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Absence of those Affected: Decision-Making Process for Reparations for the Dam Collapse in Brumadinho

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Introduction

In 2019, a tailings dam at the Córrego do Feijão iron ore mine, in Brumadinho, Minas Gerais, owned by Vale S.A., broke. The disaster claimed 272 lives and displaced dozens of families, affecting 26 municipalities (MINAS GERAIS, 2022), which correspond to 1.1 million inhabitants. Additionally, it contaminated the Paraopeba river basin with heavy metals, compromising the water supply of the region and destroying its fauna, flora, and biodiversity. In 2021, a compensation agreement was reached between the government of Minas Gerais and Vale, amounting to R$ 37.6 billion (TJMG, 2021), concerning the collective damages caused by the dam's rupture. This agreement was established under judicial secrecy.

This article aims to answer the following question: What was the decision-making process that led to the reparation agreement regarding the dam rupture in Brumadinho, signed between Vale and the State of Minas Gerais? And with what results? This disaster was not the first of its kind in Minas Gerais. In recent decades, there have been other dam failures: Itabirito, 1986 (six dead) and 2014 (three dead), Nova Lima, 2001 (five dead), Miraí, 2007 (4,000 displaced), Congonhas, 2008 (40 displaced families), and Mariana, 2015 (20 dead and 1,200 displaced families) (LASCHEFSKI, 2019). The failures in Brumadinho and Mariana are known as some of the largest socio-environmental disasters in the mining sector. In Mariana, 60 million cubic meters of tailings were dumped into the Rio Doce basin, affecting 35 municipalities in the states of Minas Gerais and Espírito Santo (LASCHEFSKI, 2019). The mining company Vale was responsible for both socio-environmental crimes.

In the context of constant violations of rights by mining companies, it is noteworthy that Vale entered into three important collective damage reparation agreements with the Zema government: in Brumadinho (R$ 37.6 billion, 2021), in Macacos (R$ 500 million, 2022) (ALMG, 2023), and in Barão de Cocais (R$ 527 million, 2023) (G1 MINAS, 2023). All three reparation agreements were made under the same framework: led by the Executive Branch and approved by the Judiciary, excluding the informed participation of the affected parties and their elected representatives in the Legislative Branch, thereby violating the procedures and principles of procedural democracy as practiced in the country (Dahl, 1989b).

Furthermore, it should be highlighted that the magnitude of the Brumadinho disaster led to the establishment of three Parliamentary Inquiry Committees (CPIs) to investigate responsibilities, recommend actions for damage reparation, propose measures for the prevention of similar events, and indict those responsible. All three CPIs, conducted by the Legislative Assembly of Minas Gerais (ALMG), the Chamber of Deputies (CD), and the Federal Senate (SF), preceded the negotiations that resulted in the agreement signed between the government of Minas Gerais and Vale. Nevertheless, the legislators from these three Legislative Houses, particularly the members of the CPIs, did not participate in the construction of this agreement.

This article seeks to highlight evidence of a democratic deficit in the agreement made between the government of Minas Gerais and Vale, in the context of the rupture of the dam in Brumadinho, in light of democratic theory as a decision-making process (SARTORI, 1994). The article is organized as follows: the first section presents the model that will inform the analysis of the empirical evidence at hand. The second

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section examines the decision-making process of the agreement signed between the government of Minas Gerais and Vale S.A. and points out the democratic deficit resulting from the absence of the affected parties and their representatives. The third section analyzes the decisions of the agreement, indicating who gained and who lost with its results. The final considerations of the article present the analytical findings and suggest new research agendas on the topic.

The investigation developed here is based on the analysis of primary data, obtained through the examination of official documents and the conducting of 33 in-depth interviews with stakeholders. The interviews were conducted between October 2021 and January 2022, following a semi-structured questionnaire with open-ended questions. The interviewed actors are organized into three different groups: (1) members of the Executive, Legislative, and Judicial branches of the state of Minas Gerais; (2) residents of the affected communities and participants in supporting organizations; and (3) directors and employees of Vale.

The interviewees include relatives of deceased victims, quilombola leaders, family farmers, social movement activists, technical advisors, ecclesiastical leaders, representatives of justice institutions – State Public Prosecutor's Office (MPMG) and Federal Public Prosecutor's Office (MPF), State Public Defender's Office (DPMG) and the Union (DPU) – directors and high-ranking officials from the Special Directorate of Integral Reparation of Vale S.A., and representatives from the state Legislative and Executive – Coordination of the Pro Brumadinho Committee, Attorney General's Office of the State, and State Government Secretariat, among others.

Based on the interviews conducted, the objective was to identify how the decision-making process that resulted in the negotiation of the agreement unfolded and what the outcomes were. The questions were organized into four themes: (1) Popular participation and access to information; (2) Demands and needs of the communities; (3) Perceptions of the final draft of the agreement; (4) Reflections, learnings, and suggestions. It can be stated, based on the analysis of the collected data, that the democratic deficit in the decision-making process of the agreement resulted in a failure to incorporate the demands of the affected communities in the final draft.

