

The protagonism of local populations in the Mariana and Brumadinho crises in the national and regional press

O protagonismo das populações locais nas crises de Mariana e Brumadinho na imprensa nacional e regional (PT: 159-181)

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ABSTRACT

In 2015 and 2019, respectively, in the cities of Mariana and Brumadinho, in the state of Minas Gerais (Brazil), the two most significant environmental and labor disasters in the history of the country occurred. Two iron ore tailings dams ruptured. These disasters had a considerable impact on the lives of the communities where they happened, and received widespread coverage in the Brazilian and international media. This article analyzes the highlights from printed media with the most significant national circulation (Folha de S. Paulo, O Globo, Veja, and Época) as well as regional ones in the Minas Gerais State (Estado de Minas and O Tempo). The article concentrates on the first pages of the chosen media's coverage within one year after these incidents. Quantitative analysis of the content of 3,148 covers of these newspapers and magazines was used to determine the most prominent actors and themes. The main highlights of this paper are: (i) the role of local populations, as the most prominent actors, portrayed in their testimonies and personal stories (ii) the difference between the most prominent themes, which were, in Mariana, publications on environmental damage, and, in Brumadinho, the threat of new disasters; and (iii) the greater emphasis given by the

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regional media in comparison to the national ones. This study provides local communities with information about how they were represented and how the press received their demands and mobilizations. The article also offers elements for discussion and the use of strategic communication tools in the mobilization of local populations and the repair of damage to the image of the organizations involved.

Keywords: crisis communication, media coverage, quantitative content analysis, Mariana, Brumadinho

RESUMO

Em 2015 e 2019, respectivamente nas cidades de Mariana e Brumadinho, no estado de Minas Gerais (Brasil), ocorreram os dois maiores desastres ambientais e trabalhistas da história do país, com o rompimento de duas barragens de rejeitos de minério de ferro. Esses desastres tiveram grande impacto na vida das comunidades aonde ocorreram e receberam forte atenção dos *media* brasileiros e internacionais. Este artigo analisa os destaques que os órgãos de comunicação social impressos de maior circulação nacional (*Folha de S. Paulo*, *O Globo*, *Veja* e *Época*) e regionais do estado de Minas Gerais (*Estado de Minas* e *O Tempo*) destinaram, em primeiras páginas, à cobertura desses eventos no período de um ano após esses incidentes. Recorreu-se à análise quantitativa do conteúdo de 3.148 capas desses jornais e revistas para apurar os atores e temas mais destacados. Neste trabalho constatou-se: (i) o protagonismo das populações locais, como atores mais destacados, retratados em seus testemunhos e histórias pessoais; (ii) a diferença entre os temas mais destacados, em Mariana sobressaíram publicações sobre danos ambientais e, em Brumadinho, destacou-se a ameaça de novos desastres; e (iii) o maior destaque dado pelos órgãos de comunicação regionais em comparação com os nacionais. Esse estudo proporciona às comunidades locais saberem como foram representadas e como as suas demandas e mobilizações foram acolhidas pelos órgãos de comunicação. Além disso, o artigo oferece elementos para discussão e emprego das ferramentas da comunicação estratégica na mobilização das populações locais e para a reparação dos danos à imagem das organizações envolvidas.

Palavras-chave: comunicação em situação de crise, cobertura midiática, análise de conteúdo quantitativa, Mariana, Brumadinho

1. Introduction

The collapse of two iron ore tailings dams in Mariana (2015) and Brumadinho (2019), which caused nearly 300 deaths and immeasurable environmental damage, led two of the world's largest mining companies – Samarco S.A. and Vale S.A. – to experience an unprecedented crisis of image and reputation, and called into question the mining industry itself in Minas Gerais and Brazil. By repeating the dynamics of the Mariana disaster, the case of Brumadinho reinforced the accusations of misconduct of the companies, which allegedly failed in the construction and maintenance of the dams. Due to the serious environmental, economic and human consequences – with hundreds of deaths, severe degradation of the qual-

ity of life, and a threat to the safety of the companies' residents and workers – the disasters are significant examples of crisis within organizations, maximized also by the strong repercussions in the media in Brazil and abroad.

Focusing on the human and environmental tragedy, the media has built a media agenda centered on the damage to rivers and forests and the repercussion on the lives of local populations, which demands from these organizations communication strategies to recover their image and to rebuild their reputations. A strategic communication campaign to face serious crises must be based on a broad knowledge of the environment and of the organization, as well as on the identification of the publics (internal and external) and interested parties (Steyn, 2004). In a crisis, whatever its characteristics and dimensions, the communication issue stands out, requiring the construction of a narrative and a response strategy (Hearit & Roberson, 2009).

One must also consider that human beings engage in recurring patterns of communication behavior established to reduce, repair, or avoid reputational or image damage when faced with a situation in which that reputation is questioned by a wrongdoing. In this respect, content analysis of media coverage, in addition to the documental nature of its effects, can also be used to measure the success of image repair discourse (Burns & Bruner, 2000). Crisis managers need to know in detail the editorial decisions adopted by the media outlets in covering these crises. They need to know which actors and themes are most highlighted, that is, who appears as the protagonist and the issues related to them, the frequency of these publications, and what kind of agenda is being built by the media.

To this end, we investigated the prominence that the most widely circulated print media in Brazil (*Folha de S. Paulo*, *O Globo*, *Veja* and *Época*) and in Minas Gerais (*Estado de Minas* and *O Tempo*) assigned to the coverage of the two events, on their covers, in the first year after the accidents. The study revealed that the local populations stood out as the most prominent actors, relating mainly to the dramas they experienced as a result of the disasters, and provides relevant information about how they were portrayed and how their mobilizations, initiatives, demands, and needs were received. The study also offers a contribution to crisis managers for the design of their communication strategies and messages.

