

## STANDARDS, TERRITORY AND FRONTIER: ENVIRONMENTAL POLICY AND THE EXPANSION OF MINING IN MINAS GERAIS

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### Abstract

*This article aims to debate the environmental policy in the state of Minas Gerais based on observing the standards adopted and the territorial reflexes, highlighting how the relaxing the environmental licensing processes over the past few years has influenced the expansion of the frontier of mining activities to different mesoregions of Minas Gerais. Based on a literature review, documentary research and data available in the System for Consultations and Decisions on Environmental Licensing Processes from the State Secretariat for the Environment and Sustainable Development (SEMAD) and in the Spatial Data Infrastructure (IDE) of the State Environmental System (SISEMA) The text initially characterizes the institutionalization of environmental policy in Minas Gerais, and then analyzes the recent changes in the state's environmental licensing. Lastly, the territorial implications are indicated by the advance of the frontier of the mineral sector and the corporate mining territories. The analyzes on the changes in licensing and the expansion of the mineral sector in the state cover the period between 2013 and 2022.*

### Keywords

*Environmental licensing; Mining; Territory; Frontier; Minas Gerais.*

## NORMA, TERRITÓRIO E FRONTEIRA: A POLÍTICA AMBIENTAL E A EXPANSÃO DA MINERAÇÃO EM MINAS GERAIS

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### Resumo

*O artigo tem como objetivo debater a política ambiental mineira a partir da observação das normas adotadas e de seus reflexos territoriais, destacando como a flexibilização ocorrida nos anos recentes, nos processos de licenciamento ambiental, influenciou a expansão da fronteira da atividade de mineração para distintas mesorregiões de Minas Gerais. A partir de revisão bibliográfica, pesquisa documental e dados disponíveis no Sistema de Consultas e Decisões de Processos de Licenciamento Ambiental da Secretaria de Estado de Meio Ambiente e Desenvolvimento Sustentável (Semad) e na Infraestrutura de Dados Espaciais (IDE) do Sistema Estadual do Meio Ambiente (Sisema) o texto realiza, inicialmente, a caracterização da institucionalização da política ambiental em Minas Gerais. Em seguida, analisa as mudanças recentes do licenciamento ambiental neste estado e, por fim, indica suas implicações territoriais, a partir do avanço da fronteira do setor mineral e dos territórios corporativos da mineração. As análises das mudanças no licenciamento e da expansão do setor mineral no estado abarcam o período entre 2013 e 2022.*

### Palavras-chave

*Licenciamento ambiental; Mineração; Território; Fronteira; Minas Gerais.*

# STANDARDS, TERRITORY AND FRONTIER: ENVIRONMENTAL POLICY AND THE EXPANSION OF MINING IN MINAS GERAIS<sup>1</sup>

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## 1. Introduction

Over recent years, the state of Minas Gerais has been the scene of several disasters involving the extractive sector. The most recent, the collapse of the Fundão tailings dams, in Mariana (2015); and the Córrego do Feijão mine (BI), in Brumadinho (2019), and the Cachoeirinha sold waste landslide at the Pau Branco mine, in Nova Lima (2022), reveal that failures in mining structures are not exceptional cases, but rather inherent to the installation and operation of mining complexes. Analyzes have highlighted several elements that could be involved with these catastrophic events (Mansur et al., 2016; Santos; Milanez, 2017; Laschefski, 2020; Milanez et al., 2019), and, among them, institutional aspects are frequently mentioned, particularly those relating to the environmental licensing process.

Since then, much criticism has been levelled at the licensing of mining ventures in the state of Minas Gerais,<sup>2</sup> and have revealed that, in addition to

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2. Criticism in the academic literature regarding the new environmental licensing procedures ultimately appeared from 2019 onwards. However, we highlight that the data collection period for this research is earlier, i.e., 2013.

the existence of more relaxed procedures and the classification of potentially polluting/degrading ventures (Milanez; Magno; Pinto, 2019), extractive sector projects are approved with no significant contestation by environmental policy councils (Ramanery; Magalhães Jr.; Cota, 2021) and that social participation in public hearings is restricted and subject to intimidation (Alves et al., 2020; Oliveira; Zucarelli, 2020).

The emphasis in the literature given to institutional aspects (regulations, standards, laws, etc.) in circumscribing, guiding and influencing practices of economic organizations reveals the importance of institutions in transforming and guiding territorial planning. In the case of the extractive sector, environmental licensing of mining activities is a privileged mechanism for analyzing this phenomenon, since it is the State that defines the environmental parameters of operation (extremely relevant in the case of mining) and holds the monopoly on access to mineral assets, for the purposes of concessions to the business sector.

The intention of this text is to highlight the spatial dimensions of the decisions taken by institutions for environmental management based on observing the ordering that they produce. It will therefore be demonstrated that it is not only the institutional aspects of the socio-technical disasters that occurred in Minas Gerais (Zhourri et al., 2016) that need to be revealed, but that the territorial organization of mining in the state, as well as the new frontiers for the expansion of this activity, have largely resulted from these decisions.

To achieve this task, we indicate the institutional frameworks of the Minas Gerais environmental policy, especially those linked to the conformation of environmental licensing, highlighting the increase in environmental standards, which have gradually become more relaxed and aligned with the ideology of sustainable development. After, we go on to analyze the recent changes in the state licensing procedures together with their direct implications for the expansion of mining activities, particularly State Law no. 21,972/2016 (Minas Gerais, 2016a) and related decrees, and the Normative Deliberation of the Environmental Policy Council No. 217/2017 (COPAM, 2017), which restructured the State Environmental System (SISEMA).