I. Democratic Decision-Making Process

This article will use the procedural definition of democracy, according to which this regime is characterized by a set of formal rules of the game, informed by a set of principles, namely: 1) political equality; 2) majority rule; 3) informed consent; and 4) civic competence (DAHL, 1989). There is a latitude of acceptable rules, as long as they do not violate these democratic principles. Dahl operationalizes the procedural definition of democracy through eight criteria that operate in a continuous decision-making context (before, during, and after elections). To do this, Dahl poses the following question: what are the necessary and sufficient conditions to maximize democracy in the real world? (DAHL, 1989).

Among the requirements of Dahl's polyarchy (1989, p. 84), those that are most directly relevant to this paper include:

- The right to effective participation of citizens in a given organization, indicated by the existence of adequate and equal opportunities that guarantee the freedom to establish and/or join certain organizations, associations, and/or political parties (DAHL, 1989);
- The right of citizens to voice their preferences, even if they are contrary to the government, without fearing any form of retaliation (DAHL, 1989); the democratization of information, according to which individuals must have identical information about competing alternatives, with a wide variety of sources, transparency, and accuracy, so that they can make informed decisions (DAHL, 1989);
- And the existence of democratic institutions capable of enabling government policy (DAHL, 1989).

For Dahl, all political decisions that take place between electoral periods and, therefore, are unforeseen, are subordinate to elections, affirming the controlling nature of elections. When unforeseen issues arise that require new decision-making, they must be "governed by the seven preceding conditions, operating, however, under quite different institutional circumstances" (DAHL, 1956, p. 84).

Dahl asserts that polyarchy is a function of the political activity of the members, as long as it is well regulated by the eight conditions presented. The more the rules of the game – the eight conditions that regulate interaction within the group – are consolidated, the more polyarchic the organization (DAHL, 1989). When it comes to the decision-making process regarding compensation for the Vale dam rupture in Brumadinho, it should be analyzed against the eighth condition established by Dahl, since the socio-environmental disaster is an unforeseen phenomenon during the elections. According to the author, in these new cases, the seven preceding conditions must be respected, operating within the continuous decision-making context of the Legislative Branch.

According to Przeworski (1999), democracy is an intricate network of agent-principal type relationships, with citizens being the first and most important principals. They carry interests and preferences, which are vocalized to elected representatives through available procedures such as elections. Elected representatives, in turn, are responsible for producing

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and approving public policies that are responsive to citizens' interests. For this, the translation of public policies into results is done by members of public bureaucracies, i.e., unelected public officials: therefore, citizens are the principals of the elected representatives, who are the principals of public officials, who must deliver results according to the interests and preferences of citizens (PRZEWORSKI, 1999).

According to Sartori (1994), political decisions are collectivized decisions: when collectivizing a decision, decision-makers consider two main variables: decision costs and external risks. The former are the costs of the process itself, such as the time and energy expended. In contrast, external risks are incurred by those who are affected by the decision without having participated in it (SARTORI, 1994). If only the variable number of decision-makers is considered, internal costs and external risks vary inversely. However, the ideal when collectivizing a decision would be to simultaneously minimize both internal costs and external risks. To resolve this dilemma, Sartori introduces new variables: the method of formation of the decision-making body, its composition, and the rules of decision-making (SARTORI, 1994). In this case, it involves examining the exponential increase of external risks involved in the decisions that informed the agreement made between Vale and the government of Minas Gerais, due to the absence of the affected parties and their elected representatives in the decision-making process.

Subsequently, Sartori presents the concept of a committee, which will be mobilized in the analysis of the agreement signed between the State of Minas Gerais and Vale: a committee is a small, face-to-face interaction group, durable and institutionalized, whether representative or not, that makes decisions concerning a flow of decisions, constituting a continuous decision-making context. Generally, decisions are unanimous, not as a consequence of the use of the unanimity rule, but through the construction of consensus that occurs in well-functioning committees that operate under a code of operation that produces delayed reciprocal rewards, conducive to achieving positive-sum results (SARTORI, 1994).

This article will verify whether the group made up of the set of compromitors fits Sartori's definition and will examine whether its members produced outcomes consistent with the interests/preferences of those affected by the rupture of the Córrego do Feijão dam. Alternatively, it will consider whether they were more responsive to the interests of Vale S.A., the company responsible for the socio-environmental disaster and, nonetheless, one of the main protagonists of the reparation agreement.

The context in which decisions are made matters. According to Przeworski (1991), democracy is the expression or result of the combined play of institutions and resources. Democratic institutions operate under certain societal conditions and are affected by them. To overcome crises, tensions, and conflicts in competitive political contexts, it is essential to ensure the legitimacy of electoral processes. When the rules are clear and socially accepted, political actors engage within democratic limits and accept electoral outcomes, contributing to greater stability and, consequently, the continuity of the democratic regime (PRZEWORSKI, 1991). Another important element highlighted by the author is the high capacity of democratic regimes to respond quickly to new issues, themes, and challenges (PRZEWORSKI, 1991). This article addresses an unexpected event and its consequences. It was not on the political agenda of elected representatives to make decisions about socio-environmental disasters/crimes of the magnitude of the Córrego do Feijão dam rupture. However, in light of what happened, it is necessary to ascertain responsibilities, contain damages, and repair losses. Who decides? How do they decide? And with what results?