Three research questions directed this investigation: 1) who were the most prominent actors in the headlines or what leads were published on the covers of newspapers and magazines in the study period; 2) what were the most prominent themes in the headlines and leads; 3) how often did the media outlets address the Mariana and Brumadinho disasters on their covers?

This article is divided into three sections. In the first one, concepts related to crisis communication, image, reputation, response strategies, and news framing

are explained. The second point includes the presentation of the methodological options, data collection, and analysis techniques, as well as the research questions. The third point is dedicated to both the presentation and the analysis of the results, as well as the implications of the research.

2. Crisis, crisis communication and response strategies

Several authors (e.g., Benoit, 1997; Benoit, 2002; Burns & Bruner, 2000; Coombs & Holladay, 2002; Coombs, 2007; Coombs & Holladay, 2008; Spence, Lachlan & Griffin, 2007; Hearit & Roberson, 2009; Roper, 2012) have investigated the importance of scientifically tested strategies and techniques to be adopted by organizations to get through times of image crises and to preserve their reputations. However, there are key concepts that must be clarified for further understanding of the topic.

Initially, it is necessary to conceptualize what a crisis is. For the purpose of this investigation, we define a crisis as an unexpected, non-routine event that creates a high level of uncertainty, threatens high-priority objectives, and puts at risk the life and property of an organization, an individual, or the well-being of the community. Crisis communication, however, can be understood as what companies say or do to overcome a moment of crisis, as well as the aftermath of such a moment (Coombs & Holladay, 2008; Spence, Lachlan & Griffin, 2007).

Studies in crisis communication show that companies held accountable for misconduct strategies are required to respond to the various audiences, internal and external, about their actions (Hearit & Roberson, 2009). In principle, these strategies point in two directions: either deflecting attention away from the accusations, or confronting the allegations of misconduct. Denial, corrective action, mortification, and compensation are strategies that make up the menu of confronting the accusations in a direct way. Strategies that rely on deflection may include counterattack, blame shifting, minimization, and misrepresentation (Hearit & Roberson, 2009). Situational theory of crisis communication (Coombs, 2008) suggests that managers should match strategic responses to crisis situations with the level of liability and reputational threat posed by those situations. Assessing the type, history, and previous relationship with crisis situations will help managers predict the level of reputational threat, as well as identify how the publics involved may perceive and attribute responsibility for the crisis.

Vale and Samarco are large mining companies with open shares in the stock market and therefore also depend on their image in public opinion. As Lippmann says: “the image of themselves, of others, of their needs, purposes and relationships, are their public opinions” (2008, p. 40). Therefore, it is in the interest of these corporations to go through the crisis that disasters impose on them and

regain credibility with the public. Organizations have multiple possibilities of tools to influence their publics about their image, such as advertising, community relations, direct marketing, lobbying, media relations, sponsorship, and events (Löwensberg, 2009). In an extremely competitive world, organizations, public and private, vie for attention, admiration, and engagement from their publics, consisting of employees, investors, customers, etc. (Hallahan et al., 2007), and each of these publics has its own interests and goals, and interacts directly with the organizations and among themselves (Figure 1), either with more or less power to influence the decisions of these companies. Consequently, there is a network of relationships in which there is no protagonism or centrality of organizations or media (Coombs & Holladay, 2013).

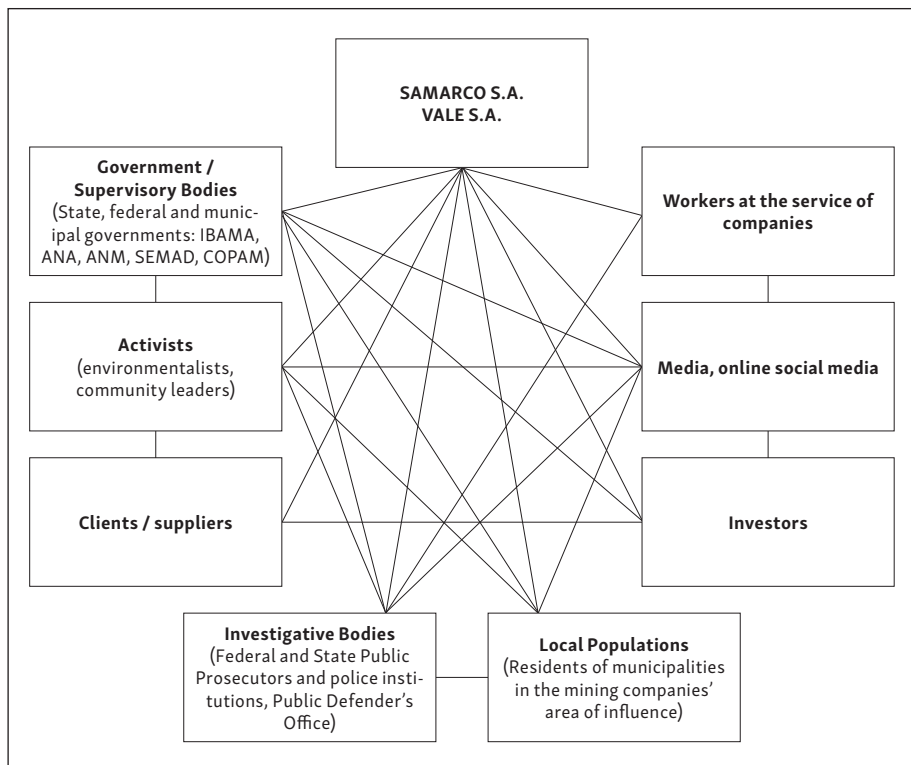


FIGURE 1. Network of publics and their relationships in the Samarco and Vale cases

Source: Prepared by author based on the Coombs and Holladay model (2013).

