

Remote public hearings in environmental licensing and impact assessment: Minas Gerais' experience during COVID-19 and the controversial mining case of Serra do Curral

Audiências públicas remotas no licenciamento ambiental: a experiência de Minas Gerais durante a COVID-19 e o controverso caso da mineração na Serra do Curral

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Abstract: COVID-19 made it possible to hold remote public hearings in environmental licensing and impact assessment. Few studies have evaluated the characteristics and decision-making impact of this type of participation. This article analyzed the remote public hearings associated with eight projects subject to environmental licensing during COVID-19 in Minas Gerais, with an emphasis on the case of Tamisa Mineração in Serra do Curral (MG). The study was based on content analysis of environmental licensing processes, especially the minutes and records of the hearings, and grey literature associated with the Tamisa case. Of the hearings held during the analyzed period, all of them were related to processes directly or indirectly related to priority mining projects. Procedural limitations and differences were identified in the implementation of the hearings, which performed functions similar to those of in-person hearings. The remote hearing for the Serra do Curral project was unable to fully address the expectations of the communities, which continued in the form of protests and various demonstrations. Despite the weaknesses identified in the hearings, especially in relation to their low influence on decision-making, it is concluded that the remote format can strengthen the participatory process in environmental licensing, provided that its weaknesses are addressed and there is a genuine interest in reducing conflicts.

Keywords: remote public hearing; environmental licensing; public participation; Minas Gerais; Serra do Curral.

Resumo: A COVID-19 possibilitou a realização de audiências públicas remotas no licenciamento ambiental. Poucos estudos avaliaram as características e o impacto decisório dessa modalidade de participação. Este artigo analisou um grupo de audiências públicas remotas associadas a 8 projetos de licenciamento que tramitaram durante a COVID-19 em Minas Gerais, com ênfase no caso da Tamisa Mineração na Serra do Curral (MG). O estudo baseou-se em análises de conteúdo dos processos de licenciamento ambiental, sobretudo das atas e registros das audiências, extrapolando para pesquisa midiática para o caso da Tamisa. Das audiências realizadas durante o período, todas elas foram referentes a processos relacionados direta ou indiretamente a empreendimentos minerários, sobretudo de caráter prioritário. Foram identificadas limitações e diferenças procedimentais na realização das audiências, que desempenharam funções similares às das audiências presenciais. A audiência remota do projeto da Serra do Curral não foi capaz de tratar a íntegra das expectativas das comunidades, que retornaram em forma de protestos e manifestações diversas. Apesar das fragilidades identificadas nas audiências, especialmente em relação à baixa influência na tomada de decisão, conclui-se que o formato remoto pode vir a fortalecer o processo participativo no licenciamento ambiental, desde que tratadas suas fragilidades, e quando houver genuíno interesse na redução de conflitos.

Palavras-chave: audiência pública remota; licenciamento ambiental; participação popular; Minas Gerais; Serra do Curral.

1. Introduction

Environmental Impact Assessment (EIA) stands out among the main legal policy instruments used for the prediction, mitigation, compensation, and control of socio-environmental impacts. In Brazil, EIA has established itself as one of the mandatory instruments of the National Environmental Policy, together with environmental licensing, which, in turn, uses the EIA to support its decisions (*Lei nº 6.938*, 1981). In the various types of environmental licensing, especially those based on EIA, the State may request public hearings to allow stakeholders to express their opinions on environmental studies. At the national level in Brazil, hearings were regulated mainly by Resolution 09/1987 of the National Environment Council – CONAMA (Conselho Nacional do Meio Ambiente [CONAMA], 1987).

It is important to distinguish between the concepts of public hearing and public participation in EIA. A public hearing is a type of public participation in which interested parties are given opportunities to listen and speak. Public participation, on the other hand, is a broader concept related to various types of “involvement of individuals and groups who are positively or negatively affected, or who are interested in a proposed project, program, plan, or policy that is subject to a decision-making process” (André et al., 2006, p. 2). Such involvement is essential to the quality of licensing and EIA and can bring significant improvements to decisions throughout the process (O’Faircheallaigh, 2010; Glucker et al., 2013; Sinclair & Diduck, 2017). However, studies have revealed that the practice of participation has been problematic, proving largely incapable of dealing with the increasingly complex and conflicting demands of environmental governance (Sinclair & Diduck, 2017).