Lastly, in the third part of the text, we discuss how changes in the institutional aspects of the state's environmental policy have boosted mining activities in several mesoregions of Minas Gerais, expanding the mineral frontier and accelerating the licensing of projects with a huge potential for causing socio-environmental damage. References for this specific section of the text were taken from data in the System for Consultations and Decisions on Environmental Licensing Processes of the State Secretariat for the Environment and Sustainable

Development (SEMAD) and Spatial Data Infrastructure (IDE) from SISEMA.<sup>3</sup> The analyzes of changes in licensing and the expansion of the mineral sector in the state cover the period between 2013 and 2022. With this, we expect to be able to identify the nexus between the institutional aspects of environmental policy and the expansion of corporate mining territories (Magno et al., 2023).

## 2. The standardization and institutionalization of environmental issues in Minas Gerais

Minas Gerais was one of the pioneering states in establishing standards to regulate activities and/or enterprises known for being “potentially polluting”. Within the scope of establishing regulatory standards, the State Council for Environmental Policy (COPAM)<sup>4</sup> was created in 1977 (FEAM, 1998; Carneiro, 2005).

Since its inception, COPAM has appeared as a collegiate body for reconciling interests – between representatives of capital, state techno-bureaucracy and the environmental/conservationist segment –, made up of public authorities and civil society. Within the scope of COPAM’s collegiate representation, which presents the image of a democratic and representative space, Carneiro (2005, p. 69) revealed that, since its creation, there has been an “oligarchization” of power, to the extent that “the entry of new and sociologically distinct agents is obstructed”<sup>5</sup> and power is concentrated “in the hands of a minority among the councilors themselves”, which makes environmental licensing more subservient to economic interests.

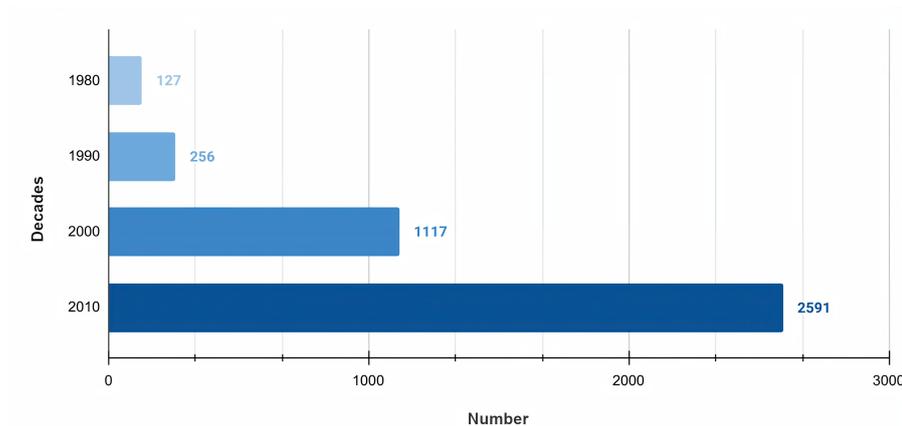
After the emergence of COPAM, particularly in the 1980s, an increase was observed in standards regarding environmental issues. This increase may be seen from the following sequence of data from FEARN (1998): in the 20-year period, between 1940 and 1960, nine laws and decrees were dedicated to environmental issues. In the 1970s, there were 30 standards (including laws, decrees and normative deliberations) (FEAM, 1998). In the 1980s, there were 127 standards, as illustrated in Graph 1.

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3. Available at, respectively: <https://sistemas.meioambiente.mg.gov.br/licenciamento/site/consulta-licenca> and <https://idesisema.meioambiente.mg.gov.br/webgis>.

4. COPAM was created on April 29, 1977, through Decree No. 18.466, the acronym for which signifies “Commission for Environmental Policy”, and received its current name in 1987, through Law No. 9 514/1987 (FEAM, 1998).

5. This and all other non-English citations hereafter have been translated by the authors.



Graph 1. Environmental standards in the state of Minas Gerais per decade, 1980-2010.  
Source: SEMAD (2023).

Graph 1 was drawn up from the database of the State Integrated Environmental Information System (SIAM) for the 1980s, 1990s, 2000 and 2010s.<sup>6</sup> As may be observed, the number of standards has grown significantly over time. There was a 102% increase in environmental standards from 1980 to 1990, 336% between the 1990s and 2000, and approximately 192% from 2000 to 2010. However, in addition to identifying the growth in the number of standards over time, below we also highlight the main milestones of environmental policy in the state per period.

Among the 127 standards from the 1980s, Law No. 7,772 of September 8, 1980, still in force, provides for the creation of a state policy on the protection, conservation and improvement of the environment, and establishes the rules for environmental licensing, providing COPAM with instruments for its action (FEAM, 1998, p. 95). The State Environmental Foundation (FEAM) was also created, established by Decree N°. 28,163 of June 6, 1988, and effectively implemented on April 29, 1989, which, among other functions, is responsible for preparing reports and studies on the environmental impacts of certain activities and monitoring compliance with environmental legislation.

In the 1990s, 256 standards were established regarding environmental issues, as illustrated in Graph 1 (SEMAD, 2023). Among the laws of the period, the State Secretariat for the Environment and Sustainable Development (SEMAD) was created by Law No. 11,903 of September 1995 (Minas Gerais, 1995), and was responsible for coordinating the State System for the Environment and Water Resources (SISEMA).

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6. The sum of regulations per decade compiled in Graph 1 includes: law, state decree, the Copam resolution, normative deliberation, legislative decree, decree-law, Copam deliberation, Copam directive, complementary law, delegated law, FEAM ordinance, Semad resolution and Semad joint resolutions.

