

Vulnerability in social welfare and household consumption after the Brumadinho/MG tragedy

Vulnerabilidade no bem-estar social e no consumo familiar, após a tragédia de Brumadinho/MG

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ABSTRACT

This article aims to analyze the vulnerability to consumption and social well-being in the face of the tragedy that occurred as a result of the rupture of the B1 Dam in the Córrego do Feijão Mine, located in Brumadinho city, Minas Gerais, where several lives were drained into the mud valley. We chose the qualitative method for this research, with semi-structured interviews of life history reports and content analysis. Therefore, the main dimensions detected in the course of this study were: (a) suffering and losses; (b) family members' means of subsistence; (c) the well-being of families and survivors; (d) the role of public authorities; (e) actions by Vale do Rio Doce with the affected families and with the community. Thus, residents are vulnerable due to public policies that do not follow the regional context and the risks involved for the population around the company that caused the environmental and financial disaster, which directly influences people's lives, as well as with regard to consumption of essential goods and services.

Keywords: vulnerability, social welfare, consumption.

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1 Introduction

The diversities resulting from and inherent in socioeconomic and environmental impacts, such as natural disasters (Green et al., 2021), landslides, destruction resulting from earthquakes (Bhandari et al., 2021), floods, and accidents due to lack of security, caused by administrative interference, make researchers analyze the variables and possible effective measures of safety and prevention of disasters. Mainly from mining tailings dams that cause river pollution (Gelencsér et al., 2011; Green et al., 2021; Li et al., 2021), which occur globally and become present in Brazil, giving rise to several fatal tragedies, such as human and material losses, which could be avoided.



Such measures should be privileged over any other interest other than the common good of the actors involved and the abusive profit of corporations due to management deficiency and preventive actions of probable disasters. Therefore, it requires studies inherent to unforeseen multidimensional challenges, the insertion of public policies, and the role of the State (Arora & Chakraborty, 2021a).

There is a need for actions aimed at mitigating the environmental and socioeconomic impacts caused by damage to society (Alcadipani & Medeiros, 2020), which goes beyond environmental damage, affecting society (Pereira et al., 2020), the economic and psychological structure of several families that are vulnerable to these disastrous situations. Such socio-environmental impacts threaten the security of the communities' livelihoods and question their legitimacy in the face of the practices adopted due to lack of security (Venugopal et al., 2019). Since certain factors relevant to disasters are detected as potential crises, which become dangerous and problematic in relation to the livelihood of the affected community (Finsterwalder & Kuppelwieser, 2020) caused by situations of uncontrollable and undesirable phenomena.

To this end, among several incidents, in November 2015, one of the accidents related to dams caused damage, destruction, and human and material losses to the local community, caused by the mining company Samarco occurred at the Fundão dam, located in the District of Mariana, state of Minas Gerais. The mud tailings with metal traces flowed into the Doce River basin until they flowed into the Atlantic Ocean, causing enormous environmental and socioeconomic impacts (Almeida et al., 2018; Do Carmo et al., 2017; Fernandes et al., 2016; De Oliveira Gomes et al., 2017; Hatje et al., 2017; Queiroz et al., 2018; Segura et al., 2016; Souza et al., 2021).

We can detect pollution and contamination in water with a high concentration of cytogenotoxicants (Gomes et al., 2018; Quadra et al., 2019); Segura et al., 2016), Besides The Huge Consequences For The Long-Term Health Of The Community (DOS SANTOS et al., 2021). However, after the accident occurrence with the dam in Mariana-MG, under the responsibility of the mining company Samarco, as mentioned above, according to reports and research, the community remains unassisted and vulnerable in terms of family losses and housing.

Thus, four years after the tragedy in Mariana, a new fatal disaster related to the dams occurred at approximately noon, lunch time for employees of the mining company Vale do Rio Doce, where they were surprised by the rupture of the B1 dam, at the Córrego do Feijão, under the responsibility of the mining company Vale do Rio Doce, located in Brumadinho, state of Minas Gerais, on January 25, 2019. That accident killed two hundred and seventy people and left five missing to date, involving mud tailings from the dam, besides the socioeconomic and environmental impacts.

Therefore, we should note that it is not a question of transferring responsibilities between the corporation and the public authorities. However, it cannot be neglected that these bodies play an important role in that problem, that is brought to society in a tragic and inconsequential way, according to Bankoff et al. (2013), because it is known that social vulnerability cannot be unnoticed in the face of corporate and economic interests. In this sense, it is necessary to look beyond the purely economic aspect and focus on the impact of the catastrophe on the families affected by the tragedy in the community of Brumadinho/MG.

Thus, this article seeks to portray the vulnerability and social well-being of the families victimized by the Brumadinho tragedy, which enabled the following question: *What were the social impacts caused by the tragedy of the mining company Vale in Brumadinho to the affected families and to the local community?*



To answer this question, this study sought to understand the vulnerability in forms of consumption and social well-being, in the face of the Brumadinho tragedy, through the dimensions detected in the research: suffering and losses, family subsistence, life expectancy in the face of the losses, and in particular the social well-being of families and survivors of the disaster, as well as the trajectories and life stories of the research participants.