The choice to mobilize approaches and authors that constitute the mainstream of procedural democracy theory, as opposed to literature more focused on processes of political participation and deliberation, relates to the goal of identifying and denouncing the democratic deficit resulting from the exclusion of the affected parties and their elected representatives from the decision-making process, despite their mobilization in political participation organizations. In other words, the democratic deficit at hand lies in the violation of the rules and principles of procedural democracy and not in the lack or insufficiency of participation and political deliberation by the affected: they organized themselves, associated, debated the relevant issues, asserted their interests, and presented their demands and claims to the compromitors. But they were not heard.

II. Decision-Making Process and Repair Agreement: Actors, Arenas, and Outcomes

The repair agreement was constructed and signed by the parties involved, namely: the Public Prosecutor's Office of the State of Minas Gerais (MPMG), the Public Defender's Office of the State of Minas Gerais (DPMG), the Federal Public Prosecutor's Office (MPF), the government of Minas Gerais, represented during the negotiations of the agreement by the Pro Brumadinho Management Committee and the Attorney General's Office of the State of Minas Gerais (AGEMG), and Vale S.A. This committee was established through Decree 176/2019 by the Governor of the State, with the purpose of coordinating various government bodies, systematizing, and supervising the planning and implementation of measures related to the

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comprehensive reparations process resulting from the dam collapse (MINAS GERAIS, 2021).

The committee currently consists of (a) the Governor; (b) the Vice-Governor; (c) the Secretary-General; (d) the Secretary of State for Government; and (e) the Secretary of State for Planning and Management. Its general coordination is exercised by the Deputy Secretary of the Secretariat for Planning and Management, who represents public agencies and associated entities before the Executive branch, as well as monitors the execution of the various projects and programs involving different sectors and departments of the State (MINAS GERAIS, 2021).

The decree does not provide for a rotation of committee coordination. The coordinator is always the Deputy Secretary of the Secretariat for Planning and Management. Furthermore, there are no representatives of civil society in its composition (MINAS GERAIS, 2021). However, despite the name "Pro Brumadinho Committee," the unit analyzed in this article is the group of signatories presented earlier. In other words, the Pro Brumadinho Committee is merely one of the decision-makers. After contextualizing the formation of the group, we will examine whether it can be considered a Committee (SARTORI, 1994), and if so, whether it is a democratic Committee.

As previously noted, for a group to be considered a committee, it must be a small group with face-to-face interaction. The decision-makers who negotiated the agreement consist of five institutions, in line with Sartori's (1994) definition. However, it is important to highlight that despite the involvement of only five institutions, dozens of technicians and staff were involved in the negotiations. Unfortunately, it was not possible to identify the exact number of participants, as the negotiations occurred under judicial secrecy and information regarding the decision-making process was restricted from the public. However, despite the technicians' involvement in formulating the terms of the agreement, the effective decision-makers were the representatives of the institutions comprising the group of signatories.

Regarding the Method of Constitution of the Decision-Making Body, it should be noted that the leadership positions of Justice Institutions are filled based on the political appointment of the State Governor (MPMG, 2021). The Vale team consisted of multidisciplinary professionals from the Special Directorate for Reparations and Development, created after the disaster. Thus, the only member of the group who took part in the agreement negotiations and was directly elected was the Governor.

For it to be considered a Committee, the decision-making of the group must be governed by the majority rule, although the unanimity rule may be exempted. In the analyzed case, it is unclear what rules were used, since the negotiations took place under judicial secrecy. It is known that the final result was unanimity. However, the Federal Public Defender's Office (DPU), which initially participated in the negotiation rounds, withdrew from the process, asserting that the rights of the affected parties to participation were not being guaranteed. In other words, unanimity was only achieved after one of the decision-makers deserted. After abandoning the process, the DPU went public to denounce various violations of fundamental precepts provided in the Brazilian Constitution, which were present in the agreement negotiation process, rendering it illegitimate:

> (...) democratic principle (art. 1, caput, of the Constitution); dignity of the human person (art. 1, III, of the Constitution); tripartition of state functions (art. 2, caput, of the Constitution); publicity of procedural acts (art. 5, LX, of the Constitution); due legal process (art. 5, LIV, of the Constitution); publicity of public administration acts (art. 37, caput, of the Constitution); principles and rules regarding the public budget - which, due to their magnitude, violate the foundations of the Democratic State of Law (DPU, 2021, p. 6).

Among the violations presented by the DPU, it stands out "the establishment of an agreement by the federative entity, the State of Minas Gerais, without the proper legislative authorization, which would violate the tripartition of state functions" (DPU, 2021, p. 6), overriding the Legislative Power.

