below are environmental?

To gain a deeper understanding of the social representations of environmental problems elaborated by the study participants, we opted for the process of association. We listed 15 variables related to the theme ranging from deforestation to gender equality. The results reveal a structured pattern in the deep-rooted images in the social imaginary

of the study participants. Through these images, the participants break down the object of study - environmental problems – into two ‘sets’ of variables: *biophysical* and *social*.

The biophysical variables (dotted blue outline) relate to natural resources and the anthropogenic impact on the environment witnessed in real life, while the social variables (dotted red outline) refer to social issues, which, resulting from these problems, jeopardize quality of life. A point of intersection can be observed between the two sets formed by opinions that express the interrelationship between the situations, thus demonstrating a broad understanding of environmental problems. This intersection occurs at the variable lack of basic sanitation.

The initial aim of this process of association was to identify the elements that would be selected or decontextualized from the social object under debate (JODELET, 2001). The answers clearly show a division, such that the issues that make up the *biophysical* set of variables are directly related to the environmental problems, while those belonging to the *social* set were unrelated to the analysis. Thus, the results reveal representations of environmental problems that reflect conceptions of the environment anchored mainly in the elements of nature. For a better understanding of the term anchoring used here we can draw on the contributions of Jodelet (2001, p. 38-39), who emphasizes that:

Anchoring embeds the representation and its object in a network of significations, allowing them to be framed in relation to social values and giving them coherence [...], it performs a decisive role, essentially in relation to their inscription into a system of notional reception, one which has already been thought of.

In relation to the embedding process, it is also important to observe that the order of the “situations” in the data collection instrument was different to that presented above. The answers given by the participants demanded a more careful analysis of the discussion and, as a result, a different approach, in which two aspects stood out: a) a common link between the situations considered environmental problems by the participants and media coverage of environmental issues – deforestation in the Amazon, water pollution, and landfills (ANDRADE, 2014); b) the prevalence of circumstantial elements that are perceptible in the everyday lives of the participants – gender inequality, domestic violence, and slave labor. The association between both aspects is revealed in the following understanding:

[...] major development initiatives in the Amazon have not meant major improvements in infrastructure or public transport, health and education services for the local population directly or indirectly affected by the environmental impacts and their harmful effects on aquatic ecosystems and human health. In such cases, the scarce employment opportunities available to the local population are generally in activities associated with the provision of low-paid services and often characterized by precarious work and employment relations (LIMA, 2016, p. 9).



With regard to environmental impacts, the results also show something that could either be a coincidence or that shows consistency in the teachers' responses. The evidence suggests the latter. This consistency emphasizes the group discussions about these problems or, more precisely, two specific issues: the teachers' opinions in relation to the main environmental problems at local (the Brazilian Amazon) and global level. In this respect, the teachers' answers emphasize that "in the context of the Amazon, I believe that deforestation is finishing off our forest, while at the global level it is definitely global warming that is generating respiratory problems and skin cancer" (G2-P4).

The above discourse was common to both discussion groups. In other words, although other issues were discussed by the groups, *deforestation* and *global warming* are viewed as the main local and global problems, respectively, thus reinforcing the idea of consensus in the groups and the existence of "images that condense a set of meanings; reference systems that permit us to interpret what happens to us and even give meaning to the unexpected" (JODELET, 1985, p. 472). The following argument lies in this consensus:

Deforestation leads to the silting up of rivers, eroding the river banks, and turns into a bigger problem. It is said that the Amazon is the lungs of the world, and once I flew over Marabá and saw those huge craters. That's why I say my God, that's why people are so concerned with Marabá. With deforestation comes global warming (G1-P6).