2 Theoretical Reference

2.1 Consumption and social identity

In the complexity of the consumer behavior study, we noticed that the consumer seeks answers in their behavioral identities, identified in certain phases of their fragmented life, due to some social, cultural, and economic dimensions. Thus, the meanings and symbols of social identity indicate to others how a person sees oneself regarding cultures, communities, and groups (Goenka & Thomas, 2020). It is well known that social identity theory discusses the effectiveness between leaders and followers seeing themselves as part of a common group, (i.e., sharing a social identity. A sense of “we” and “us”) (Steffens et al. , 2021), since social identity theory has its origins in social psychology and seeks to understand which psychological aspects unite a group and what makes it recognized as such in others. Thus, social identity directly influences consumption among group members in a hedonic way, trying to avoid stress (Fennis et al., 2022; Liu et al., 2022).

Therefore, the perception of the importance of the “I” in the face of some salutary factors, regardless of subjective purposes, makes the individuals recover his losses or possessions related to having and being (Belk, 1988), which the consumer builds in a creative way their sense of “I” and their reconnection of sensitivity with their body (Firat; Venkatesh, 1995; Jain et al., 2021; Scott et al., 2017).

The desire to obtain goods and consume what does not represent satisfying need, but the pleasure in obtaining objects, can lead to constant radical hedonism over time (Fennis et al., 2022). In this context, we can assume that the path of capitalism enables the sense of identity as the imaginable possibilities expand concerning having and doing. In this way, financial power and profit enable the power to selectively acquire or reject purchasable objects, shaping in a more selective way, our extended self, according to Belk (1988) and Jain et al. (2021). Also, we can notice the importance of emotions that consumers feel and experience during the experience of consuming goods and services for their personal and social satisfaction and strengthening of social identity (Brough et al., 2016; Calvo -Porral & Otero-Prada, 2021; Randers et al., 2021; Yan et al., 2021).

In this sense, we notice that consumption and desire are linked to the interpersonal side, and the interpersonal state is similar between men and women. But for both sexes, it is noticed that the desire to consume is intrinsic to the positive emotional experience steeped in fantasies and dreams rather than an experience involving reasoned judgments (Belk et al., 2003; Rokka, 2021). Thus, the body demonstrates its identity, its “self” scaling the importance of the Self in a subjective space of consumption and materialism (Borgerson & Schroeder, 2018), enabling the reconstructions and transformations of their bodies through psychic exchanges between the “self” and the outside world (Bradshaw & Chatzidakis, 2016). Enriching with existential and phenomenological approaches, Roux and Belk (2019) consider the body as a place for self-transformation in contemporary consumption. In this way, the construction of social identity can be evidenced via consumption, provided that it is consciously intergroup and in society in general (Eastman & Iyer, 2021; Gil-Giménez et al., 2021; Schmitt et al., 2021).



2.2 Social well-being and quality of life

Well-being is considered from a quality of life (QoL) perspective and according to Gil-Giménez et al. (2021); Ianole-Calin et al. (2021); Lane (2000); Lee and Sirgy (2005); Nussbaum and Sen (1993); Sirgy (2001); Sirgy and Lee (2006), the central principle of the (QoL) theory which is the enhancement of human development. Quality of life is a social objective that governments seek to achieve at the national, community, and individual levels, following the central pillars of (TCR), transformative consumer research (MICK et al., 2012; Mulcahy et al., 2021) whose main objective is to seek well-being about health, happiness, prosperity, social justice and other dimensions concerning the vulnerability of human beings and their impacts as consumers, in the micro and macro sense.

Quality of life researchers traditionally capture the concept through subjective and objective indicators (Lee et al., 2002; Meadow et al., 1992; SIRGY et al., 1995b, 1995a; Sirgy & Lee, 2006; Vanden Abeele, 2021). Subjective Quality of Life indicators are typically in the way of measuring general happiness, perceived QoL, satisfaction with life or subjective well-being (Meadow et al., 1992; Sirgy, 2001, 2021; Sirgy et al., 1995b, 1995a; Sirgy & Lee, 2006). Objective indicators typically contrast with economic, social and environmental well-being based on expert assessment (Hagerty et al., 2001; Sirgy & Lee, 2006).

The basic premise is that a facet of the market contributes both positively and negatively to the consumer's overall sense of well-being, i.e., life satisfaction, perceived quality of life, subjective well-being, and consumers' actual well-being, that is, objective indicators of economic (Ianole-Calin et al., 2021), social and environmental well-being. Research on materialism, compulsive consumption, consumer equity, specific consumer populations, consumer life cycle, consumer life satisfaction, impact on quality of life related to a product, a dream, satisfaction and goals related to well-being subjective (Grosz et al., 2021; Sirgy et al., 2007; Voukelatou et al., 2021) are examples of consumer research guided by the concept of quality of life.