The mobilization of local populations to repair the damage caused by the Brumadinho disaster exemplifies how the interest groups that alter the company's decisions act and how they interact with each other. The pressure of the local populations, in communication with the Public Prosecutor, and the exposure of the negotiations by the media, led to the agreement that extended the payment of emergency financial assistance to those affected by the tragedy for the entire year of 2020, and not just for seven months, as the mining company wanted (Estado de Minas, 2019). After the Brumadinho disaster, a group of 110 investors, financed by US\$ 14 trillion, led by funds from The Church of England, began to question 727 mining companies in the world for more safety and transparency in the management of their dams (Estado de Minas, 2020).

2.1 Communication in crisis and disaster situations

Crisis communication research has been prominent in strategic communication studies and has addressed a wide variety of topics (Diers-Lawson, 2017). Examples are: media coverage of organizational crisis accountability and response strategies (An, Gower & Cho, 2011); whether the predicted dependency relationship between crisis accountability and organizational reputation occurs in various types of crises (Coombs & Holladay, 2002); and, how the halo effect — the favorable reputation before a crisis situation — can occur, and what its role is in crisis and post-crisis periods (Coombs & Holladay, 2006).

Crisis communication research has registered important advances with empirical studies, such as those applied to the situational theory of crisis communication, which began to offer a set of guidelines on the actions to be taken by managers to respond to crises and to protect the reputation of organizations (Coombs & Holladay, 2007).

Crisis communication in disasters has also received attention from researchers (e.g., Purworini, Purnamasari & Hartuti, 2019; Spence et al., 2007). Sarlos and Szondi (2015), for example, analyzed the role of media in the environmental disaster that occurred in Hungary in 2010, when a waste dam resulting from the processing of bauxite into aluminum ruptured and caused the death of 10 people, injuring 120, and devastating more than a thousand hectares of arable land.

Crisis communication research also points to the temporal pattern of media coverage of natural and industrial disasters. In their initial moments, crises register an explosion of coverage, followed by a decline, always continuous and slow, but somewhat constant. When environmental issues are at stake, as in the cases of Mariana and Brumadinho, it takes longer for the crisis to be considered as solved (Sarlos & Szondi, 2015).

2.2 Image, reputation and reparation

The way a particular organization is seen by its audiences is called image, something comparable to a photograph taken at a particular time by an individual. By its characteristic of reflection, the image is linked to a certain time and space; therefore, the analysis of a series of these photographs can reveal the reputation of an organization (Löwensberg, 2009). Organizational reputation is intertwined with the concept of image, and together they form a complex set of organizational expressions and evaluations.

Reputation has deeper aspects and characteristics than image. This is because it is an evaluation that stakeholders — any group that can affect or be affected — make about organizations, considering all their past behavior. Reputation can be understood as a precious asset, since it can attract, generate investments, and captivate and retain talent (Coombs, 2007). Therefore, reputation is configured as an essential resource for organizations and individuals (e.g., Benoit, 1997; Burns & Bruner, 2000; Coombs & Holladay, 2008; Eriksson & Eriksson, 2012). Benoit (1997) points out that the beginning of defining a crisis response strategy is to answer two basic questions: whether the accused is responsible for the action, and whether that action is considered offensive.

2.3 The construction of the media agenda

The fundamentals of agenda-setting lie in the quality and type of attention given to news events, and can be related to media, public, and political agendas, which interact at different times and to different degrees, without the media agenda presenting itself as dominant (DeSanto, 2013). Scheduling theory laid its foundations with investigations that aimed to understand and interpret facts related to media coverage of electoral processes, about the effects and importance of the media with respect to the public in the creation of the agenda.

In these 50 or so years after its initial assumptions, agenda-setting presents itself as a strong and broad theory, showing several other faces, such as investigations on the need for orientation, network agenda setting, and agenda-melding (how media civic agendas and referent communities intertwine with personal experiences). These three agenda items stand out in view of the contemporary nature of the issues, but there are other relevant facets of agenda-setting as well. These include the basic agenda setting, the configuration of agenda attributes, and the origin of the media agenda (McCombs, Shaw & Weaver, 2014).

Framing, as an extension of agenda-setting, presents itself as a tool to understand the construction of message content and its interpretation by the public. The frame establishes an arc that highlights the message and contributes to the

definition of its meaning, by focusing attention on specific elements and excluding noises or even contradictory elements that hinder their understanding (Hallahan, 2013). It is, therefore, useful for public relations in the construction of messages, and in the understanding of how the process of news creation by journalists takes place. Framing can be classified into seven types: situations, attributes, choices, actions, issues, responsibility, and news (Hallahan, 1999). The framing of the news deals with the aspects of how the news is portrayed or framed by the media and translates into an effort to explain complex and abstract ideas, attracting many of the characteristics of the other framings.

Other factors that influence journalists in the treatment of a certain issue are social norms and values, pressures and restrictions from organizations, pressures from interest groups, journalistic routines and ideological or political orientations of the press professionals themselves (Scheufele, 2000). Agenda setting and priming occurs on two levels, the macroscopic, when the agenda is examined based on the media agenda, and the microscopic, when agenda setting is examined based on the audience and the relevance of particular issues in a person's memory. And that translates into three different processes: agenda setting, agenda creation and agenda preparation.