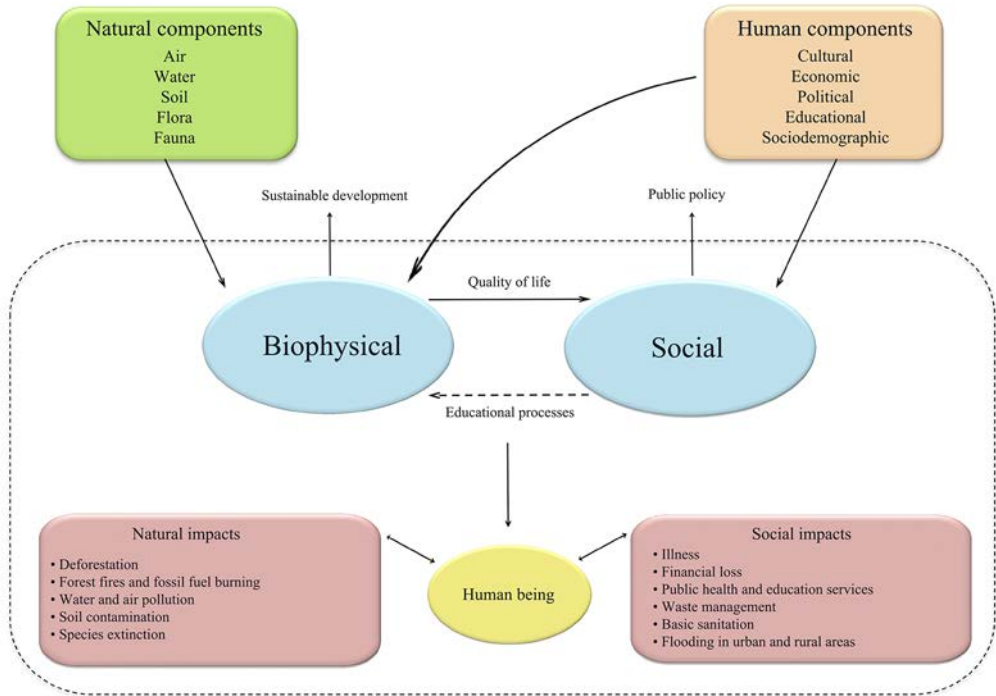
The theme of environmental problems also includes other complex issues that translate the history of invasion, appropriation and violence in the Amazon, involving countries such as Peru, Columbia, Venezuela, Ecuador, Bolivia, Guiana, Suriname, and French Guiana. Regarding the process of appropriation, we can highlight the "the taking of the lands, language, culture, natural resources, dignity, liberty, wisdom, and peace of peoples/ethnic groups/nationalities against their will" (ANDRADE, 2017, p. 55). Also with respect to the appropriation of natural resources, we have witnessed, particularly in the last two decades, "the magnitude of the social and environmental impacts caused by megaprojects [...] qualitatively greater than in the previous waves of expansion of the frontiers due to the size and geographical reach of these development initiatives" (LITTLE, 2013, p. 13). This magnitude is perceived by the local population, who feel powerless in face of the impacts caused by these mega projects.

## 4.2 The consequences of environmental problems: interpretations from everyday life in the Amazon

Shared reality allows the study participants to elaborate meanings based on conceptions, perceptions and the implications of a given social object for our everyday lives (JODELET, 2001). Among these objects are environmental problems, whose impacts on the natural environment are incalculable: "the number of species threatened with extinction means there is significant biodiversity loss" (NORA; SATO, 2015, p. 236). In the same way, the shift in social, political and economic dynamics shows that, in the

absence of control over the process of appropriation of the forest and its natural resources, the risk of witnessing the constant loss of essential conditions for life reveals itself to be a certainty. Based on the evidence of environmental impacts perceived through a common reality, below we present an approximation of how the teachers schematize their social representations.

**Figure 1. The impacts of environmental problems in the context of the Amazon: a schematization of social representations**



Source: Developed by author

The above schema provides a dynamic illustration of the study participants' perceptions of the impacts of the environmental problems on their everyday lives. For its elaboration, we drew on the idea of *structural schematization* to illustrate the "figurative nucleus" of social representations, which can be understood as a conceptual structure that allows subjects to organize and apprehend images of the elements that make up the object of representation, either individually or through their interrelations (MOSCOVICI, 1979; JODELET, 1985). An associative description of themes was presented to the participants to ensure data complementarity and thus gain an understanding of the representation of environmental problems based on the division of problems into two sets of variables – biophysical and social.