Another characteristic of a committee is to constitute a continuous decision-making context, with interdependent decisions and delayed reciprocal compensations (Sartori, 1994). In the case of the agreement, the decision-making context is discontinuous, as it relates to a single issue: the recovery of collective damages resulting from the dam collapse. Therefore, there is little to no room for delayed reciprocal compensations, given that the agreement has already been signed and formally recognized by the Justice. Finally, committees produce positive-sum results: the results of the agreement produced a positive sum only for the parties that participated in the negotiations – MPMG, MPF, DPMG, the State Government, and Vale – since the affected communities were not given the opportunity to voice their preferences through informed participation.

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Table 1: Comparison of the Committee's Requirements for Sartori with the Formation of the Group of Committers

	Committee Requirements for Sartori	Group of Signatories to the Agreement
Number of participants	3 to 40, face-to-face interaction	Five actors took part in the process of negotiating the agreement: MPMG, MPF, DPMG, the Zema government and Vale
Method of Establishing a Decision-Making Body	· Democratic Representative · Non-representative	The only democratically elected representative was Governor Zema.
Rules of Procedure	Majority rules, except unanimity rule	The decision-making rule used is unknown, as the negotiations were confidential. It is known that the final result was unanimity, but one of the actors left the negotiations during the process
Decision-making context	Continuous; interdependent decisions; delayed reciprocal rewards; operation of the intertemporal factor	Discontinuous decision-making context: the terms of the agreement have already been signed by the parties and ratified by the judge in charge. In this context, it is not possible to speak of delayed reciprocal rewards, since the definitions have already been established and the agreement is now in its execution period.
Result Type	Positive Sum	The sum of the results was positive for the actors who took part in the negotiations. However, there were stakeholders who were excluded from the decision-making process and who consequently consumed high external risks.

Table Elaborated up by the Author based on the Argument of Sartori, 1994.

Several groups of affected individuals, social movements, and political parties filed a Claim of Non-compliance with Fundamental Precept (ADPF) against the signed agreement, alleging the illegality of the process, as the victims did not have the right to free, prior, and informed participation and consultation (MAM, 2021). In this context, considering the noncompliance with several of the requirements outlined by Sartori, the group of signatories cannot be considered a Committee and, moreover, did not act democratically.

To understand the decision-making process for reparations following the Vale dam collapse in Brumadinho, one must consider the eighth polyarchic condition (DAHL, 1989), concerning decision-making related to unforeseen phenomena during the electoral period.

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Table 2: Comparison of Dahl's Requirements with the Decision-Making Process of the Agrément

Dahl Principles	Dahl's Polyarchy Requirements	Brumadinho Decision-Making Process - Commitment Group	Absence of Those Affected
1. Political Equality	1. Each head, one vote	It is not known which decision-making rule was adopted, nor whether each institution had a vote	Those affected had no right to participate, let alone vote
	2. Each person's vote has the same value as the votes of the others	It is not known whether there were any votes, and if so, whether they had the same value	Those affected had no right to participate, let alone vote
2. Sovereignty of the majority	3. The option chosen by the majority will be declared the winner	The option chosen by the compromisers was the winner, since the final result was unanimous	The choices of those affected were not taken into account in the decision of the compromisers
3. Informed Consent	4. Preferred vocalization	The committers were able to voice their preferences during the negotiation process	Those affected did not have the right to voice their preferences at the negotiating table. However, they produced documents, manifestos and organized protests against the agreement
	5. Democratization of Information	The signatories had access to the information needed to discuss the terms of the agreement, since they were part of the negotiating table	Those affected had no access to the content of the discussions on the agreement. The little information that did exist was leaked to the press
4. Civic Competence	6. Winning alternatives replace losing ones	The alternatives chosen by the compromisers were the winners	Those affected were not taken into account when defining the winning alternatives
	7. The orders of the elected public servants will be executed	The legislators elected to the SF, the DC and the ALMG did not take part in the decisions made in the construction of the agreement	Those affected were not taken into account when defining the winning alternatives
	8. Continuous decision-making context	The legislators elected to the SF, the DC and the ALMG did not take part in the decisions made in the construction of the agreement	Those affected did not participate in the construction of the agreement, either directly or through their elected representatives

Table elaborated up by the author based on the argument of Dahl, 1989.

In the case of the agreement between Vale and the government of Minas Gerais, no institutional public consultations were held to inform the signatories about the demands of the affected parties. Additionally, the Legislative Power was excluded from the negotiations of the agreement. Legislators, like citizens, learned about

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the negotiations through leaked information to the press. However, out of the total value of the agreement, 11.06 billion reais were allocated to actions to be developed by the State Executive. For this, the governor needed authorization from the ALMG for budget supplementation, since Article 161 of the state constitution requires this legal provision when the extraordinary resource exceeds 1% of the total budget (AGÊNCIA BRASIL, 2021).

Furthermore, in 2020, the ALMG approved Article 17 of State Law 23,751/2020, estimating the revenue and setting the spending ceiling for the State for the year 2021. In the wording of the article, the deputies defined that the use of resources from the repair agreements related to the Brumadinho dam collapse should be approved by the state legislature (Ibid., 2021), which allowed the ALMG to minimally participate in the approval process of the portion of resources initially reserved for the Executive Power.