2.4 The Mariana (2015) and Brumadinho (2019) disasters

The attempt to maintain a positive business reputation in the eyes of shareholders and investors to achieve world leadership in market value in the mining sector ended tragically for the mining company Vale S.A., after the Brumadinho disaster that caused the death of 270 people (the company's own workers, service providers, and members of the local population), and major environmental damage in the municipality. This is the synthesis of the criminal accusation filed by the Public Prosecutor's Office of Minas Gerais, which accuses 16 people of double murder and several environmental crimes resulting from the collapse of Dam I, at Córrego do Feijão Mine, in Brumadinho. The indictment was received by the Judge of the Criminal Court of Brumadinho, on February 14, 2020, turning all 16 accused, the top management of Vale and Tüv Süd (TJMG, 2020), into defendants.

The disaster in Brumadinho repeated the storyline of another collapse of an iron ore tailings dam located in the municipality of Mariana, also in Minas Gerais, 100 km from the Córrego do Feijão Mine. On November 5, 2015, the mud coming from the Fundão dam, operated by the Samarco mining company — which has Vale itself and the Australian mining company BHP Billiton on its controlling board — killed 19 people, affected 39 municipalities in the states of Minas Gerais and Espírito Santo, and traveled more than 600 km down the Doce River and its

tributaries, until it contaminated the Atlantic Ocean, devastating fauna and flora where it passed (Estado de Minas, 2019).

The Brumadinho disaster drew attention to 816 other tailings dams in the country. However, in January 2020, a year after the Brumadinho disaster, only 274 had been inspected by the National Mining Agency (ANM), resulting in the interdiction of 41, of which 22 are in Minas Gerais. The interdictions show that this is a national problem, occurring in all Brazilian geographical regions: 3 dams were interdicted in São Paulo and 1 in Rio de Janeiro (Southeast Region), 9 in Mato Grosso (Center-West Region), 3 in Pará (North Region), 3 in Rio Grande do Sul (South Region) and 1 in Bahia (Northeast Region) (ANM, 2020). This shows that the threat of new disasters is real and can cause damage to human life, the environment, and the property of others on a national scale.

3. Methodology Options

The objective of the article is to feature the highlighting and framing done by the national (*Folha de S. Paulo*, *O Globo* and the magazines *Veja* and *Época*) and regional (*Estado de Minas* and *O Tempo*) print media outlets on their front pages, in their coverage of the facts related to the iron ore dam breaks in Mariana and Brumadinho. The period covered is one year after the accidents — from November 6, 2015 to November 6, 2016 and from January 26, 2019 to January 26, 2020, respectively, in order to answer the following research questions:

- QP1 – What are the main actors highlighted by the media outlets in sustaining their headlines or leads published on their front pages?
- QP2 – What are the most frequent themes in the headlines and leads published on the front pages of the media outlets in the study periods?
- QP3 – How often did the media outlets cover the Mariana and Brumadinho accidents on the covers of their print publications?

We analyzed 3,148 covers published by the two daily printed newspapers with the largest national circulation, namely: *Folha de S. Paulo* and *O Globo* (Poder360, 2019); and by the weekly printed magazines *Veja* and *Época*, also with the largest circulation in the country (Meio & Mensagem, 2019). With regard to the regional newspapers, the criterion for choice was the traditional editorial line and the largest presence in the state, resulting in the selection of the newspapers *Estado de Minas* and *O Tempo*.

The front pages are the showcases of printed newspapers and magazines because they indicate the main subjects covered in each issue. For this reason, they

usually express representative elements of all editorials, photos, and art. The subjects, highlights, and graphic elements in their elaboration represent the thought and the editorial line of the media outlet (Folha de S. Paulo, 1996). The titles of the headlines and leads, the focus of this study, in newspapers like *Folha de S. Paulo*, are constructed in such a way as to gather as much information as possible, considering that the “titles and subtitles are the main, if not the only, point of contact of many readers with the news” (Folha de S. Paulo, 2020).

Following this analysis, 594 covers of the media outlets of interest to the investigation were selected. Then 50 of them were analyzed, chosen randomly, for the construction of the category tables of the most frequent contents (Table 1) and the most prominent actors (Table 2). We followed the model used by Sarlos and Szondi (2015).

TABLE 1. List of the most frequent categories of topics present on the covers of the media

MOST FREQUENT TOPIC CATEGORIES	
Legislative actions	Inspections of dams
Water supply	Public administration misconduct
Board removal	Company misconduct
Threat of new disasters	Demonstrations by the population
Health aspects	Rescue operations
Complex and multifocal	Others
Chemical composition of the tailings	Agricultural issues
Image crisis	Damage repair
Environmental damage	Civil/economic liability
Security faults	Criminal liability
Personal stories, testimonies	Resuming activities
Impact on tourism	Disaster simulations
Economic impacts	Reconstruction work
Compensation for damages	Transport, traffic
Local initiatives	

Source: prepared by the author from the model developed by Sarlos and Szondi (2015).

TABLE 2. List of the most prominent actors in the headlines and front pages of the media

MAIN ACTORS HIGHLIGHTED
Writers/opinion (columnists, editorialists, contributors, commentators)
Regulatory/oversight agencies (AMA, ANA, Ibama, Semad, Copam, etc.)
Civil Defense/Fire Department
Companies (Samarco and Vale)
Specialists (environmentalists, engineers, etc.)
State government
Federal government
Local government
Undetermined
Research bodies (Police, Forensic Medicine Institute and Public Prosecutor)
Judicial bodies (TJMG, STJ, TRF, etc.)
Others (religious organizations, sports, artists, etc.)
Local populations
Parliamentarians (senators, MPs, and aldermen)

Source: prepared by the author from the model developed by Sarlos and Szondi (2015).