The answers are exemplified in the following discourse: "problems of an environmental nature directly affect humans, given that we are nature and therefore the spaces we inhabit affect us" (P3). The discourse includes a series of political, economic, and

cultural factors and their implications for the *biophysical* and *social* elements that threaten, above all, quality of life on Earth. It explicitly highlights the human feeling of centrality and ownership of the environment in which the environmental problems resulting from the forms of appropriation of nature are immersed. This appropriation has triggered the dawn of a new geological epoch – the Anthropocene – “characterized by the major impact of human activities on the future of Spaceship Earth” (SACHS, 2012, p. 43).

The situations regarded by the study participants as environmental problems highlight the perception of the impacts of this new geological epoch. These impacts are revealed in their feeling of vulnerability to illnesses caused mainly by forest fires, climate change and pollution of rivers and streams, etc. In this respect, the study participants recognize the crucial role of education in reducing these impacts. For the teachers, “the environmental problems threaten our lives. We need to reeducate ourselves environmentally to ensure the necessary conditions for our and future generations. It is only through education that we will attain sustainable development” (P5).

Their answers reiterate the notion of human centrality by highlighting that “fires, which happen constantly, cause health problems, including respiratory, eye and skin problems” (P83). They therefore highlight concerns related to social aspects, while biophysical issues are relegated to the periphery. This is because the emphasis is on “health and financial problems; how can we be healthy if we breathe polluted air, if we have food that grows in contaminated soil. With all this it costs a lot to be healthy and have healthy food” (P106). A reanalysis of the data shows that the constancy of human centrality is a result of environmental injustice and racism, of which the population of the Amazon, in its entirety, is victim. Racism here can be understood as follows:

A term referring to the impacts and environmental injustice perpetrated by private entrepreneurs and public policies implemented by the State that befall a given part of the population on account of their social vulnerability, color or ethnic group. [...] it ultimately affects the most vulnerable part of society which, besides suffering socioeconomic inequalities, bears environmental ills (ROCHA; VASCONCEOS, 2018, p. 337).

With regard to the logic of environmental injustice and racism, it is interesting to observe how the teachers classify the environmental problems and their impacts. With respect to the former, deforestation appears at the center of the discussion, while health and financial aspects are the most frequently cited impacts. In this respect, for the study participants “the greatest impact is on health. Because all these factors generate problems that affect man, water and air. We breathe, drink and eat what the earth produces. If we contaminate it we will be victims of ourselves” (P86).

Once again the discourse of the study participants brings us to the notion of environmental injustice, albeit lacking deeper analysis. That is, the impacts of mega projects in the Amazon, more precisely, industrial, mining and hydroelectric initiatives. In this context, it is important to point out that due to the intentional lack of technical and technological capacity in the region, environmental licensing “does not consider human

development an important and necessary aspect, and omits the real environmental impacts and health risks posed by large development initiatives in planning a gradual increase in productivity” (LIMA, 2016, p. 10).

With respect to increased productivity and its impacts, another aspect that warrants discussion is deforestation, which, in the social representations of the study participants, has been converted into the main cause of climate change. For the teachers, the impacts are manifested in “climate change, due to deforestation, sometimes it seems like the weather is out of control” (P59). Maybe this relation stems from “a strong tendency for people to see the Amazon with a sense of fatalism, including both deforestation and the consequences of climate change” (FEARNSIDE, 2006, p. 399). Another possible explanation for this phenomenon is how mainstream news outlets and social media depict the issue, making it a familiar part of everyday life. In this respect, Nora and Sato (2015, p. 239) emphasize that:

The term “climate change” has been widely used by the media and in the everyday discussion of environmental problems and natural disasters, yet the majority of people do not know (the meaning of) the term and are unaware that climate change is also caused by the direct impact of human actions on the natural environment.

Although the majority of people may not know the meaning of this term, this does not prevent them from constructing images of the impacts of this problem on everyday reality. In this sense, the discourses of the study participants emphasize that “one of the problems that influence my life in particular is global warming, because temperatures have increased significantly in our region in recent years” (P71). In addition to this problem, the teacher adds that “shortages of drinking water and water pollution have also caused a major natural impact on our lives” (P17). By constructing social representations of environmental problems and their impacts, the study participants establish a direct relationship between deforestation and climate change.