The SEMAD was established from within the discourse for the need to create an exclusive secretariat for the environment, to integrate environmental bodies (FEAM, State Institute of Forests – IEF, previously linked to the State Secretariat of Agriculture, and the DRH – Department of Water Resources, linked to the extinct Secretariat of Mineral, Water and Energy Resources) and to form a reconciliation between development and sustainability.

The notion of sustainable development, which appears in the name of the new Secretariat, was formalized for the first time in 1987, in the Brundtland Report, *Our Common Future*, prepared by the World Commission on Environment and Sustainable Development (WCCD/UN). In 1992, in Rio de Janeiro, under the influence of the Brundtland Report, the United Nations Conference on the Environment and Development took place, in which the notion of sustainable development, together with the ideal of social participation in environmental policies, was definitively consolidated and disseminated.

The discourse on sustainable development, forged within this context, served to accommodate conflicts, undermining the most radical environmental criticisms, which could compromise the accumulation of capital by different economic segments. Due to its character of accommodation and conciliation, capable of bringing together different social segments in its defense, sustainable development was an important device for disseminating environmental discussions, with no major upheavals or affects, to the interests of big capital. Thus, it was precisely this ideology that marked the actions of SEMAD in the years following its creation (Carneiro, 2005).

Over the following decades, from the perspective of sustainable development, there was a significant increase in environmental standards in the state. Between 2000 and 2010, 1,117 standards were published and in the 2010s, 2,591 (see Graph 1) (SEMAD, 2023). Among the standards of recent years, we highlight, due to its importance in establishing a new phase of Minas Gerais' environmental policy, the decentralization process of COPAM, through Decree No. 43,278, of April 22, 2003 (Minas Gerais, 2003). Until 2003, all environmental licensing, judgments on infringement cases, etc. were undertaken at COPAM in the state capital, Belo Horizonte, with the licensing function being carried out by the specialized Technical Chambers (CT). With decentralization, the CTs began to take on a standardizing role (Praça, 2009) and COPAM was restructured territorially, through the creation of nine Collegiate Regional Units (URC) and nine Regional Superintendencies for the Environment and Sustainable Development (SUPRAM), distributed regionally across the state.<sup>7</sup>

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7. The SUPRAMs were distributed across the Metropolitan Center (which headquarters in Belo Horizonte), the Minas Triangle (in Uberlândia), Northeastern Minas (in Unaí), Northern Minas (in Montes Claros), Central Jequitinhonha (in Diamantina), Western Minas (in Governador Valadares), the Zona da Mata Region (in Ubá), Southern Minas (in Varginha) and Alto São Francisco (Divinópolis).

The COPAMURCs are deliberative, normative bodies that, among other powers, retain decision-making power over requests for granting licenses for effective or potentially polluting activities. SUPRAM, in turn, provides executive, technical and legal support to the URC (Praça, 2009). However, despite decentralization, the “oligarchization of environmental policy” (Carneiro, 2005) in COPAM remained intact, since regionalization increased interference and pressure, which began to be exercised locally and more incisively, on the composition of URC advisors and SUPAM technicians, as evidenced by the presence of company representatives at meetings of SISEMA technicians (GESTA et al, 2014).

In this context, environmental licensing favored the expansion of large enterprises in the state of Minas Gerais, and became more flexible decade after decade, without ceasing to make use of the legitimacy provided by the ideas of sustainable development. In other words, an increase in the number of environmental standards in the state did not guarantee greater control over potentially polluting/degrading activities, on the contrary, as indicated in the specialized literature (Antas Jr., 2005; Santos, 2006), the increase in the number of standards actually reflect decisions that aimed to favor the possibilities of carrying out economic activities, in an apparently paradoxical process of “de-standardization”.

The literature demonstrates a series of structural and procedural problems in environmental licensing that made large projects legally viable, which should have been blocked by Minas Gerais environmental bodies, for a series of environmental, social, technical and legal reasons (Zhouri; Laschefski; Paiva, 2005; Rothman, 2008; Laschefski, 2014; Oliveira; Zucarelli, 2020). Among the problems, defects and deficiencies, we may mention: the numerous flaws in the Environmental Impact Studies and Environmental Impact Reports (EIA-RIMA), prepared by consultancy companies hired by the entrepreneurs, which sought to make the project viable at the lowest possible cost; the entrepreneur’s failure to comply with conditions, without preventing the granting of licenses and the constant relaxation of environmental standards, which are reinterpreted or “adapted” in order to make the project viable, circumventing the “impacts” with measures of mitigation or compensation.

Thus, as Acselrad (2008) observed for the national context, in Minas Gerais, especially from the late 1990s and early 2000s, it is possible to state that there was a tendency toward environmental deregulation, although there was a marked increase in the number of standards.

In the following topic, we emphasize the current moment of flexibility and restructuring of environmental licensing in Minas Gerais (2016-2022), based on

State Law No. 21,972/2016 (Minas Gerais, 2016a), of state decrees No. 46,953/2016 (Minas Gerais, 2016b) and No. 47.042/2016 (Minas Gerais, 2016c), and the Normative Deliberation of the Environmental Policy Council No. 217/2017 (COPAM, 2017). It is our understanding that, as of 2016, environmental regulations were entering a new phase which, combined with corporate power, especially in the mineral sector, facilitated and accelerated the granting of environmental licenses and the expansion of large projects in Minas Gerais.

### 3. The recent relaxation of environmental licensing in Minas Gerais and the influence of the mineral sector

The two major tailings dam failures that occurred in Minas Gerais, in 2015 and 2019, contributed little to bringing about a structural change that would tighten environmental policy. On the contrary, it may be observed that the legal and procedural changes that occurred at the state level actually reduced the rigor in the licensing process, bringing benefits, in particular, to the mineral sector. The failure of the BI dam, in Brumadinho-MG, demonstrates that its precarious operation, especially regarding installation and inspection, was only possible due to the institutional fragility contained within the environmental licensing (Laschefski, 2020; Magno; Milanez, 2021).