We classified as headlines the titles of the main news of the day that were highlighted (greater impact/appeal) in the first pages. The front-page leads received this classification for presenting as characteristics the summary of information on a certain subject and referring the reader to the inside pages, where the complete coverage can be found (Folha de S. Paulo, 1996).

4. Results

4.1 The Mariana and Brumadinho disasters on the front pages of the media

From the analysis of the 3,148 newspaper and magazine issues, 594 covers of interest to the investigation were extracted. It was found that 275 of them reported on the Mariana disaster and 319 contained publications on the Brumadinho accident (Table 3). The newspapers with regional circulation published the largest number of records of the disasters on their covers (745), against 219 publications by the national newspapers. Despite being characterized as the most serious environmental and labor accidents in Brazilian history, the disasters were relegated to a regional agenda.

From 222 editions analyzed, the two national circulation magazines dedicated the smallest number of covers to publish themes related to the two disasters. Only seven presented elements of interest for the investigation, with records about the accidents, and only in one edition were they highlighted as the main subject.

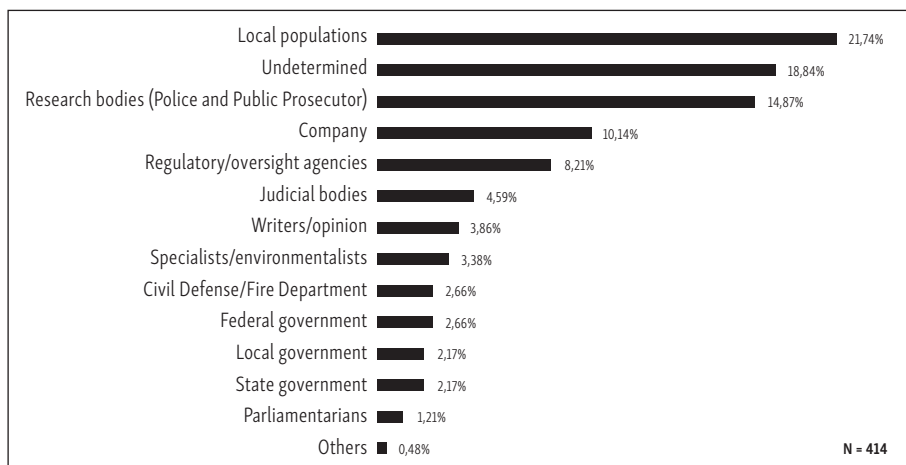
TABLE 3. Analyzed covers distributed by the cases under study

CASE UNDER STUDY	MARIANA	BRUMADINHO
Covers analyzed	1.578	1.570
Covers with headlines and leads	275	319
Total records (headlines + leads)	414	550
Regional newspapers (headlines + leads)	320	425
National newspapers and magazines (headlines + leads)	94	125

Source: prepared by the author.

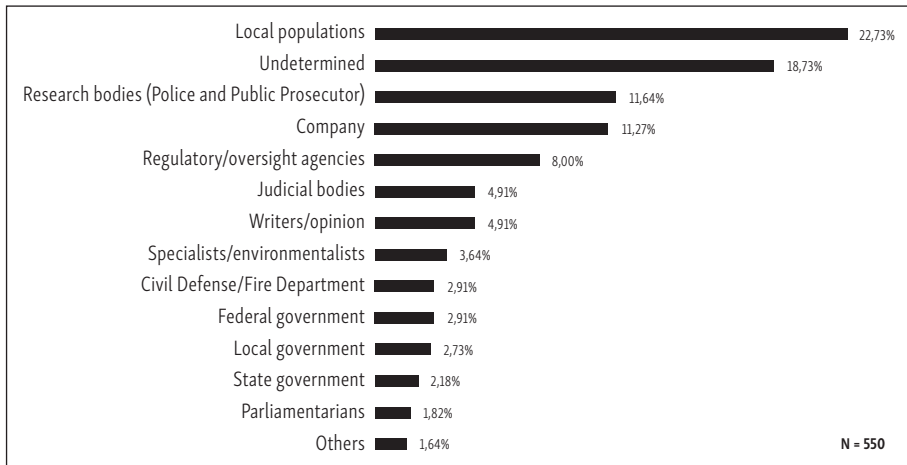
4.2 Local populations as the most prominent actors

In response to the first research question (QP1), local populations emerged as the most highlighted actors. In the coverage of the Mariana case, local populations were highlighted in 21.74% of the records, as can be seen in Graph 1.



GRAPH 1. Most prominent actors in the headlines and leads published on the covers of the media outlets about the Mariana/Samarco case, in the period from 6/11/2015 to 6/11/2016 (in %)

In the publications related to the Brumadinho disaster, local populations also stood out in the survey (22.73%) (Graph 2).



GRAPH 2. Most prominent actors in the headlines and leads published on the front pages of media outlets about the Brumadinho/Vale case, in the period from 26/01/2019 to 26/01/2020 (in %)

Further analysis of the headlines and leads published by national and regional media outlets that had local populations as the most prominent actors showed growth in the total records of cases in Brumadinho (124), in comparison with the coverage of the Mariana disaster (90). In these records, local populations are primarily related to personal stories and testimonies in both Brumadinho (29) and Mariana (30). However, in addition to a greater number, the widening of the distribution of themes associated with local populations was observed, in the case of Brumadinho, where they appeared as protagonists in records that referred to reports on the risk of new disasters (25), popular demonstrations (11) and economic impacts (11). In Mariana, local populations were more associated with themes such as water supply (9) and environmental damage (8), and popular demonstrations had only four records.