From this perspective, it is imperative to guarantee the minimum goals necessary for well-being, which imply adequate and sustainable access to income and resources to meet basic needs (Baro & Deubel, 2006; Godinho et al., 2017). It is perceived that the minimal relevance to well-being materializes in the certainty that individuals can have access to the consumption of basic material needs, such as food, shelter, and clothing (Voola et al., 2018). Thus, it is a consensus among authors that the consumers well-being is primarily related to meeting basic subsistence needs. Once this step is completed, one can think of well-being as a consequence of consumption materialism.

However, the need to maintain the security of livelihoods is fundamental to the sense of subjective well-being (Coulthard et al., 2011; Martin; Hill, 2012). Large amount of research, therefore, examines livelihood security at the household or community level to better understand its impact on individual, family, and community well-being (Lindenberg, 2002).

In view of the proposed study, human fragility is configured in the face of the vulnerability of a community before the loss of family and friends, the experience of mourning and suffering. All the discomfort caused by impacts that occurred in various dimensions directed at the ideologies of the economic system (Alcadipani & Medeiros, 2020), inflicting damage at different levels of intensity, unfairly, as can be seen in the case of Vale, in Brumadinho. We can emphasize that factors such as lack of social structures, inequality and exclusion can result in vulnerability of the individual as a consumer (Johns & Davey, 2019).

Consumers' state of vulnerability can contribute to the value of destruction in their consumption experiences and disruptions (Chang et al. (2021), intertwined with the well-being



of vulnerable consumers (Zainuddin et al., 2021) and slopes in well-being. This state contributes to social blockages, feelings related to the impotence of the ability to control resources and results (Tanner & Su, 2019), financial crises, economic, and cultural factors, (Cheung & Mccoll-Kennedy, 2019; Shultz & Holbrook, 2009), food shortages and quality of life, lack of drinking water, imbalance with health management (Davey et al., 2020), unemployment, which are just some of the reasons to be concerned about the well-being of individuals (Rosenbaum et al., 2017), resulting in ongoing tensions (Baker & Mason, 2012).

Relevant actions permeate pre- and post-disaster assessments at levels of social capacity (VCA) and are mainly characterized by the relevance of authorities in exploring the links between social vulnerability and the ability to assess data assembled before a disaster, with social and evaluation needs of data collected after a disaster. These data need to be incorporated into an integrated disaster management information system (DMIS), which enables security (Arora & Chakraborty, 2021a; Bankoff et al., 2013; Mulcahy et al., 2021).

3 Methodological Procedures

This research was carried out in Brumadinho city, in the State of Minas Gerais. The choice of location was motivated by the disaster that occurred on January 25, 2019, in that city. Brumadinho is known for the socio-cultural beauty of the Inhotim Institute and for the mining companies that exploit the mineral wealth of the place, such as iron and other valuable ores. The disaster was a consequence of the activities of the mining company Vale do Rio Doce, as one of its dams, known as the B1 dam, located in the Córrego do Feijão Mine, a district located in the municipality of Brumadinho, burst. It was one of the greatest socio-environmental tragedies which occurred in Brazil, recorded as a massacre of human lives due to corporate negligence by the mining company Vale.

The B1 dam of the Córrego do Feijão mine belongs to the Paraopeba Mining Complex, located in Brumadinho, state of Minas Gerais, Brazil. The dam was built in 1976, with its use of tailings. The liquefaction of the tailings and engineering failures are present at the origin of the tragedy, similar to what happened with the Fundão dam in 2015 (Robertson et al., 2019).

According to the reports and research sources, until the moment this work was carried out, the B1 dam disaster caused 270 deaths and 4 missing people, which originated in a socio-environmental impact, which shocked and moved the Brazilian population and abroad due to the inhumane, criminal, and cruel action, provoked by the company Vale. According to reports, the tragedy could have been avoided.

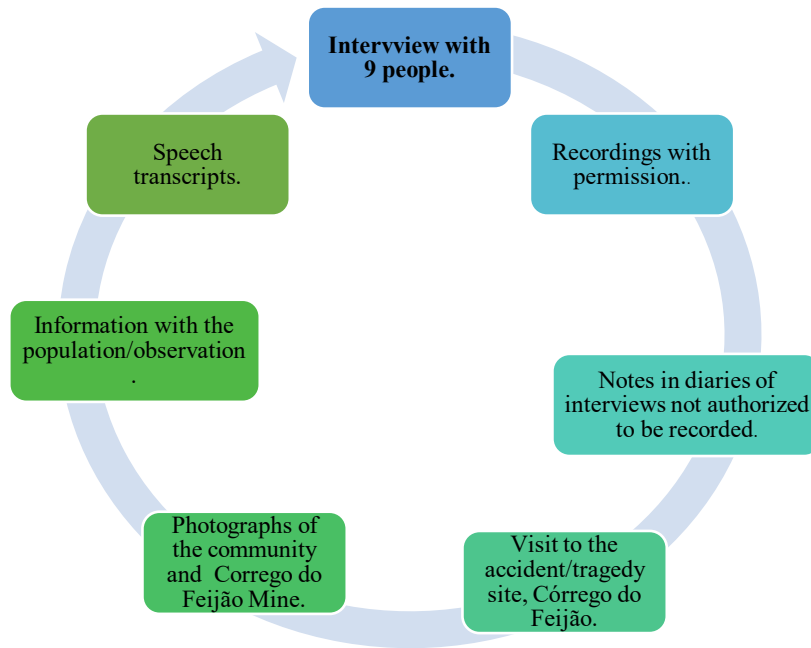
This research is based on a methodological approach of a qualitative study, using life history reports as a strategy for verifying data analysis since it covers the interests involved in the exploratory phase, as well as a wealth of information absorbed in the involvement in interviews with the participants.