As indicated by Milanez et al. (2019), the institutionalization of lobbying by companies in the mineral sector, the financing of politicians in their electoral campaigns and the occupation of seats by mining companies on environmental policy deliberative councils, have, over recent years, been supported by laws and decrees published by the state government. This reveals how the corporate power of the mineral sector has influenced rules and regulations of procedures relating to the use of the territory, and how the economic strength of these corporations has transformed into political strength, including in so-called parity and representative spaces of the different segments of society (Acselrad et al., 2012).

Bill No. 2,946/2015 illustrates this extremely well. Approved by the Legislative Assembly of Minas Gerais (ALMG) 20 days after the collapse of the Fundão dam, this Bill imposed significant changes to SISEMA, and made the environmental licensing process more flexible, meeting the wishes of the mineral sector, which participated in a meeting at SEMAD to discuss some of the proposed changes.

This meeting, which was held in Belo Horizonte during the administration of former governor Alberto Pinto Coelho (PPS), who took office in place of Antônio Anastasia (PSDB), was attended by employees from Vale S. A. At the meeting, proposals were debated that would make up Bill No. 2,946/2015, and, among the suggestions from the mining company's representatives, was the possibility of

simplifying or aggregating procedures relating to environmental licensing which, at the time, occurred in three stages, but which, as requested by Vale S.A. employees, “could become transformed into a single licensing” (Angelo, 2019). The fact is that, months later, Law No. 21,972/2016 (Minas Gerais, 2016a) was sanctioned, by the then Governor Fernando Pimentel (PT), and which, to a greater or lesser extent, reflected the wishes expressed by the company.

At an extraordinary meeting of the Mines and Energy Commission from the Legislative Assembly of Minas Gerais (ALMG), in March 2016, the pressure and interest of the mineral sector in changes to environmental licensing became evident.<sup>8</sup> The meeting, which was attended by deputies, and representatives of the state government and the mineral sector, focused on the need not only to regulate Law No. 21,972/2016, but also to issuing and speeding up environmental licensing for mining projects. According to Vale’s Executive Manager of Strategic Planning and New Business Development, Lúcio Flávio Cavalli (ALMG, 2016, p. 5-12):

The objective is to demonstrate [...] the question of needs, so that this mining dynamic may effectively take place. This is a sector that contributes greatly to the whole of Minas Gerais and that effectively needs a license, a sequence of work. Vale’s vision for the future is to reach a production level of 450,000,000t. [...] the State of Minas Gerais continues to represent 60% of the production – this is what is planned – of iron ore. [...] However, so that this production can effectively materialize, that Vale’s contribution plan may effectively be executed, what do we need? [...] What are we at risk of? Vale has the prerogative to produce 210, 220 million in the State of Minas Gerais. If we do not obtain licensing for dams and new projects, we could reduce this production to the order of 100,000,000t. We are working on several initiatives, but the new initiatives will not be able to meet the demand and our need for new licenses [...] We need these licenses to continue our production plan. This has been our main object of concern in recent times. [...] We strongly recognize the new model approved by the government of the State of Minas Gerais [referring to Law No. 21,972/2016] and we believe it will be a very big step. However, this model needs to be approved and put into practice, for it to really begin to take effect.

Echoing the interests of the mineral sector, which represents a great economic importance in Minas Gerais, there have been a series of institutional changes and innovations in environmental licensing procedures as of 2016 (Iorio; Magno; Umbuzeiro, 2022). Here, we are interested in showing which standards,

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8. Representing the mineral sector were: high-ranking employees from Vale S.A., Minas Gerais State Mineral Industry Union (SINDIEXTRA), Minas Gerais State Federation of Industries (FIEMG), Minas Gerais Mining Municipalities Association (AMIG), Brazilian Institute of Mining (IBRAM).

related to the flexibility of licensing, were most significant. Within the limits of this topic, we highlight three: i) those established by State Decree No. 46,953/2016 (Minas Gerais, 2016b), especially those relating to changes in the composition of COPAM; ii) the creation of the Superintendency of Priority Projects (SUPPRI), which took place through State Decree No. 47.042/2016 (Minas Gerais, 2016c); and iii) the modalities for classifying procedures related to environmental licensing provided for by the COPAM Normative Deliberation No. 217/2017 (COPAM, 2017).

The first published standard, which regulated part of Law No. 21,972/2016, was Decree No. 46,953/2016 (Minas Gerais, 2016b). It discussed the organization of COPAM, which was once again composed of specialized Technical Chambers (CT) and centralized in Belo Horizonte. However, in addition to the new centralization, with this decree the Public Ministry for the State of Minas Gerais (MPMG) was removed from the CT,<sup>9</sup> guaranteeing it a seat in the Normative and Appeals Chamber and in the URC, which now only dealt with licenses for smaller, potentially polluting/degrading companies and more simplified. This decision suggests that the state government restricted the power of this body in the licensing process, since it could only act as an external entity, and only after the CT decision. According to Magno and Milanez (2021), this option by the Minas Gerais government was the target of harsh criticism, even from the time that Bill No. 2,946/2015 was under discussion, because it removed one of the main pillars in the legal and technical analysis of environmental licensing processes and compensated for SISEMA's weaknesses.