This information places local populations in a prominent position among the various publics and interest groups related to the process of repairing the image and reputation of organizations, which requires the attention of crisis managers in the design of strategies and the elaboration of messages. Several authors (e.g., Coombs & Holladay, 2013; Löwensberg, 2009) point out as vital that managers in crisis communication know the various publics in depth and how they interact to formulate communication strategies and choice of channels and forms of action.

This information becomes even more important as it became evident that criminal investigation bodies (Public Prosecutor's Office and Police) also appear in the lead as the most prominent actors (Graphs 1 and 2). Through their bodies for the defense of citizens' and social rights, there is a natural interaction with local populations.

The research also showed a significant change in the attitude of the population of Brumadinho in relation to Mariana. Driven by the priming effect or even impacted by the large number of deaths in this second accident, the fact is that a greater mobilization of local populations was identified in public demonstrations and greater participation in denouncing the risk of new disasters and the economic impact of the tragedy. The changes in the rules of the game in networks of relationships are no longer only "top-down", but also "bottom-up", no longer only by global stakeholders, but also by countless local agents (Yanitsky, 2017, p. 4).

By giving prominence to local populations, especially in the records related to personal stories and testimonies, media outlets also report the media framing constructed by them. The human drama is the main framing identified in the published records that highlighted reports about those affected by the disasters, such as the relatives and friends of the fatal victims, about the displaced, and the drama of small entrepreneurs in preserving their enterprises.

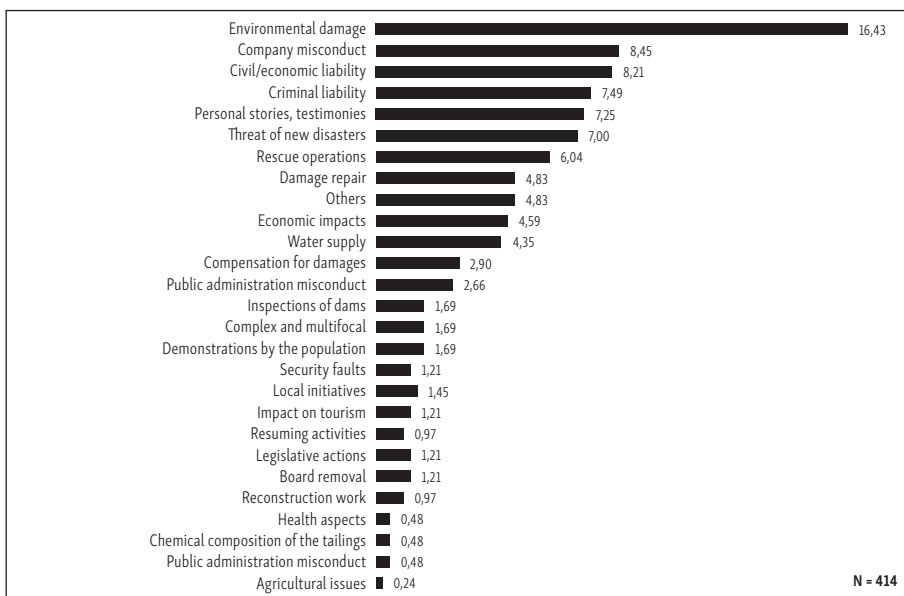
4.3 Damage to the environment, in Mariana, and the threat of new disasters, in Brumadinho

Content analysis of publications, which investigated the most frequent topics addressed on the front pages, allowed for the answering of the second research question (QP₂). In the case of Mariana (Graph 3), publications with a focus on environmental damage stood out (16.43%). The media agendas have kept away themes that could call into question the existence of the companies themselves and the mining activity in these locations, which is the exploration of mega enterprises in environmentally sensitive regions and with large population densification. A public or political agenda that questioned the mining activity in this region could have had an influence on the extent of the Brumadinho disaster or even the avoidance of the accident.

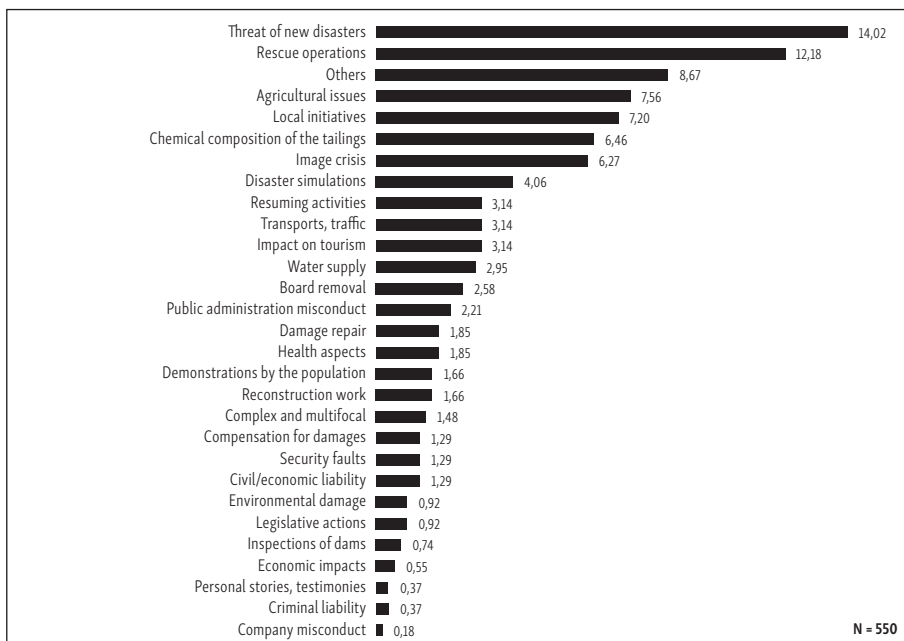
In Brumadinho (Graph 4), the threat of new disasters (14.02%) was the main topic, followed by publications about rescue operations (12.18%).