Thus, Zema was compelled to draft Bill 2,508/2021, in which he requested legislative authorization to allocate the aforementioned funds. This situation ultimately generated internal conflicts between legislators and the Executive regarding the allocation of these resources, delaying the signing of the agreement by several months. The bill presented by the governor underwent some changes, although the main projects outlined in the original wording were preserved (Ibid., 2021). The two main disagreements between the two powers related to the resources allocated for the construction of the Rodoanel and the transfers to the 853 municipalities in the state. Some legislators expressed concern regarding the socio-environmental impacts of constructing the highway, which would connect BR-040, BR-381, and BR-262.

Regarding the resource transfers to the municipalities, the Executive's proposal was that the transfers be facilitated through agreements between the municipalities and the state government (Ibid., 2021). This would enable greater control of the resources by the state Executive and ensure that the works carried out would be incorporated into the portfolio of actions implemented by the Zema government. This was a source of significant disagreement between the Legislative and Executive branches, as most legislators advocated for the direct transfer of resources to the municipalities, without the governor's intermediation. However, out of the 244 amendments proposed by legislators, only 3 were approved (Ibid., 2021).

Additionally, the context of negotiation and signing of the agreement took place under precarious conditions of information for the communities affected by the collapse. Beyond the lack of transparency, the agreement was made under judicial secrecy: the entire negotiation process occurred behind closed doors, even though the issue at hand was of broad public interest (OLIVEIRA, 2023), contributing to the democratic deficit of the decision-making process.

This informational asymmetry among the actors resulted in an outcome that did not meet the expectations and demands of the affected communities. The inequality of informational resources between the affected parties and their representatives on one hand, and the actors who participated in the decision-making process on the other, is responsible for the exponential increase in external risks affecting the disaster victims and complicating the consideration of their preferences and the realization of their interests. The problem worsens when it is noted that democratic institutions, such as the Legislative Power at the federal, state, and municipal levels, and the Executive Power at the municipal level, were not called upon to participate in the reparation process of such a large-scale socio-environmental disaster.

III. The Disjunction between the Demands of the Affected and the Results of an Anti-Polyarchic Reparation Process

The absence of the affected individuals and their elected representatives from the negotiation rounds of the agreement ultimately weakened the final outcome of the agreement itself, as their preferences were not adequately taken into account. At the same time, it was possible to identify—through interviews and analyzed documents—the incorporation of external demands that were disconnected from the needs of the communities. The overall value of the agreement is distributed across four programs: (I) Socioeconomic Reparation Program; (II) Socio-Environmental Reparation Program; (III) Mobility Program; and (IV) Public Service Strengthening Program. Each program is subdivided into attachments separated into obligations to act and to pay (both from Vale).

In addition to these four programs, there are some projects considered to have "emergency character" (MINAS GERAIS, 2023) by the committing parties, referred to as "Special Projects." By understanding the terms of the agreement regarding the amount of resources allocated and their respective distribution across specific categories, this article also seeks to verify the compatibility of these definitions with the demands and needs of the affected communities. To this end, 33 interviews were analyzed, categorized as follows: (1) the state of Minas Gerais (Executive, Legislative, and Judiciary); (2) Affected Communities and supporting organizations; and (3) Vale. In this context, it was possible to systematize the responses obtained through interviews into six distinct categories of demands from the affected (Oliveira, 2023): (1) Socio-Environmental Reparation; (2) Socioeconomic

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Reparation; (3) Dignification of Victims; (4) Justice and Criminal Accountability; (5) Memory and Truth; and (6) Right to Resistance.

The category "*Socio-Environmental Reparation*" encompasses demands related to the recovery of the environment, including local fauna, flora, and biodiversity. The "*Socioeconomic Reparation*" category refers to measures related to the revitalization of the economy. The "*Dignification of Victims*" category addresses measures considered fundamental concerning the guarantee of the affected individuals' basic rights, linked to individual rights and compensations. Meanwhile, demands related to the guarantee of justice, accountability, and non-repetition have been systematized in the "*Justice and Criminal Accountability*" category. Those pertaining to the production, dissemination, and access to adequate and independent information are organized in the "*Memory and Truth*" category. Finally, the "*Right to Resistance*" category encompasses demands regarding the right to disagree, protest, and participate in the reparation process without any retaliation.