With the departure of MPMG from the CT, the Chamber of Mining Activities (CMI), for example, began to have the following composition: SEMAD, Secretariat of State for Government (SEGOV), Secretariat of State for Economic Development (Headquarters), Secretariat of State of Labor and Social Development (SEDESE), Minas Gerais Economic Development Company (CODEMIG), Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA), National Mining Agency (ANM), Mineral Industry Union of the State of Minas Gerais (Sindiextra), Federation of Industries of the State of Minas Gerais (FIEMG), Relictos Foundation for Support of the Rio Doce Park (Relictos), Association for the Environmental Protection of Vale do Mutuca (Promutuca), Minas Gerais Society of Engineers (SME), Brazilian Association of Sanitary and Environmental Engineering (ABES-MG); with the last six seats considered for representatives from civil society.

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9. Currently, the Copam CTs are: Energy and Climate Change Policies (CEM), Protection of Biodiversity and Protected Areas (CPB), Mining Activities (CMI), Industrial Activities (CID), Agroforestry Activities (CAP), Infrastructure Activities of Energy, Transport, Sanitation and Urbanization (CIF) and the Normative and Appeals Chamber

Ramanery, Magalhães Jr. and Cota (2021) studied the CMI structuring and decision-making processes of 91 license requests for the mineral sector, and observed that of all the projects submitted to CT between 2017 and 2020, 95.7% were granted. Among these cases was the licensing requested by Vale S.A. for the expansion and intervention in the Córrego do Feijão and Jangada mines, in Brumadinho-MG, whose tailings dam collapsed in January 2019.

However, what drew most attention was that the study identified a correlation between some of the votes by representatives of civil society, especially Sindiextra, SME, FIEMG and ABES, both between themselves, and/or with those of representatives from the Minas Gerais state government, which, in some cases, reached 100%. It is not without reason that, in November 2022, seven Non-Governmental Organizations (NGOs) resigned from their mandates at COPAM and the State Water Resources Council (CERH), claiming that they were only being used to legitimize government decisions, especially since their challenges to these collegiate bodies had never been considered, and the projects were approved without difficulties (G1, 2022). This, in effect, is an indication of the fragility of the participatory democracy that was to be found at COPAM and which, it had been claimed, aimed to “provide a voice” for the most diverse representatives and interests of civil society.

The second published standard, State Decree No. 47.042/2016 (Minas Gerais, 2016c), restructured SEMAD, which went on to include the Superintendency of Priority Projects (SUPPRI) in the Sub-secretariat for Environmental Regularization (SURAM). With this decree, SUPPRI was given the role of analyzing licensing processes for projects considered priorities for the social and economic development of Minas Gerais, and could even interfere directly in the analyzes of these projects, and influence COPAM agendas. It is unsurprising that most of the projects considered priority were in the mineral sector. A consultation on the SEMAD System for Consultations and Decisions on Environmental Licensing Processes reveals that, as of October 2021, of the 63 processes being processed at SUPPRI, 44 were from the mineral sector and, of these, 16 were from Vale S.A.

What may be observed with this rule is that there had been a shift in decision-making power over environmental licensing, which ultimately remained in government bodies that reproduce economic interests (Iorio; Magno; Umbuzeiro, 2022). However, more than that, we further noticed that, with SUPPRI, projects within the licensing processes that entrepreneurs considered to be “held up” began to process more quickly. This was the case, for example, in the licensing of the expansion of the activities of Companhia Brasileira de Alumínio (CBA) in the Zona da Mata of Minas Gerais (Process No. 00309/1996/2019/2018), which was being processed

at the Regional Environmental Superintendency of Ubá- MG, but which faced strong resistance from the threatened communities (Iorio; Silva, 2022). In 2021, however, the process began to be processed via SUPPRI and the license was issued.

However, the changes brought in by the COPAM Normative Deliberation No. 217/2017 are also important to understand the relaxation of environmental licensing in Minas Gerais. This Normative Deliberation, among other things, defined the licensing modalities that enterprises could request.

The COPAM Normative Deliberation No. 217/2017 modified some modalities considered more simplified, replacing, for example, the Environmental Operating Authorization (AAF) with Simplified Environmental Licensing (LAS), which went on to contain just one single step, by registering information with the competent body. However, the most drastic change was in relation to Three-Phase Environmental Licensing (LAT), mandatory for large and medium-sized enterprises with a potential for pollutant degradation.

In the LAT modality, the Preliminary License (LP), the Installation License (LI) and the Operation License (LO) were issued successively. With the Normative Deliberation, these licenses could now be issued simultaneously in a single phase, through Concurrent Environmental Licensing (LAC<sub>1</sub>). Thus, instead of having to go through LAT, large mining projects, for example, could obtain environmental licenses (LP, LI and LO) simultaneously, in a single application. This was also the case of the process relating to Brumadinho-MG (Milanez et al., 2019), and, more recently, the case of the licensing of the Cachoeirinha solid waste pile at the Pau Branco mine, owned by Vallourec Mineração Ltda, in Nova Lima. MG, which slid over the BR-040 highway at the beginning of 2022 (Milanez, 2022). Therefore, as mentioned in a note from several institutions, endorsed by the Brazilian Society for the Progress of Science (SBPC, 2021), the relaxation of environmental licensing in Minas Gerais has produced the foreseen disasters (ABA et al, 2022).

Moreover, this situation is not exclusive to Minas Gerais. In a similar manner, state environmental policy councils, most notably in the states of Pará, São Paulo and Rio de Janeiro, regulated their licensing procedures concomitantly. However, the relaxation of environmental licensing in the states has beacons attempts to make licensing more flexible on a national scale, such as Bill No. 2,159/2021, currently being processed through the Federal Senate (Milanez et al., 2021; 2022).