According to Creswell and Creswell (2021), the researcher acts as an investigator so that he can ethically, explicitly and reflexively identify his biases, values, personal origins, such as gender, history, culture and socioeconomic status, which involve the whole context of the research. The individual reflects his history at the time of his past reflections. In this perspective he expresses the vulnerable silence due to the facts that occurred, due to the pain and suffering. However, life stories help to understand how the individual and collective stories of the people surveyed are articulated (Barros & Lopes, 2014). Each life story reflects its meaning and symbolism in the face of the collective representativeness of the society to which they belong and are inserted (Gouvêa et al., 2018).



Data collection took place as follows:

Figure 1: Phases of data collection.



Source: Authors (2022).

With the use of more techniques for carrying out qualitative data research, it was possible to enrich the contextual details of the speeches and the scenario itself (Cayla & Arnould, 2013).

We carried out nine interviews with participants from Brumadinho city and only one from Betim, as shown in Table 1.

Table 1 Participants' data.

Participants	Age	Education	Profession	Marital Status	City/State
A1	74 years old	Elementary School	Retired -Personnel Assistant at /Vale (34 years of activity)	Married	Brumadinho/MG
A2	20 years old	High school	Bishop Dom Vicente Secretary	Single	Brumadinho/MG
A3	44 years old	Elementary School	Inn employee	Married	Brumadinho/MG
A4	34 years old	Technologist in Graphic Design	Inn Administrator	Divorced	Brumadinho/MG
A5	25 years old	Elementary School	Attendant - Cashier at the Bakery	Single	Brumadinho/MG
A6	65 years old	Engineer	Manager at Mineradora Ferros	Married	Brumadinho/MG
A7	30 years old	High school	Taxi driver	Married	Brumadinho/MG
A8	45 years old	Elementary School	Taxi driver	Married	Brumadinho/MG
A9	50 years old	High school	Uber application	Married	Betim/MG

Source: Research data (2022).

We recorded five interviews using the cell phone. Four participants did not authorize the recordings. The recorded interviews lasted four hours each, with a scheduled time, and were held in Brumadinho city. The other four interviews had the procedure of taking notes about their life stories, as they were insecure and fearful of the recording. Therefore, on average, each meeting lasted 6 hours and 20 minutes. All participants received and signed the Free and Informed Consent Form (FICF). For ethical reasons, the researchers replaced the participants' names with codes, which are listed from A1 to A9 in the table and throughout the text.

There were some challenges to perform data collection due to several reasons presented by people in the community, which the researchers tried to communicate. It became necessary and pertinent to make prior contact with potential participants by telephone. Thus, some people were ready to collaborate, while others no longer agreed because they were in deep mourning and preferred to remain silent due to the moment of pain and suffering. And as time went by, the difficulties to carry out the research increased. The reasons were always intertwined with grief, mental problems, and depression. The residents and the tragedy victims' relatives were feeling exhausted, afraid, and threatened by Vale due to the various requests for interviews by the national and international press regarding the massacre of their relatives and family members.

But, when it was possible, at the opportune moment, the researchers traveled to Brumadinho/MG, where they stayed for a week to carry out the field work. The difficulties still persisted when they arrived in the city,. Several people who had already agreed to participate in the survey withdrew out of fear since, in the meantime, they were feeling threatened by Vale employees. However, with all the difficulty, it was still possible to hear several life stories. Some were recorded, and others were not, as the fear that haunted some participants was evident.



After some resignations to participate in the research, in loco, we were in contact with other people through the owner of the inn, who agreed to participate. In this way, there was scheduling, availability of time, place, and the best day for each participant.

Therefore, the definition by the subjects who collaborated with the research occurred through questions of accessibility, convenience, and “snowball” techniques, in which, according to Sampieri et al. (2013), identify the key participants for the research, besides asking if they know other people who can provide broader data and contact them to include them in the study.

Besides making appointments with the participants, the researchers were always out on the streets, looking for evidence. So, the researchers saw twice, in a bakery, a few people talking about the tragedy, but they didn't authorize us to record their speeches. They were informal conversations. However, after listening to them, there was always a transcription in notes about the main points of the approaches and analysis of the speeches.

On the second day, there was a visit to the site of the tragedy, which began early in the morning and ended in the late afternoon. It was a whole day to visit the Mina Córrego do Feijão. The journey was long and with some interruptions for the photos, as the site of the tragedy was being rebuilt by Vale. The entrances were redone, as the previous path that existed before the tragedy was completely destroyed by the mud. The researchers were driven in the inn owner's vehicle, who offered to take them to the location. On the way, he described the period when he lived at the Córrego do Feijão Mine, as he was a former Vale employee. Soon, it was possible to take several photos of the village, a community with few inhabitants, since many residents abandoned their homes and farms due to the tragedy. It was a war scenario, with some very upset and shocking scenes.