Regardless of how this associative representation (deforestation in the Amazon and climate change) was established, this discourse reiterates that climate change is a major concern, not only on the international agenda. This raises the question “despite the fact that rich countries are largely responsible for this phenomenon, poor countries will suffer more from its adverse consequences” (LIMA, 2014, p. 121) or, in other words, the process of climate injustice to which the peoples of the Amazon are exposed. Thus, the discourses of the teachers highlight the impacts of such changes on everyday reality: “temperature increases in the State of Pará influence our mood, our food, and our breathing, causing illnesses” (P70).

The discourses of the study participants reiterate the influence of the reality of environmental injustice on the elaboration of mental processes, which focus certain elements on a social object to attribute meanings that are shared through communication (MOSCOVICI, 2010). The teachers’ answers confirm this idea, since the argumentative logic of their discourses retains the same essence: the initial conception and field of

meanings. In this case, deforestation and climate change, respectively, where associative relations present themselves as a consolidated representation.

Although the theme of climate change presents itself as an already consolidated image, there are also elaborations like “what is really close to me is the issue of deforestation and water pollution, given that many of the rivers in the city where I was born are polluted or silted up due to deforestation in the floodplains” (P60). This discourse reiterates the loss scenarios in the Amazon context, in particular the impacts caused by mega projects. Among these impacts, the teachers highlight their concerns in relation to water pollution, which is one of the elements that characterize environmental injustice. This is because “the Amazon basin is viewed by governments, business, investors and consumers as an inexhaustible source of water resources for hydropower production” (PORTO-GONÇALVES, 2017, p. 63). However, few questions are raised in relation to the impacts of this form of production on local communities (FEARNSIDE, 2015).

This may be the reason why water is another natural component mentioned frequently by the study participants. Especially because of its importance in the everyday lives of the local population; not only because it satisfies an essential need, but also because it adds symbolic, aesthetic and cultural value shared between generations (ANDRADE, 2017). Thus, with regard to the theme of water pollution, the study participants emphasize that “human life will become bad, the shortage of drinking water so vital for humans jeopardizes our lives and the lives of future generations” (P65). This discourse somehow reflects intergenerational knowledge transfer through orality in everyday reality.

Based on this understanding of reality, it is worth noting that “the impacts are felt in everyday life and, consequently, we suffer from heat, flooding, deforestation, landfills, lack of drinking water, etc.” (P69). Thus, the study participants reexplore the criticism of the inefficiency of public policies and the absence of the State, both in the promotion of these policies and environmental monitoring and enforcement in relation to the impacts generated by mega projects. This criticism can be observed in the discourse that denounces that environmental impacts “cause problems such as lack of basic sanitation, water pollution, landfills, lack of drinking water, etc.. in everybody’s lives. These problems happen due to lack of interest on the part the politicians that govern our state and country” (P67).

The criticism of the absence or inefficiency of environmental monitoring and enforcement policies deserves attention. The study participants feel the “impacts that are channeled to everyday life due to the decisions made by the government or lack of (decision making)” (P58). Thus, they recognize the need to strengthen environmental education as a process to fight and tackle the environmental crisis in the Amazon and as a possible way of making nonconformity with reality visible and resisting the imposition of environmental problems.

## 5 Some considerations

The findings of this study portray reality in the Amazon, thus allowing us to map the main environmental, economic and social impacts caused by megaprojects in the

region. Furthermore, the reality depicted by the study participants reveals not only their social representations, but also contexts of historically imposed environmental injustice and racism. The social representations of environmental problems are formed from mental processes that elaborate and diffuse images from everyday reality, thus depicting the main problems in the region: deforestation, water pollution, landfills, indiscriminate use of agrochemicals, and climate change. With respect to environmental injustice and racism, the environmental impacts caused by major development initiatives directly affect the health and economic status of families.

With respect to environmental injustice, the contributions of the teachers who participated in this study are directed towards the denouncement of the actions and/or absence of the State. Repeatedly, their dissatisfaction and criticisms are leveled at the perhaps intentional incapacity of the State to defend the interests of the local population and preserve the Amazon. It is evident in their representations that they understand the importance of the forest for the community. Thus, their concerns with deforestation go beyond the established association with climate change, also being inscribed in the permanence of the ecosystems and lifestyles of the communities that inhabit them, including traditional peoples.