In summary, the sequence of regulatory changes to environmental policy in Minas Gerais that took place from 2016 onwards, relaxed the licensing process and reduced the rigor, especially favoring those in the mineral sector who, ultimately, had influenced them. What then are the territorial implications that these institutional-corporate actions pose for the state of Minas Gerais?

#### 4. The expansion of the mining frontier in Minas Gerais

The actions of the standards to regulate the uses of the territory (Antas Jr., 2005; Santos, 2006) and their constant relaxation by the State, within a discourse on the need for debureaucratization and speeding up the environmental licensing processes, in favor of entrepreneurs, has enabled the accelerated expansion of the mineral sector. In this section, we intend to indicate the production of environmental standards and their spatial directions with regard to the territorial planning of mining in Minas Gerais.

According to Santos (1997; 2006), each spatial configuration fulfills a commitment for the distribution of values in capitalist societies, and each new transformation of space brings with it the devalorization of a certain number of assets or infrastructures, and the valorization of others. Based on this understanding, it is possible, as proposed by Smith (2007) when addressing the gentrification processes of urban space, to expand the uses of the idea of frontier, associating it with the uneven geographic development in which, according to the author, economic expansion would currently occur not only through absolute geographic expansion, but also, and perhaps above all, through the internal differentiation of geographic space.

We wish to demonstrate, with the help of Santos (1997; 2006) and Smith (2007), that while the debate on frontiers in the middle of the last century interpreted the realization of an absolute geographic expansion as the main expression of capital accumulation, what may be observed today, in some regions of Minas Gerais, with mining activity, represents a differentiation process of space, giving rise to new spatiotemporal ordering (Harvey, 2005a; 2005b).

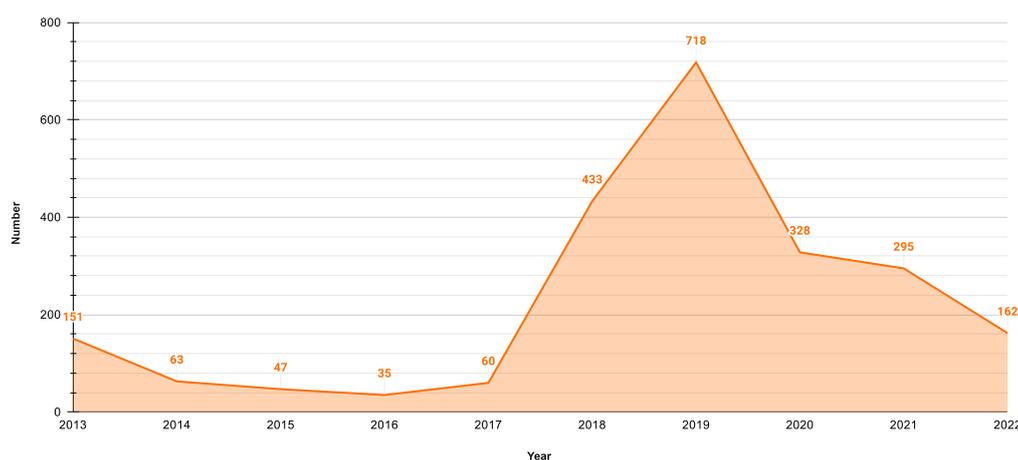
According to Harvey (2005a), the State has an important role in this process of accumulation and restructuring of a given region. It can induce regional dynamics not only through investments in infrastructure, but also by establishing laws, planning and various administrative devices. It is in this sense that in Minas Gerais, in our view, new frontiers are being consolidated by the expansion of the mineral sector, the relaxation of environmental policy and the formation of corporate mining territories (Magno et al., 2023).

When analyzing the data on granting environmental licenses in the SEMAD System for Consultations and Decisions on Environmental Licensing Processes, a considerable increase in granting licenses for mining projects may be observed,<sup>10</sup>

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10. In the data analysis, we considered all types of mining projects and infrastructures, which could be the mines themselves, tailings dams, waste piles, among others. We have also considered all types of mineral substances, including iron ore, bauxite, manganese, niobium, sand, gravel, etc.

especially after the COPAM Normative Deliberation No. 217/2017 and SISEMA Instruction No. 01/2018.<sup>11</sup> Graph 2 demonstrates that between 2013 and 2019 the number of granted licenses jumped from 152 to 718, and in subsequent years, even though they decreased, they nonetheless remained at high levels, with 328 licenses granted in 2020, 295 in 2021 and, until October 2022, 162.



Graph 2. Minas Gerais: environmental licenses granted to mining companies between 2013 and 2022. Source: SEMAD (2023).

The increase in the issuance of licenses, especially from 2018 when Law No. 21,972/2016 was regulated and SISEMA Service Instruction No. 01/2018 defined procedures for applying Normative Deliberation No. 217/2017, reveals how recent changes in environmental licensing processes have become more permissive. Thus, while the governor of Minas Gerais claimed that he had modernized legislation,<sup>12</sup> it could be perceived that in fact it been relaxed, thus, in effect, favoring the mineral sector.