Several trucks transited on the streets as Vale had hired some companies to rebuild the village belonging to the Córrego do Feijão mine. There were tank trucks throwing water on the street due to the dust that caused health problems such as asthma to the residents. Other trucks were with employees painting the walls and houses. Others were transporting employees to clean the streets. We could see that Vale was trying to alleviate the situation in some way.

The church was the center of concentration for arrivals of bodies and mortal remains transported by the firefighting helicopters. It was being restored and receiving a new painting. Some residents of the local community agreed to talk a little about the tragedy but preferred silence, and the feeling of sadness was constant.

Besides the dust, there was still a horrible stench as the researchers approached the place that was invaded by mud. And for sure, all that misconfigured scenario explained why the residents abandoned their homes and the space that belonged to them. There would be no way to remain in the place due to the traumas and the situation of the devastation of the environment, in addition to the houses that were destroyed by the currents of the mud. It should be noted that all those reported physical spaces were photographed.

In this way, in all interviews and life reports, we can notice that emotion was present all the time, followed by a lot of sadness, crying, memories and regrets. Participants cried as they remembered each relative or friend who lost their lives in such a devastating and inhumane way in this tragedy. Both the research participants and the city's population were traumatized by the deplorable situation of the losses.

The meetings with the interview participants were pre-scheduled with people who agreed to contribute to the work. There was a whole preparation and ethics in the conduct of interviews and conversations. The care with each one's time, the name that was protected, the respect for the individualized situation, and perceived vulnerability in each participant. So that they would not feel exposed and insecure.



We performed data analysis after transcription of the research participants' life stories. And the dimensions with the highest impact on the reports were weighted. First, we tested and validated the research instrument. Then it could be applied later.

4. Data Analysis, Results, and Discussion

To contribute to the study of life histories, we based on the transcripts of the interviews, categorizing the collected data and prioritizing the interviewees' speeches. The identified dimensions were suffering and losses, livelihoods, well-being, the role of public authorities, and Vale's actions towards affected families.

4.1 Suffering and loss

The vulnerability of the suffering caused by the tragedy was reported by the interviewees, configured in people's facial expressions, in the face of losses, and lives taken from family members, relatives, and friends. This loss was often revealed as something that undermined the sense of “self” derived from attachments (BELK, 1988); JAIN et al., 2021) with each loved one due to the tragic accident, where many lives were brutally and unexpectedly interrupted.

It's been a challenge to wake up every day and remember the whole situation of the accident, **"It wasn't just an accident. it was a tragedy!"** (A1)

At first, they were thirty-five years at the company [...] an employee, **she joined the company very young. Today she would be 50 years old. Her body has not been found to this day.** (A2)

[...] I was the best man at her wedding almost three years ago. **And her husband was also at Vale. They both died. They both died. They had two children** as soon as they got married. She got pregnant with two boys. []. We felt so sorry., We have already visited Juliana's mother. The father, right? **And we saw the children there, without a father or mother! Very sad.** [crying] (A1).

And her husband's body was found and buried right at the beginning. Her body has not been found to this day, nor Alessidia's, who worked directly with me (A1).

Nilson worked with me for ten years. [...] **And his body was found... Parts of the body, you know? Not everyone who was found had the whole body.** They hardly find the entire body. (A1).

Even though **they were not my relatives**, the suffering was present all the time, They had value, even though they were not close, **but Brumadinho is a very small city [...]. And then you discover that one person died, but who was it?** And we're going to find out. Oh! It was him! Did you get it?... And we didn't know that (A1).

According to the interviewee's statements, the feeling of the relatives' loss contrasts with theft. Something that will not be recovered anymore. They are eternal marks because the memories inherent in the tragedy will be relived daily by family and friends. The experience of mourning and sadness awakened the sensitivity of everyone in the community. The involuntary loss of possessions can bring a diminished sense of identity when possessions are lost through theft or accident, and there are reports of feelings of loss of a part of the “self” among victims of natural disasters (Belk, 1988; Steffens et al., 2021). It is worth highlighting that it is important



to distinguish between the perception of another person's current suffering and the perception of stimulus characteristics that are related to the properties of a healthy and non-suffering person. Therefore, to understand the social demands involved in loss and suffering for the development of actions and differentiated public policies (Dijker, 2001).

Look, the losses are like this, hurting. But now it is different, **because people are experiencing grief.** Everyone has their own way of experiencing grief. **There is always the “Act of the 25th”.** It comes to that memory. Everyone's memory. And it's very difficult! I live that a little, you know? Wow! It is very difficult. It is okay that there are **the indemnities, but it will not bring life back. Nothing replaces the loss, not the family members** (A2).

Look! We feel like this, useless, you know? Because we can't do anything [...] There's not much to be done (A3).