The answers obtained throughout the study show a context of widespread environmental injustice. In this context, the mega projects in the Amazon region reveal, among other aspects, the political articulation that occurs around economic growth and the political interests that prevail in the region. Regarding both, the study participants are aware of the adverse, imposed situations, whether in the form of environmental problems or in the materialization of their impacts on the population. This is because they are capable of undertaking a critical analysis of the reality they experience, clearly explaining the main problems of the region and their impact on everyday life.

Beyond this critical analysis, they are aware of the need to dismantle this network of control, power and appropriation that has intensified not only in the Legal Amazon, but in the whole of Latin America. To this end, they resort to education as a possible way of strengthening public participation processes and demanding more effective environmental monitoring and enforcement, and as a strategy for fighting against the environmental, economic and social impacts caused principally by industrial, mining and hydroelectric initiatives. These initiatives have redefined the geographical space of the region and drastically affected the livelihoods of local populations, particularly the indigenous and traditional peoples who coexist with the Amazon Rainforest.

## Note

1 Code used to identify the study participants and data collection instruments.

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Original Article



# THE AMAZON BEYOND THE FORESTS, RIVERS AND SCHOOLS: SOCIAL REPRESENTATIONS AND ENVIRONMENTAL PROBLEMS

**Abstract:** The Amazon has historically been represented as a terrestrial paradise in social imaginaries. However, over recent decades, it has been converted into a complex subject with a number of dilemmas to be solved. This study sought to gain an insight into the social representations of environmental problems and the impacts of these problems on the daily lives of teachers working in Castanhal, the State of Pará, Brazil. It uses a theoretical and methodological framework based on Social Representation Theory and the principles and methods of ethnography. A questionnaire was conducted with 121 teachers and complemented by group discussions and participant observation. The findings show the existence of shared representations formed from the environmental problems experienced on a daily basis by the teachers, such as deforestation and climate change. These representations reaffirm the teachers' conceptions of nature and the culture and lifestyles of Amazonian populations.

**Key-words:** Social representations; Environmental problems; the Amazon.

**Resumo:** A Amazônia, historicamente, foi constituída nos imaginários sociais como paraíso terrestre. Porém, nas últimas décadas, foi convertida em um tema complexo, com vários dilemas a serem resolvidos. Neste contexto, intensifica-se o interesse em conhecer as representações sociais de problemas ambientais, bem como os impactos de tais problemas na vida cotidiana de docentes que atuam na cidade de Castanhal-Pará. O seu aporte teórico e metodológico foi orientado por contribuições da pesquisa qualitativa, mais precisamente da Teoria das Representações Sociais na sua abordagem etnográfica. Portanto, recorremos ao questionário, complementado por dois grupos de discussão e pela observação para coletar as informações da investigação, na qual participaram 121 docentes. Os resultados indicam que existem representações compartilhadas, as quais são formadas a partir dos problemas ambientais vivenciados cotidianamente, como o desmatamento e as mudanças climáticas. Estas representações reafirmam as suas concepções de natureza, de cultura e de estilos de vida das populações amazônidas.

**Palavras-chave:** Representações sociais; Problemas ambientais; Amazônia.

**Resumen:** La Amazonía, históricamente, fue constituída en los imaginarios sociales como paraíso terrestre. Sin embargo, en las últimas décadas fue convertida en un tema complejo, con muchos dilemas que resolver. En este contexto se intensifica el interés en conocer las

representaciones sociales de los problemas ambientales, bien como los impactos de tales problemas en la vida cotidiana de los docentes que actúan en la ciudad de Castanhal-Pará. Su aporte teórico y metodológico fue orientado por contribuciones de la investigación cualitativa, más concretamente de la Teoría de las Representaciones Sociales en su abordaje etnográfico. Por lo tanto, recurrimos al cuestionario, complementado por dos grupos de discusión y por la observación para recolectar las informaciones de la investigación, en la cual participaron 121 docentes. Los resultados indican que existen representaciones compartidas, las cuales son formadas a partir de los problemas ambientales vivenciados cotidianamente, como la deforestación y el cambio climático. Estas representaciones reafirman sus concepciones de naturaleza, de cultura y de estilos de vida de las poblaciones amazónicas.

**Palabras-clave:** Representaciones sociales; Problemas ambientales, Amazonía.

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