Table 3: Systematization of the Demands of the Affected Communities

Category	Demands of those Affected
Social and Environmental Reparations	Mapping of environmental damage; Environmental and animal recovery; Reforestation of devastated areas; Recovery of the Paraopeba River;
Socio-economic reparations	Mapping social damage; Implementing infrastructure works and improvements; Promoting family farming and tourism; Investing in education and training for children and young people; Planning urban mobility; Generating jobs and income free from mini-dependency; Telephone and internet networks; The right to leisure and culture; Maintaining emergency payments;
Dignification of Victims	Guaranteed physical and mental health care; Guaranteed water security; Technical studies on water, soil and air quality; Guaranteed animal feed; Finding the bodies of victims; Right to public security; Guaranteed individual rights and compensation; Adequate treatment for traditional communities;
Justice and Criminal Accountability	Fair trial and criminal accountability for the guilty; Guarantees of non-repetition; Safety and prevention of dam ruptures; Suspension of Vale's mining concessions; Definitive closure of Vale's operations in Brumadinho; Decommissioning of the Capim Branco dam; Creation of universal binding rules for companies; Sanctions for transnationals; Accountability for society; Radical change in the mining model; Guarantees of non-repetition of the crime.
Memory and Truth	Recognition of the affected communities; Guarantee of the right to technical advice; Construction of the Memorial; Change of company uniform; Formal apology; Public information on the causes of the collapse; Tougher environmental and labor inspections; Preparation of an independent [Vale] reparation plan; Guarantee of independent technical advice, expertise and consultancy; Monitoring of the reparation process not linked to Vale; Concern about Vale's advertising and propaganda strategies; Concern about co-optation tactics and the economic power exercised by Vale; Need to ensure that the voices and stories of the affected communities are transmitted to the rest of society; Need to ensure that other communities are not deceived and do not trust illusory proposals from mining companies; Need to honor the victims of the crime with global testimony of what happened and happens on a daily basis in Brumadinho.
Right to Resistance	Guaranteed right to demonstrate and protest without political persecution; Access to correct information; Guaranteed informed participation and negotiations on reparations; Guaranteed protection of human rights defenders and nature; Provision of information and transparency during the reparations process; Guaranteed right to self-determination of peoples; Concern about persecution and disqualification in the territories.

Table adapted from Oliveira, 2023.

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To verify whether the results achieved by the agreement are compatible with the demands of those affected, analytical frameworks were developed presenting the demands, the results, and the resources allocated. When comparing the demands for Environmental Reparation with the measures outlined in the agreement, a low correspondence between them was identified. The agreement allocates 6.5 billion reais for environmental recovery, without stipulating a ceiling, should new damages be found. Arcadis, the company responsible for developing the Environmental Reparation Plan, has a history of providing services to Vale, which attests to the degree of control over the agenda by the defendant company. Furthermore, it is known that Vale has a history of fraud in its socio-environmental studies, which was evidenced by the collapse of the dam in Brumadinho when Vale presented false documentation produced by its subsidiary TUV SUD, certifying the dam's stability (CPI ALMG, 2019; CPI CHAMBER OF DEPUTIES, 2019; CPI FEDERAL SENATE, 2019).

Additionally, the agreement bypassed the process related to mapping the socio-economic and environmental damages, which was being developed by Justice Institutions and by the judge of the 2nd Public Treasury Court of Belo Horizonte, who was responsible for the case up to that point. To contextualize this process, it is necessary to emphasize that on the same day the dam collapsed, AGEMG, along with MPMG and DPMG, filed an initial petition for Early Relief, included in case no. 5010709-36.2019.8.13.0024, requesting, among other demands, the blocking of funds in Vale's bank accounts (TJMG, 2019). This action allowed for the initiation of a series of court hearings to address the issues related to the disaster. At the same time, the affected communities began to organize into committees and associations of the affected, in accordance with guidance provided by the Justice Institutions themselves (MPMG, 2019).

The right to independent technical assistance was guaranteed in a hearing held on February 20, 2019 (TJMG, 2019), based on the Terms of Reference presented to the judge of the 6th Public Treasury Court of Belo Horizonte. This Terms divided the affected territory into five regions, composed of several local committees of the affected. Each committee was to elect an entity to serve as its technical advisor. This entity, in turn, would be pre-accredited according to criteria set forth by the Justice Institutions (TJMG, 2019).

Considering that those affected by the disaster had already organized into small local groups and had been receiving specialized technical assistance since 2019, it was expected that these groups, along with the elected technical assistance, would participate in the negotiations of the reparation agreement: “it was the Justice Institutions themselves that encouraged the creation of committees of the affected, which should have seats at the negotiation tables, as these organized groups deal daily with the reality of their communities” (Affected person from Piedade do Paraopeba, 2021).

In this context, the establishment of the agreement in 2021, without the participation of the committees of the affected and the independent technical assistance, undermined the process of self-organization of the affected. This situation, beyond being violative, is somewhat contradictory, given that the committees of the affected had already been legitimized by the Justice Institutions during the period of electing the entities that would act as technical advisors.

Moreover, the agreement also bypassed the technical committee of researchers from UFMG, which was responsible for conducting various studies and analyses in order to guide the decisions of the judge of the 2nd Public Treasury Court of Belo Horizonte. As if the fact that the expertise of the judge responsible for the case was not properly concluded and considered in the negotiations of the agreement was not enough, the established term still suppressed studies that were being conducted (TJMG, 2021). In other words, the agreement was concluded without knowledge of the full extent of the damages caused by Vale's crime (OLIVEIRA, 2023). In other words, it can be stated that the exclusion of the Independent Technical Assistance and the affected individuals from the negotiation process of the agreement ultimately represents the annulment of the reparation architecture designed by the Justice Institutions themselves and by the judge who was responsible for the case until then.