4.4 The prominence and timing of disasters on the front pages of the media

In response to the third research question (QP₃), it was found that national and regional media outlets concentrated publications on their front pages in the initial moments of the crises, with a decline in the following weeks and months, similar



GRAPH 3. Categories of related topics in the headlines and leads published on the covers of the media outlets about the Mariana/Samarco Case, in the period from 06/11/2015 to 06/11/2016 (in %)



GRAPH 4. Categories of related topics in the headlines and leads published on the covers of the media outlets about the Brumadinho/Vale Case, in the period from 26/01/2019 to 26/01/2020 (in %)

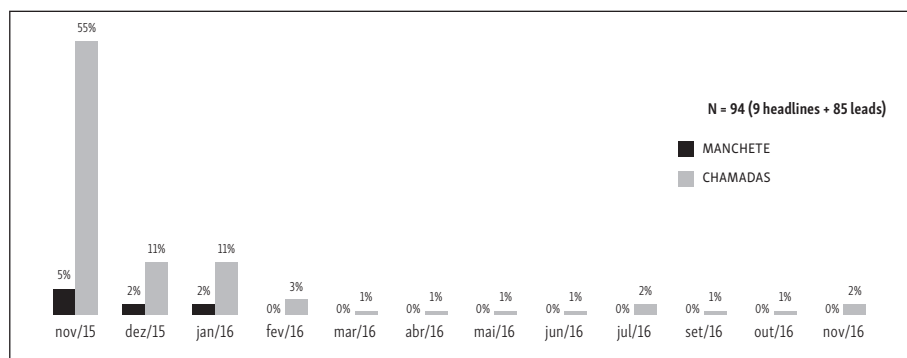
to the studies by Sarlos and Szondi (2015) on the collapse of an ore dam in Hungary in 2010. With regard to the disaster in Mariana in 2015, national media outlets published nine headlines and 85 cover leads, with the majority (60%) (Graph 5) in November 2015, in the first 25 days after the disaster.

In the regional media outlets there was also a concentration of publications in November 2015, the month of the disaster, with about 41% of the total publications (Graph 6). In December, this number reduced to 25% of the publications.

In the coverage of the disaster in Brumadinho it was possible to observe a behavior of the media very similar to the case of Mariana with respect to the concentration of publications in the initial moments of the crisis. The national newspapers and magazines published 16 headlines and 109 notes on their covers, 125 in total. The months of January and February 2019 concentrated the highest volume of these publications, with 48% and 32% of them, respectively (Graph 7).

The regional newspapers dedicated more space on the front page of their editions to the Brumadinho disaster. A total of 106 headlines and 319 leads were published, with a total of 425 records. In the last week of January 2019, 12% of the total records analyzed were published. In February, there was a significant increase in publications (37%) (Graph 8).

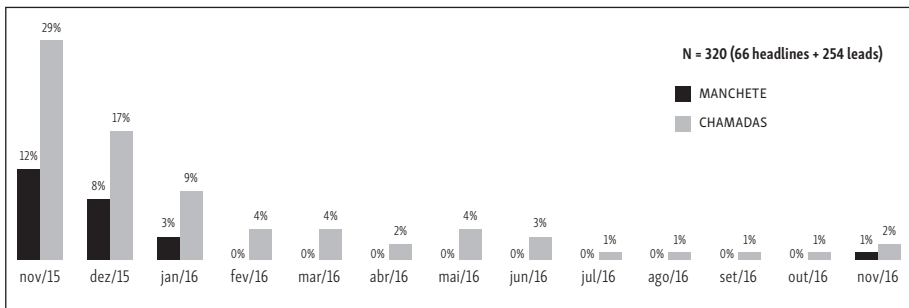
The Brumadinho disaster, by repeating the dynamics of the Mariana accident, raised the priming effect (the preparation of the agenda) and highlighted, in greater number, news about the possibility of new disasters at Córrego do Feijão Mine, in Brumadinho, and in other mining complexes in the country. The possibility of new disasters (Graphs 3 and 4), given the fragility of the system of dam construction, used on a large scale in Brazil due to its low cost, led to the extension of the life of the crisis in Brumadinho. This is more present in the regional media and has generated reports not only about the drama of the displaced populations, but also



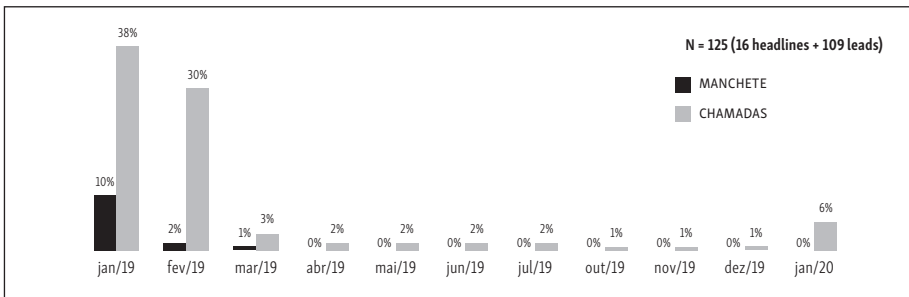
GRAPH 5. Mariana/Samarco case: publications in the national media (in %)

about those who have come to live under permanent threat. An extra concern is for crisis managers who need to deal not only with accusations of misconduct by organizations, but also create credible and reliable answers about what they intend to do immediately and in the future to provide security to local populations.