In the Brazilian context, public hearings, as a form of public participation in EIA processes, have been the target of criticism due, among other reasons, to their low capacity to influence decisions, also attributed to their late implementation in the environmental licensing process (Duarte et al., 2016). The effectiveness and implications of the topics addressed in public hearings, although occasionally studied, require further investigation, especially after the dissemination of the remote hearing model, which remains largely unstudied.

Aiming to guarantee the participatory process in licensing, even in the face of social isolation, CONAMA Resolution No. 494/2020 authorized the holding of remote public hearings in environmental licensing processes while the public calamity situation resulting from the COVID-19 pandemic persisted (CONAMA, 2020). In Minas Gerais, the Secretariat for the Environment and Sustainable Development (SEMAD), through Resolution No. 3,018/2020, also established, on an exceptional and temporary basis, the possibility of holding remote public hearings during the COVID-19 pandemic, within the scope of environmental licensing processes (Resolução SEMAD nº 3.018, 2020).

According to Souza et al. (2020), if properly implemented, virtual or remote tools can strengthen the population's access to environmental licensing information and increase stakeholder engagement in licensing processes and environmental impact studies. The authors emphasize, however, that special attention must be paid to changes in legislative formats and content, which may ultimately weaken environmental protection instruments.

In this context, this article aimed to study a group of remote public hearings in the state of Minas Gerais that took place during the period of social isolation resulting from the COVID-19 pandemic. Emphasis was given to the case of a mining project located in Serra do Curral, a mountainous complex of great historical and environmental relevance, located between the municipalities of Belo Horizonte, capital of the state of Minas Gerais, Nova Lima, and Sabará. A detailed analysis was conducted to determine the extent to which the popular aspirations mapped out in the public hearing were considered in the licensing process. Popular movements beyond the licensing process were also mapped, capturing a so-called 'informal' type of participation, already studied by other authors who have shown a strong influence on decision-making processes (Devlin & Yap, 2008; Glucker et al., 2013).

This article is organized into six sections, including this introduction. The following section presents a brief review of the literature on the concepts and objectives of public participation in EIA and licensing, highlighting the role of public hearings. Section 3 contextualizes the importance of Serra do Curral mining case. Section 4 describes the research methodology, and the following sections present the results, discussions, and, finally, conclusions.

2. Public participation in EIA and licensing: concepts, actors, and objectives

Globally, environmental licensing processes with EIA have several similarities. Public participation, for example, is provided for in many of them, but with conceptual and procedural differences that depend on the characteristics of each jurisdiction, ecological and political-institutional context (Li, 2008). According to André et al. (2006), public participation has different levels and forms and can be relevant to different stages of a process. These levels can range from communication with stakeholders, through notification of the proposed intervention, to decision-making, monitoring, and follow-up. Furthermore, the *International Association for Public Participation* (IAP2), an international body that contributes to the improvement of public participation in all sectors, not only related to EIA, considers different ordered spectra of participation, differentiating them by distinct objectives that range from the simple transmission of information, evolving to consultation and involvement, to higher levels of participation

that establish a relationship of collaboration and empowerment of the public, giving them real influence and even delegating decision-making to them (The International Association for Public Participation [IAP2], 2007).

Among the various terms also used to describe public participation processes, ‘stakeholder engagement’ stands out, which implies a more continuous nature of participation, as well as being more focused on a specific, previously mapped audience that acts as a central agent in consultation, complaint, and feedback mechanisms (International Finance Corporation [IFC], 2012). This concept is particularly important in the corporate sector, applicable to the management of risks and socio-environmental impacts in projects submitted for financing. There is also a growing tendency to define the ‘public’ in terms of which voices will be heard or not, redefining terms such as ‘marginalized’ or ‘vulnerable’ (Burdett & Sinclair, 2024).