The reports of life stories reveals the pain, the suffering for the loss and the way in which the tragedy occurred. The grief and psychological problems that everyone is facing in the face of the massacre of several human lives becomes disturbing for everyone. In this way, sadness is an emotion considered closely related to mourning, which has the final result of the irrecoverable loss of something or someone that a person values very much. Grief, like worry, is not just an emotion, but is also part of a coping process during the time a person tries to deal with the loss of an important relationship (Ojala et al., 2021). And there are many open wounds and sadness in the eyes of families, friends and acquaintances.

It was very sad because people arrived devastated due to the situation they were seeing and not having found anything that day. Or sometimes they only found pieces of the body, you know? **So, mothers asked, Please, find even a finger of my son!** So, it was all very sad! (A3)

In the beginning, it was very moving. And even today. Very sad. In the beginning, the city **was very shaken, and we still find many people very shaken!** [...] After what happened, **the city was very sad,** I walked through the streets there, and even today, Every place you go, people comment on the situation. And what Vale is doing (A4).

In the face of all the suffering and mourning for the losses of family members and friends in Brumadinho, the fire department has continued its work in the search for the remains of the socio-environmental disaster victims, of the mining company Vale, until the present moment. Figure 2 shows the scenario of war and devastation that caused 270 deaths and four missing people.

Figure 2: Córrego do Feijão Mine.



Source: From authors (2022).

Among the many pictures taken in the Córrego do Feijão community and in the Córrego do Feijão Mine, where the tragedy happened, one of them is the picture above, where you can see a scenario of war and total devastation. Several helicopters flew over the site, and sniffer dogs, and trucks were helping. Heavy equipment was working in search of the other victims' bodies, which so far had not been found. And at the same time, cleaning and reuse of the mud, with its ore residues, which were being sold to China.

Close to this place, the Córrego do Feijão Mine, as it was shown before, several residences and farms were abandoned because of the odor due to the deteriorated human waste next to the mud and the residues of the ore mud. Besides that, they were facing a high volume of dust, which was causing various health problems to people in that community, especially to children, allowing pulmonary complications, conjunctivitis, bronchitis, allergies, and other diseases.

4.2 The households'livelihood

According to some interviewees' life stories, the problem of the livelihood of the affected families and even the community, in general, is concerning the social practices of legitimacy for survival (Godinho et al., 2017).

The legitimacy of survival is linked to the social and economic vulnerability of these families who survived by growing vegetable gardens, raising chickens and pigs, and collecting eggs, fruits, and some animals, such as cows. With the artisanal manufacture of dairy products. Production was aimed at the families' consumption. The surplus was sold at fairs in the community and even in the food trade in general in Brumadinho. With the Vale tragedy, these families lost their production, their animals, their homes, and their ways of working, which caused financial problems, affecting and compromising their human means of subsistence. That was seen as an act of aggression and a humanitarian crisis to the existential dignity of Human Beings.

There is a follow-up for **the financial issue**, health, and food, but not fully assisted. **Concerning health issues**, there are indemnities, but not for everyone. I am not sure. (A2).

Regarding money, I think that is not the problem, but it is the loss itself, the feeling. The way it happened, **because Vale has always preserved life. The company's motto has always been: Life above anything else. You know?** That was not exactly what happened. Is it? So financially speaking, everyone is calm. But Vale's slogan was the opposite, **and money is above anything else!** (A3.)

According to what was reported by all respondents, access to food, health, education, and housing is being guaranteed by public hearings and through the Public Ministry. Vale is obliged to compensate families and support the entire population so that everyone has adequate and sustainable access to income and resources to meet basic needs (Baro & Deubel, 2006; Godinho et al., 2017). This minimum guarantee of well-being materializes in the certainty that individuals can have access to the consumption of basic material needs, such as food, shelter, and clothing (Voola et al., 2018).

The (A3) participant emphasizes Vale's devaluation and disrespect for life, as financial assets and profit generated by administrative interference (Alcadipani; Medeiros, 2020), organizational strategies, and dominant structures such as the "mud tale" speech (Pereira et al., 2020) have become more relevant than the employees lives and safety, as well as the Brumadinho community.

4.3 The well-being of families and survivors

Faced with the national and international impact of the Vale disaster, people noticed the concern and mobilization of various social sectors and NGOs in defense of families without their homes and who lost their loved ones. In this context, Venugopal et al. (2019) expose that the moral/normative legitimacy of traditional subsistence practices provides opportunities for social well-being.

However, the importance of social relationships that permeate everyday life and their activities inserted in well-being, even through bartering (Godinho et al., 2017) and their commercialization concerning consumption, represented the context of the legitimacy of their identities. However, the wounded and lost "Self" detaches its legitimacy from ruptures in the fragmentation of the disturbing system. It is also noteworthy that religious beliefs and practices, for example, are strongly related to culture and may be responsible for some of the variations in the grieving processes (Stelzer, 2020), as emphasized in the interviewees' statements.

For participants A2, A3, and A4, by court order, Vale is assisting families through indemnification and aid for the entire community of Brumadinho.