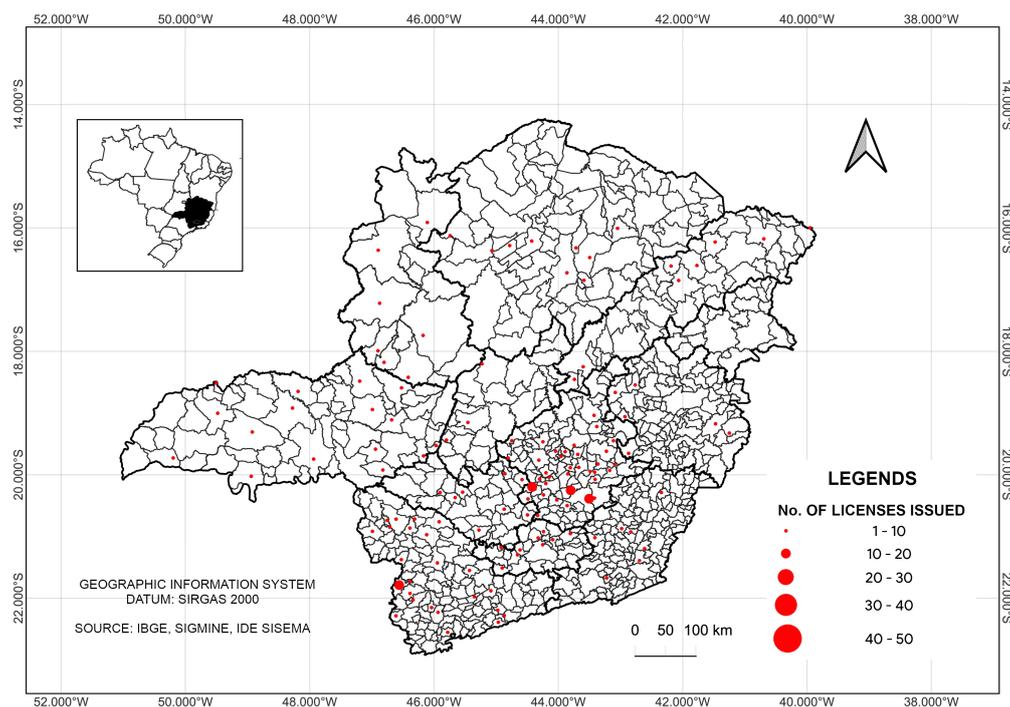
The decrease observed from 2019 onwards, in our view, is related to the context of the failure of the B1 dam in Brumadinho-MG, which directly impacted the legislation on this type of enterprise (e.g., State Law No. 23,291/2019) and, at the

11. Although the state law that modified the Minas Gerais environmental policy dates back to 2016, its application only began to occur after the publication of regulatory decrees, COPAM Normative Deliberation n°. 2017/2017 and Sisema Service Instruction no. 01/2018.

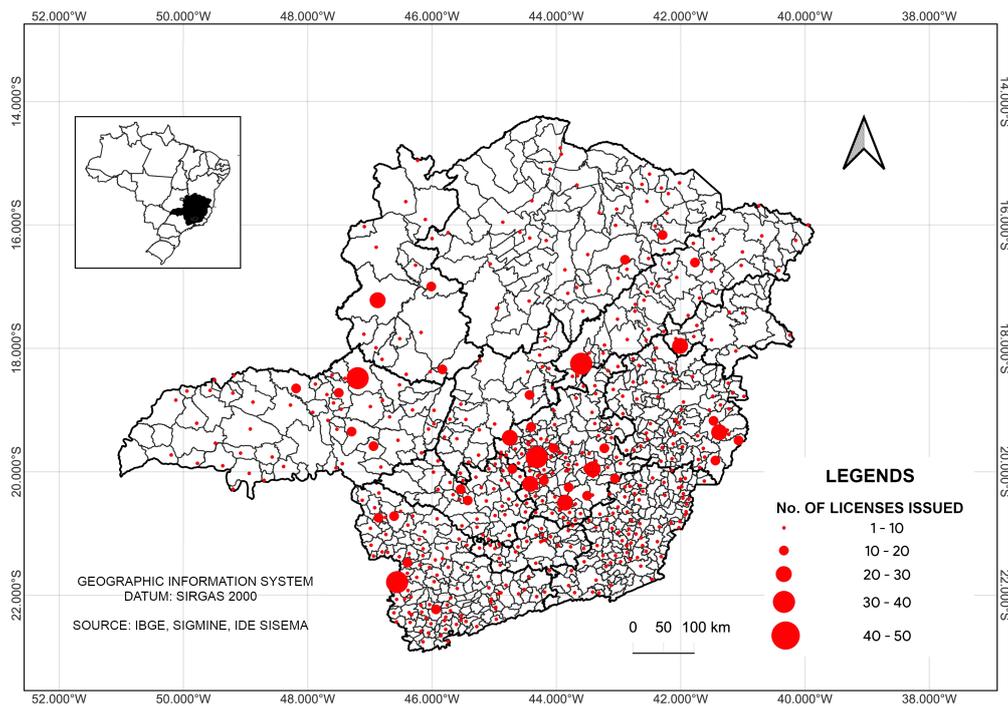
12. In an article on the r7 portal, the then governor of Minas Gerais, Fernando Pimentel (PT), stated that the new law would modernize the state's environmental policy and prevent new tragedies. The full article is available at: <https://noticias.r7.com/minas-gerais/governador-de-mg-volta-a-defender-projeto-que-acelera-licencas-ambientais-29062022>.

request of the mining companies themselves, with the shelving of several licensing processes for mining projects that provided for wet tailings treatment. This was the case, for example, of the Vale S.A. Serpentina project, which initially envisaged the construction of tailings dams, but which, in a new presentation to SEMAD, had modified its project to dry treatment. This decrease, however, does not reverse the general picture observed, which is an increase in the issuance of licenses compared to the years prior to relaxing the Minas Gerais environmental policy.

The rise in granting mining licenses has produced territorial effects because, although it is an administrative procedure, it has triggered major restructuring and spatial destruction, with various forms of socio-environmental damage. Maps 1 and 2 show the spatial distribution of licenses issued to the mineral sector over two periods: the first between 2013 and 2016, when environmental licensing in Minas Gerais still followed Normative Deliberation No. 74/2004 with its classification criteria and types of licenses (the LAT, in fact, was the most requested by the mineral sector during this period); and between 2017 and 2022, when Normative Deliberation No. 217/2017 came into effect.