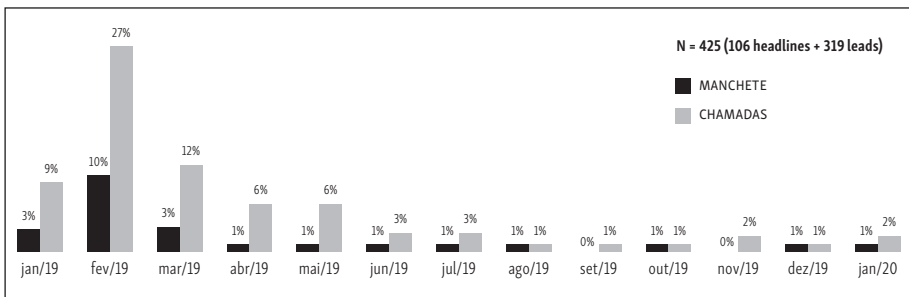
It was also found that the national magazines devoted the least space on their covers to headlines and leads of the disasters. The Mariana tragedy, for example,



GRAPH 6. Mariana/Samarco case: publications in regional newspapers (in %)



GRAPH 7. Brumadinho/Vale case: publications in national media outlets (in %)



GRAPH 8. Brumadinho/Vale case: publications in regional newspapers (in %)

was swept off the covers, giving way to the terrorist attacks in Paris, France, on November 13, 2015. At 8pm on the 13th, *Época* interrupted the printing of the issue due to circulate the next day, in order to replace the cover dedicated to the Mariana tragedy with the attack in Paris. The art director of *Época*, Alexandre Lucas, says that the cover was being printed when the first news of the terrorist attacks came and they made the decision to “flip” the cover, with the justification that the attacks had become an event of “historic and global proportions” (*Época*, 2015).

5. Conclusions

The information collected by the research answered the three research questions. In response to the first research question (QP1), it was found that local populations emerged as the actors most highlighted by the media. In response to the second research question, in the coverage of the Mariana case (QP2), it was also found that publications on environmental damage stood out, and that in the coverage of Brumadinho, reports on the threat of new disasters were more prominent. In response to the third research question (QP3), it was observed that the regional media dedicated more space on their front pages and for a longer period after the disasters in Mariana and Brumadinho than the newspapers and magazines with national circulation, and that there was a decline in the records after a few weeks from the beginning of the crises.

The research points out two implications, in particular: (a) for the local populations, it demonstrated that the media gives prominence to topics of interest to the affected communities, and (b) in the scope of the organizations, it provided managers with inputs for communication campaigns in crisis situations, by pointing out the most highlighted topics and actors and about the life of the crises on the front pages of the media, and the differences between the agendas built by the media and the organizations. The prominence by the media is an important indication that there is room for local populations to influence the construction of the agenda, through protests, popular demonstrations, and in interaction with other interest groups, in defense of their rights to repair the damage caused, and for a mining industry that respects their rights, the environment, and guarantees their safety.

The fact is that the ore tailings dam collapses in Mariana (2015) and Brumadinho (2019) and in other countries (e.g. Hungary, 2010, and Canada, 2014) are events that occurred in the wake of a technological revolution underway over the past two decades, with important transformations in the relationship of human beings with nature, in the relationships between work and education, and in the value system and changes in the character, dynamics, social order, and institutional structure of the global community (Yanitsky, 2017). Also noteworthy are

the changes in the role of information communication, mass journalism and the evolution of the national base and social movements in various directions in an attempt to establish a global civil society. Another point is the organization of platforms and forums for active participation in the resolution of urgent problems, as in the cases of natural and man-made disasters, through rescue operations and assistance to those affected.

These technological and relational changes have considerably expanded the capacity of local populations to mobilize in reaction to aggressions against their rights and have increased the pressure on organizations accused of misconduct. The classic recipe for dealing with crisis and post-crisis situations includes several communication tools and strategies to repair the image and reputation of organizations (e.g., Benoit, 1997; Benoit, 2002; Burns & Bruner, 2000; Coombs, 2007; Coombs & Holladay, 2002; Hearit & Roberson, 2009). However, the use of these tools is increasingly limited due precisely to these technological changes and to the rising protagonism of local communities and the interaction between the various interest groups, especially in the field of construction and dissemination of news and in the mobilization of these publics.

The transfer of blame for the disasters, one of those basic response strategies, was used by Samarco and Vale. In the case of Samarco, the blame was attributed to an earthquake in the region on the day of the collapse, which was denied by the company itself a few months later (Estado de Minas, 2016). And, in the case of Vale, the blame was attributed to the company Tüv Süd, responsible for the safety audit of the dam, a claim denied in the criminal complaint filed against the company's directors, and accepted by the courts (TJMG, 2020). These two events make explicit the assertion that the world is increasingly transparent, another important fruit of the social transformations registered in the last decades.

This study proved to be a useful analysis model for communities on social and political representation by the media and for crisis communication managers to understand the behavior and dynamics of coverage of major disasters and effects on corporate image and reputation. However, this study concludes with the suggestion that there is a need to expand this analysis to reach other news platforms, such as TV and radio stations, journalistic websites and online social media, and international media outlets. Included among the proposals for future studies is the comparison of the narratives of the organizations involved in public speeches, notes issued to the media, and the use of their own communication channels, such as the companies' websites and online social media, to gauge similarities and differences in framing.

Future research may also point to the reasons that led to the distancing of the national media in the coverage of these events. The study does not have the effect

of replacing more in-depth analyses of the content of the reports published by the media outlets in their inside pages, which is evident when we analyze the prominence that the weekly magazines gave to the two disasters in question. Despite including extensive internal reports, with complex approaches and relevant information, the disasters did not receive due prominence on their front pages.