At first, Vale was paying psychologists for the survivors and employees in need, but later it seems that that service no longer exists. **Vale paid the psychologists, but we, church representatives, were afraid of the psychologists inducing something in Vale's favor (A2).**

[...] but only Paola miraculously survived. [...] For being the only survivor of her house. **She has lost all her identity! She was at home with her family, but they all died.** She lived in Córrego do Feijão **and lost everything.** Her mother was undergoing treatment, as she lost part of her family and the house as well. She lost everything (A2).

[...] I am part of a Rosary group, which is called Terníssima Imaculada. **We take the prayer to families.** We pray with them. Not only that, but we make the person feel welcomed and loved and make them feel that they are not alone and that they have a group whom they can count on. They can count on Our Lady, the Virgin Mary, where they can feel welcomed. Do you know? **Remain firm, as Our Lady remained.** So, that's what we can do! (A3).

Look at the people from Brumadinho. They are people who know each other. **So they are practically very united. And in that sense, everyone is supporting each other. All of Brazil sent solidarity support in some way and moved not only Brazil but the whole world.** So everything was well accepted. (A4)

The relevant factor detected among community and solidarity actions with vulnerable families was the role of the church with care, solidarity, voluntary help, prayers, celebrations, and the prayer of the rosary with prayer groups in the families' homes. These religious actions in the face of people's Faith were of immeasurable support to calm the pain, loneliness, sadness, and mourning for the loss of family members. Thus, these actions enabled well-being in the face of memories (Mick et al., 2012; Sirgy et al., 2007; Zainuddin et al., 2021).

In the well-being relationship (Mick et al. (2012)) these families are faced with the uncertainties of the future for their obscure lives. Since the possibilities of consumption in its various spheres and dimensions transpose new frontiers and, at the moment, their identities, Steffens et al. (2021), which should be conceptualized, were dispersed and fragmented from the social and cultural world. It is noticed that the subject's perspectives of the world become contradictory, and disconcerting in the face of temporary and symbolic conceptions inserted into profound, non-idealized, and complex changes. They are imposed on vulnerability, generating psychological and striking ruptures at the levels of the emerging ecosystem to family members. (Zainuddin et al., 2021).

4.4 The role of public authorities

It is known that it is up to the public power to provide services, aiming to guarantee and protect the public interest and citizenship. Therefore, vulnerability is deeply rooted in any fundamental solutions that involve policy changes, economic system reform, and the development of public policies to protect, rather than exploit, people and the environment (Bankoff et al., 2013). Therefore, proactively implementing policies to protect the well-being of this group facing difficult and traumatic situations is fundamental since policymakers can map protocols to encourage professionals to be more aware of their duties, rights, and legitimate ways of charges and in the process of communication between the actors involved (Stewart & Yap, 2020). Thus, the role of the public sector in the case at hand was verified in the following statements:



It is playing an intervening role, but still very slowly. Nothing has been created for the city [...]. **It's too slow!** (A4).

Power is battling and fighting for us, right? So they arrested them, released them, and arrested them again. They are investigating. It has been doing a lot. So I have very little education. I don't know how to say things very well. But in my opinion, I thought that instead of giving **money, they should put it like this. A cooperative for people to work** and make money. Do you know? Because what are they going to do **when the money runs out?** Indemnification for families belongs to families. But the Public Prosecutor's Office is certainly involved, and there is a whole job (A3).

We can see that the actions inherent to the public power, after several public hearings, were trying to negotiate indemnification for employees who did not survive the massacre and the damage and losses caused to Brumadinho city, in general. Above all, many families were not being consulted regarding indemnification because they were in vulnerable and precarious situations. There is, in this sense, the need for actions by the public, municipal and governmental authorities to think about the relevance of financial well-being at this very delicate and calamitous moment (Bankoff et al., 2013; Ianole-Calin et al., 2021).

The market contribution and participation and various actors representing society, such as the government and its institutions, for-profit companies, social services, social groups, unions, and individuals, play relevant and multiple roles at that time as representatives of the entire community affected by the disaster (Arora & Chakraborty, 2021). The mobilization of those social acts is relevant to strengthen and support it in different dimensions, such as the offer of jobs, incentive to education at several levels, investment in health, improvement in the infrastructure in the municipality, cleaning in all properties, streets, and parks, and rescuing the cultural and social values of the population.

4.5 Vale actions towards the affected families and the community

Disasters, such as the Brumadinho case, are tragic events that often cause catastrophic physical damage to homes, buildings, vehicles, trees, power lines, and other physical structures. We can highlight that the tragedy causes physical and psychological ruptures in individuals, families, and communities that are affected by the physical damage and the psychological consequences caused by the destruction of community infrastructure, resources, and other types of support and thus, requires actions from the government entities and companies that cause harmful events to citizens (Bhandari et al., 2021; Osofsky & Osofsky, 2018).

Vale is not the only company in town. But it was the biggest one **because it was awesome** if you were selected to work there. [...] in the way that Vale thinks best, and by charging the Public Power, with many demands. But social assistance is not happening either for the community or for the families of the victims. **The company thinks money does everything. Do you know?** (A2).