Map 1. Minas Gerais: environmental licenses granted to mineral companies between 2013 and 2016. Source: Own elaboration.



Map 2. Minas Gerais: environmental licenses granted to mineral companies between 2017 and 2022. Source: Own elaboration.

If, between 2013 and 2016, it was already possible to observe the territorialization of mining in several mesoregions of Minas Gerais, chiefly in the Metropolitan Region, between 2017 and 2022 the sector underwent a considerable expansion, broadening its presence in different regions, particularly in the Jequitinhonha Valley, Southern Minas, The Minas Triangle, Eastern Minas and Northwestern Minas.

We may also identify when analyzing the maps that in regions that already had mines, especially in the Metropolitan Region, there was a renewal of interest in the mineral sector, not only with the expansion of new mines, but also of other structures linked to mining, such as tailings dams. This, in effect, demonstrates that relaxing procedures related to environmental licensing has revived systems of objects and actions (Santos, 2006) in these regions and deepened their dependence on the mineral sector (Coelho, 2017).

The installation of a mining enterprise is a complex process that, in addition to requiring environmental licensing conducted at the state level, also requires mining authorization issued by the National Mining Agency (ANM). Licensing is part of the process, but mining itself may only begin after the concession has been

granted by ANM. It is at this stage that the territory comes under the corporate control of the entrepreneur. Hence, it was in these terms that, using the Mining Geographic Information System (SIGMINE/ANM), we scanned the extension, in Km<sup>2</sup>, of the territory of Minas Gerais that has been granted to mining companies over recent years, relating this data with the licensed enterprises previously surveyed. Between 2013 and 2022, we realized that 1,243.66 km<sup>2</sup> of the state's territory was under the control of mining companies, forming what Magno et al. (2023, p. 19) called mining corporate territories, understood as: "spaces for the management of subjects and resources ordered through strategic actions of mining companies" and which subordinate people and places to market imperatives.

It is precisely the intensification of this phenomenon that we wish to draw attention to with this text, arguing that the state of Minas Gerais, by relaxing its environmental licensing procedures, has favored the affirmation, installation and expansion of corporate mining territories to several mesoregions of Minas Gerais, relegating the power to control these areas to mining companies, which become the main reference for territorial planning and for the mediation of people's social lives.

##### 5. Final considerations

The expansion of capitalism produces countless disputes in society. In Brazil, one of the main disputes has been the definition and control of natural resources. Such disputes have placed the creation of standards that regulate the territory at the center of the debate, since it is falls upon the State to define the parameters for the environmental exploitation of these natural resources. It is not without reason that the relaxation of environmental legislation has occupied a prominent place in national political debates, and what was experienced in Minas Gerais is perhaps one of the great examples of this.

In this text, we have illustrated how this debate, strongly influenced by mining corporations, has, over recent years, championed a change in the administrative procedures of environmental policy in Minas Gerais, making the legislation more permissible for enterprises in the sector to expand into different mesoregions of the state. This dynamic, geographical par excellence has dissolved existing social orders and enabled the creation of new mining frontiers, with the integration of new areas into the neo-extractive development model. Thus, the synchrony of mining corporations with the State in Minas Gerais, in proposing and changing procedures related to environmental policy, affects all types of population rights and favors the occurrence of environmental conflicts and the formation of corporate mining territories.

To guarantee the expansion of corporate mining territories, the law has been brought into force through loopholes and relaxations, which ensures that large corporations, through legal means, take control of territories, to the detriment of the rights of communities affected by such projects. In the name of the legal order of the market, the actions of the State, whether by relaxing the law or by transforming what is illegal into something legal, operate forms of government that guarantee an expropriatory process of accumulation.

The article indicates the institutional dimension of the advancement of mining and, consequently, the catastrophes that are inherent to it. It is impossible to think about the advancement of mining without also considering the catastrophes foreknown in their causal dimension regarding the institutional sphere and the role of the State, since projects are licensed at any cost, and the inspection process is faced with the scrapping and institutional vulnerability of the environmental and regulatory bodies.

The decisions of the State, in coalition with the market, converted into rules, will adapt the institutions and administrative and legal procedures to the privilege of big capital. As Acselrad (2008, p. 241) argued, there is a “campaign against environmental restrictions on development”, which echoed neoliberalism and became stronger in the 2000s, in which the same agents who desired the minimal State have come onto the political scene to accuse the environmental licensing of being slow and bureaucratic, and push for what would be automatic licensing. The case of the Minas Gerais environmental policy illustrates this only too well.

What we see, therefore, is that the institutionalization of the environmental issue and the discourse of sustainable development prevailing in the environmental field of Minas Gerais do not limit mining enterprises, but rather favor the growth of the sector. The environmental issue has been regulated and institutionalized, in order to deregulate it through legal means, within a discourse on the need for “debureaucratization” and a “modernized legislation”. However, it is, in fact, a need that has been introduced, also by the mineral sector itself, to speed up and relax legislation, thereby reducing the rigor of analyzes and favoring the issuance of environmental licenses.

Lastly, it is important to mention that the article has summarized information and analyzes that still require critical discussion, including the intimate relationship between mining corporations and the State, which has affected so many rights of the populations affected or threatened by these projects. Moreover, the territorial ordering that the relaxation of environmental standards has given rise to is based on the formation of corporate mining territories, which occupy vast territorial portions with their production and export infrastructure,

expelling communities, dynamiting and crushing mountains and producing large quantities of tailings, “dead lands and waters” (Sassen, 2016) and various types of socio-environmental impacts.

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