O’Faircheallaigh (2010), in a frequently cited article, schematically summarizes the different objectives of social participation in EIA, as shown in Table 1, highlighting his understanding that the different forms of participation are not hierarchical but complementary.

The specific objective of enabling the contestation of information in Table 1 is particularly important when EIA reports are written by proponents and their consultants (which is common in Brazil and several other countries). Such documents inevitably have a bias toward encouraging project approval and may, to that end, minimize negative impacts or risks and exaggerate economic benefits (Doelle & Sinclair, 2006). Furthermore, the proposed general objective of sharing decisions with the public reveals a key issue, since decision-making in modern democracies involves disputes between representatives of society with different interests; therefore, the results of the decision-making process should seek to resolve conflicts between them (Chavez & Bernal, 2008; Lockie, 2001). In this context, a relevant point is also highlighted by Hindess (2008), who cites cases in which

Table 1 General and specific objectives of public participation in EIA processes.

General Objectives	Specific objectives
(i) Obtain public input into decisions taken elsewhere	1. Provide information to public 2. Fill information gaps 3. Information contestability 4. Problem solving and social learning
(ii) Share decision making with public	1. Reflect democratic principles 2. Democracy in practice 3. Pluralist representation
(iii) Alter distribution of power and structures of decision making	1. Involve marginalised groups 2. Shift the locus of decision making 3. Entrench marginalisation

SOURCE: O’Faircheallaigh (2010).

public participation is limited only to groups with specific interests, when such interests become the central focus of discussions to the detriment of those who seek the broader social good, which gives public participation a character of mere 'public resistance'. In this context, the insufficient application of environmental planning instruments contributes to the approval and subsequent execution of large infrastructure projects, leading to scenarios of confrontation between local populations, the state, and business segments (Zhourri & Oliveira, 2007).

In Brazil, there is no clear definition of the term "public participation" in the legal regulations governing environmental impact assessment and licensing. What does exist is a provision for holding public hearings (CONAMA, 1987). The advantages, disadvantages, and effectiveness of public hearings in environmental licensing processes are widely debated, with the perception that, in practice, this form of participation contributes little to major changes in the final decisions of the processes. In general, it is clear that these spaces have been used much more to expose the needs of communities and demand social inclusion measures than to discuss the environmental impacts of the project (Assunção et al., 2010).

Both federal and state experiences with remote hearings remain insufficiently studied in Brazil. Although this is a relatively recent model, boosted by the COVID-19 pandemic, international experiences have already been reported. According to the 'Practical Guide to Virtual Hearings', prepared by the New Zealand Ministry of the Environment (Ministry for the Environment, 2020), if conducted properly, virtual hearings can be efficient, effective, transparent, and participatory. However, there are some limitations and restrictions that need to be understood and addressed, such as the difficulty of accessing technology in remote locations; factors related to participant reluctance, as some may feel challenged or even intimidated by the technology involved; and difficulties related to effectively reading the participating audience, as physical presence and body language will be limited or even non-existent.

An initiative by the United States Department of Transportation, in a document focused on reporting Virtual Public Engagement Practices within the scope of that country's Environmental Policy, reinforced the importance and prevalence of hybrid formats of participation (U.S. Department of Transportation [USDOT], 2023). The same study presented, through case studies, positive results of participation through the implementation of platforms with simple and accessible language, as well as relationships with community leaders as focal points and support in community training on the use of the tools. The cases presented further reinforced the importance of a learning curve necessary to prepare the public for the use of new technologies.