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Table 4: Correspondence between the Demands of those Affected and the Results of the Agrément

Demands of those Affected	Results of the agreement	Correspondence High, medium, low or none	Resources provided[1]
Social and Environmental Reparations	Extinction of technical expertise Socio-environmental Reparation Plan for the Paraopeba River Basin Socio-environmental compensation for known damage	Low	6.5 billion
Socio-economic reparations	Projects for Brumadinho Income Transfer Program Projects for the Affected Communities	Low/Medium	8,9 billion
Dignification of Victims	Water Safety Projects Human Health Risk and Ecological Risk Evaluation (HRHRE) Studies	Low	0
Justice and Criminal Accountability	Not mentioned	None	0
Memory and Truth	Not mentioned	None	0
Right to Resistance	Not mentioned	None	0

Table elaborated up by the author, based on the agreement signed between Vale and the State of Minas Gerais, 2020.

The results of the agreement for the category "Socioeconomic Reparation" in the Brumadinho region are distributed across three attachments: Community Demand Projects; Income Transfer Program for the Affected Population; and Projects for Brumadinho. The first attachment is where the communities can, at least in theory, present projects with their demands directly to the managing entity - without the mediation of another actor. It allocates 3 billion reais for all the affected communities across the 26 municipalities of the Paraopeba river basin. The agreement provides for the participation of the affected communities in the governance of this attachment. Since it has not yet been established, it is unknown what the criteria and thematic areas for project approvals will be. This means that all demands that do not find support within other categories of the agreement will compete for resources from this attachment, encouraging competition among the affected individuals.

The second attachment, in turn, allocates 4.4 billion reais for the Income Transfer Program (PTR), which guarantees emergency aid payments for the affected individuals from the city of Brumadinho and residents of riverside communities in the Paraopeba River basin - limited to 1 km from the river's edge - including all 26 affected municipalities. The amounts of emergency aid vary depending on the place of residence of the affected individuals.

The interviews and documents analyzed confirm that the PTR - along with the Community Demand Projects - represents the attachment with the highest correspondence to the demands of the affected communities. However, there are still groups fighting to be recognized as affected in order to access the program. Furthermore, groups receiving amounts lower than the maximum are demanding full aid. Therefore, this article considers an average correspondence between demand and the results of the agreement.

Finally, the third attachment deals with the implementation of a public service strengthening program, which allocates 1.5 billion reais to assist affected municipalities and groups of affected individuals, provided that the proposal relates to the subject. To select the projects to be implemented, the state government launched a Popular Consultation. This involved an online voting process for prioritizing the submitted projects. Despite the latest census (2022) indicating a population of 38,915 inhabitants, only 2,551 people participated in the online voting. It is believed that this was primarily due to two reasons: lack of proper

[1] Amount in Brazilian Reais.

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information/guidance and lack of necessary technology (access to computers and the internet in rural district areas). A total of 475 projects were submitted, of which only 40 were approved and 32 prioritized by the Public Consultation. Of this total, 20 projects are already under execution (MINAS GERAIS, 2023).

The correspondence between the demands of the affected individuals and the urban mobility and physical infrastructure projects is low, as the planned works involve regions that were not impacted by the disaster: (1) construction of the ring road in the metropolitan region of Belo Horizonte; (2) expansion of the Belo Horizonte Metro; (3) construction of bridges over the São Francisco River; and (4) improvements to state highways. In other words, it can be said that these resources are being diverted from their original purpose, as the agreement should address the needs of the territories affected by the disaster.

In addition to the ring road, several other actions- disconnected from the demands of the affected - are being implemented through the resources of the agreement. Some of these actions include the allocation of financial resources to all 853 municipalities in the state and the funding of the State Mining Plan, which directly benefits the mineral sector. By implementing various works without connection to the demands of the affected, the state government would be taking advantage of the values arising from the reparation process as if these were part of the public budget.

The theme of Dignification of Victims, the third category of demands, is urgent as it relates to meeting the basic needs of the affected individuals. Within this set are demands for health, whose correspondence with what was decided in the agreement was considered low. Through interviews, it was noted that the worsening physical and mental health of the Brumadinho population has complicated and increased the need for these kinds of care. Research conducted by the Oswaldo Cruz Foundation (Fiocruz) in 2022 provided alarming data about the contamination of children, adults, and adolescents in Brumadinho. The tests conducted identified a high concentration of heavy metals, such as arsenic, manganese, cadmium, mercury, and lead (FIOCRUZ, 2022). Additionally, data compiled in 2019 by the Municipal Health Department of Brumadinho showed an 80% increase in anxiolytic consumption and a 60% increase in antidepressant consumption compared to the previous year. This does not account for the significant increase in suicide attempts and completed cases (MINISTRY OF HEALTH, 2020).

In this same context, the correspondence between the demand for studies on water, soil, and air quality and the decisions made was also considered low. The text of the agreement states that studies will be conducted. However, it does not specify the amount allocated for this purpose, nor does it outline a specific item within the agreement. Given the fragility of the information provided and the seriousness of the contamination problem, it was understood that the demand was not adequately met.