Families were financially compensated with lifetime health plans. Children are also receiving the best schools in the region, and I also believe that they are being assisted by psychologists due to the loss of their parents. (A4).

At first, they paid indemnification to the families. I think it is about R\$100,000.00 for the first expenses, burial, and something for the person to be cared for. It happened all the time. **We say that indemnifying lives does not exist. Life is priceless** (A1).



Vale's indemnities for the victims' families and the entire population as a form of aid, by court order, are based on one of the main consequences for people's survival, such as the lack of the primordial item that is water, identified as a critical factor. We can analyze Figure 3, the Paraopeba river. It is all contaminated by mud, with heavy metals and residues caused by the epicenter of the impact caused by the tailing that flowed from Dam I, from Córrego do Feijão.

Figure 3: Paraopeba River-Brumadinho/MG.



Source: Authors (2022).

According to the reports of several interviewees, on Paraopeba Riverbank, there was an indigenous village in São Joaquim de Bicas. They were forced to leave the place due to the dam break. These families practically survived by fishing and planting. And after the tragedy, they were unable to return to their original activities due to the contamination of the river.

Every resident on the right and left banks has been receiving a fee due to the dam, which has affected the river. Water is lacking in many cities down there. They use water from Paraopeba. Fishermen who exist on the banks of the river. (A1).

However, they established necessary actions to assess vulnerability and social capacity (VCA) pre- and post-disaster, as well as the implementation of public and social policies, integrating the contingencies of the local community (Arora & Chakraborty, 2021B; Bankoff et al., 2013; Belk, 1988). They present their relevance in the face of the tragic episode in Brumadinho (Gelencsér et al., 2011; Li et al., 2021).

We can notice the negligence of the Vale company, given the lack of implementation of structural safety and risk mitigation strategy in actions (Biscarini et al., 2021) responsible for assessing the degree of vulnerability, as occurred in the case of Dam B1, in the Córrego do Feijão. We can also notice the negligence to prevent the possibility of the disaster, which occurred, and accident contingency plans causing environmental, and socioeconomic impacts to the local community of Brumadinho.

5 FINAL CONSIDERATIONS

The approach of this article was aimed at elucidating the primary needs of marketing research in the consumer behavior field, demonstrating the consumer, in a misconfigured way, injured and tortured by criminal corporations. It was intentional, however, to provoke reflections on perceptions within a central aspect of management concerning the accidents and

disasters due to lack of efficiency, professionalism, and organizational seriousness, which made it possible for several lives to be sacrificed in exchange for profit and human greed.

The study aimed to focus on the issue of consumption vulnerability and social well-being in the face of the tragedy in Brumadinho/MG. Therefore, we sought to analyze the residents' life stories of Brumadinho, who participated in the research. These reports addressed the lines of interrupted silences, pain, and mourning related to the memory of the brutal event of the tragic accident that occurred at the mining company Vale at the Córrego do Feijão mine. In this tragedy, several lives were lost, due to negligence and interference by Vale, carelessness, cost savings, lack of professionalism, and disrespect for Human Beings, because even with the “Mud Valley” Pereira et al. (2020), abusive profits can be obtained, given the crime that occurred

In that light, we noticed that the families' vulnerability in Brumadinho, who lost their children, wives, husbands, relatives, and friends, remained unresponsive in the sense of not even obtaining conditions for consumption and social well-being and the financial, given the ruptures imposed on all of them (Baro & Deubel, 2006; Godinho et al., 2017; Voola et al., 2018). They are still fighting for their indemnities and judicial agreements, but it should be noted that the possibilities of future legal settlements will still not compensate for the value of the lives ended in the mud.

Concerning the contributions aimed at the managerial and the social aspects, it is up to the weight of (Bankoff et al., 2013) the lack of adequate and humane professional training to play a role in an organization, turning the eyes to the lack of the community. Actions required for pre-and post-disaster vulnerability and social capacity (VCA) assessment are as follows. (1) undertake internationally based comparative research to find out what VCA and processes have been completed or are being undertaken concerning various hazards; (2) develop an agreed methodology with leading non-governmental organizations (NGOs) and governments coming together to develop models for evaluations based on best practices; 3) and on the social front, authorities need to explore the links between social vulnerability and the ability to assess data, assembled before a disaster, with social needs and the assessment of data collected after a disaster. This data needs to be incorporated into an Integrated Disaster Management Information System (DMIS).

The relevance of this study in the field of marketing and contributions at the macro level are highlighted, in the sense of awakening more transformative research, in front of organizations (Alcadipani & Medeiros, 2020) that damage the socioeconomic environment of local and needy communities, causing destruction, fatal disasters incited by mining companies, landslides. They neglect the legitimacy of safety practices (VENUGOPAL et al., 2019) and rupture (Chang et al., 2021) the social and subjunctive well-being of the consumer, providing a state of social vulnerability for the individual as a consumer.

Therefore, this research made significant contributions regarding vulnerability and disruptions in social well-being and financial well-being, addressing real and strong dimensions related to the loss of quality of life and social justice, for a better perspective of life, due to human and material losses that the community of Brumadinho obtained.

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