Although the agreement provides for a specific project for water security, the correspondence between demand and outcome was also considered low. The agreement proposes the implementation of large water catchment projects to supply the metropolitan region of Belo Horizonte. However, the demands located in the affected communities, such as the establishment of small artesian wells, are not included in this project. For this reason, the correspondence was deemed low.

In general terms, this low correspondence of demands for Victim Dignification occurred because a significant portion of these demands relates to the individual rights of those affected, and the agreement does not establish basic metrics based on a Comprehensive Damage Matrix to ensure these rights (TJMG, 2021). In this context, to this day, there are no established parameters and basic criteria for individual compensations. This means that the mining company enters into various individual agreements with the affected parties, resulting in unequal outcomes and underestimated compensations. As many of the violations of individual rights systematically recur throughout the Paraopeba River basin, it was observed that the absence of a discussion of individual rights in the agreement did not correspond to the demands voiced by those affected.

Finally, the demands of the affected parties organized under the categories of Justice and Criminal Accountability, Memory and Truth, and Right to Resistance were not addressed in the agreement. Regarding the demands for justice and guarantees of non-repetition, for example, the agreement does not provide resources for ensuring the security and monitoring of dams. Currently, according to data from the ANM, there are 39 waste dams considered unstable in Minas Gerais (CARVALHO, 2022). Not to mention that the dams that collapsed in Mariana and Brumadinho were considered "stable." This indicates that there are dozens of "ticking time bombs" scattered throughout the state, which can rupture at any moment. It is curious that an agreement for reparations for a disaster of this magnitude, which killed 272 people, does not contain a single cent earmarked for improvements in the area of dam safety.

There is no correspondence between the demands for Memory and Truth and the results of the agreement. This occurred because, with the exception of mentions of the right to independent technical assistance, none of the other demands in this category were even mentioned in the text of the agreement. However, even the right to technical assistance was not adequately secured. That is, the establishment of the agreement reduced the scope of action for the advisory

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services. Whereas previously the entities had greater autonomy to advise and inform communities about their rights, currently their activities are limited to providing information related to the implementation of the established terms. In other words, to some extent, the technical advisors have lost the main function for which they were initially created. This situation is further highlighted by the 48% budget cuts to technical advisory services in the first half of 2023. Since then, several public demonstrations have been held by social movements and state and federal legislators in defense of the right to independent technical assistance, including the holding of a public hearing in the Legislative Assembly of Minas Gerais (GUAICUY, 2023).

Regarding the demands for the right to resistance, the interviewed leaders emphasized that the right to freedom of expression should be guaranteed in the reparation process. This demand arose due to various episodes of persecution, threats, defamation, and intimidation against community leaders who expressed dissent towards the positions of the company and the state government. In 2020, for example, 16 residents of Brumadinho were sued by Vale for protesting at the company's gates (MINAS GERAIS, 2020). The judge authorized a fine of 5,000 reais for each citizen participating in the protests and allowed the Military Police to gather information about the demonstrators and contain the gatherings (Ibid., 2020). Fortunately, the Public Prosecutor's Office requested the suspension of this decision. However, the company successfully intimidated the demonstrators.

IV. Final Considerations

Democratic institutions do not operate in a sociological and political vacuum. Under different conditions, the same institutions yield different results. The decision-making process of the agreement between the government of Minas Gerais and Vale took place in a context of significant strain on democracy in the country. The overall assessment of the agreement between Vale and the State of Minas Gerais leads to the conclusion that the decision-making process reflects the ongoing crisis of democracy in Brazil, at that time, under the autocratic government of Jair Messias Bolsonaro (2019-2022), which hindered the operation of checks and balances among the established powers and the exercise of democratic citizenship. Furthermore, at the subnational level, this democratic deficit was exacerbated by the stance adopted in the agreement by the Zema government and the incapacity of the ALMG to fulfill its constitutional duty to represent the population affected by the dam collapse.

The establishment of judicial agreements, conducted in secrecy and without the participation of those affected, has been a recurring practice of the Zema government and mining companies in contexts of socio-environmental crimes. This practice weakens democracy in Minas Gerais. This does not mean that agreements should not be made, but rather that the decision-making processes established by the State and Federal constitutions must be respected, which includes a broad calendar of activities for listening to those affected, such as meetings, public hearings, seminars, etc. These activities should occur throughout the entire affected region and should produce reports and documents that reflect the demands of the affected parties.

The rights of the affected parties to effective participation in the agreement, to consideration of their preferences, and to equal access to information were violated throughout the decision-making process, and democratic institutions could not operate effectively during the negotiation of the agreement, preventing the exercise of checks and balances, due to the exclusion of the Legislative Power from the process. Furthermore, judicial secrecy increases the informational asymmetry between the agreement participants and the affected parties. It was thus confirmed that a democratic deficit occurred, as the procedures legally prescribed in democratic contexts were not utilized to manage the disaster problem, leading to a power imbalance among the actors and generating results that do not align with the interests of those affected.

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