3. Serra do Curral: history and importance

Seeking a better basis for presenting the results, we will first present a contextualization of the historical importance of Serra do Curral. The location that accommodates the proposal for the mineral enterprise 'Tamisa Mineração' (or Taquaril Mineração S.A.), whose licensing process included a remote hearing, has great historical, cultural, environmental, and landscape value, being located between the municipalities of Belo Horizonte, capital of the state of Minas Gerais, Nova Lima, and Sabará (Maraluce & Ribeiro, 2021). Geologically, it is a mountainous complex belonging to the 'Quadrilátero Ferrífero' system, which extends over 7,000 km² in the south-central region of Minas Gerais, where the main iron reserves of the state of Minas Gerais and one of the most important in Brazil are located (Instituto Estadual do Patrimônio Histórico e Artístico de Minas Gerais [IEPHA], 2020). Serra do Curral divides the two main ecosystems of the state of Minas Gerais, the Atlantic Forest and the Cerrado, which gives it the characteristics of a transition zone, also accommodating several conservation units (UCs) and other types of overlapping protected areas (Golder Associates, 2019). The place also supports various forms of sociability, as diverse audiences appropriate its space for religious and recreational purposes, especially through trails, which gives it great potential for ecotourism. Special mention should also be made of the degree of urban occupation of its surroundings, with a notable process of verticalization of real estate developments for high-income segments of the population that began in the 1980s, intensified in subsequent decades, and continues to this day (IEPHA, 2020).

Serra do Curral has a long history of mining dating back at least to the 1940s, when iron ore deposits in the region were nationalized. In the 1960s, in response to popular movements in favor of conserving Serra do Curral, the National Institute of Historic and Artistic Heritage (IPHAN) declared Paredão da Serra do Curral and Pico BH as federal heritage sites. In parallel with the federal listing, the municipality of Belo Horizonte, interested in exploiting its mineral resources, created the mining company Ferrobela, whose main assets were located in the mountain range itself (*Lei nº 898*, 1961). This contradiction between actions with such disparate characters and objectives would be a prelude to the scenario of disputes over the exploitation and conservation of the mountain range, which continues to this day. At the municipal level, in 1990, the Organic Law of the municipality of Belo Horizonte was enacted, followed by the approval, the following year, of the listing of the perimeter of the mountain range belonging to the territory of Belo Horizonte (IEPHA, 2020).

An important factor and fundamental agent in the central plot of the discussions about the environmental licensing of the Tamisa mining company in this region is the listing of the historical and landscape complex of the Serra do Curral at the state level, which differs from the municipal listing in that it focuses on the entire chain of mountains that surrounds

Belo Horizonte. This act defines, in legal terms, the administrative restriction, with the objective of protecting cultural heritage, imposing partial restrictions and supporting obligations not to destroy, demolish, or mutilate the listed property. Thus, the approval of the listing, which permeated the discussions regarding licensing and the respective hearing (as will be evidenced in the results below), would prevent new mining ventures from being established in the mountains.

The environmental compliance of mining activities is also a topic that deserves attention, since several mining activities in the mountains currently operate under provisional legal instruments, such as Conduct Adjustment Agreements (TACs), which, when added to the various inspections and complaints questioning their operations, prove the fragility of the environmental compliance of these operations (Projeto Manuelzão, 2023b).

4. Methodology

The research adopted a predominantly qualitative, exploratory, and descriptive approach, based on literature reviews and content analysis of digital documents. The sample of public hearings was taken from environmental licensing processes conducted by SEMAD in Minas Gerais. Public hearings in licensing processes were surveyed using the Public Hearing Consultation and Request system (Secretaria de Estado de Meio Ambiente e Desenvolvimento Sustentável [SEMAD], 2023a). The period selected was between August 2020 and September 2022, with the timeframe referring to the beginning of the authorization to hold virtual public hearings and the revocation of Decree NE 113, of March 12, 2020, which ended the public health emergency in the state of Minas Gerais. A total of eight cases were surveyed for this time period, as shown in Table 2. For ease of reference, the cases will be referred to throughout the article according to the alphabetical reference presented here ('A' to 'H').

The content necessary for the analysis and characterization of the hearing and the processes, as well as their regulatory compliance, such as transcripts and minutes, were collected through the Public Hearing Consultation and Request System, as well as through the Environmental Licensing System (whose acronym in Portuguese is SLA), specifically on the Ecosystems Portal – Environmental Licensing System, option 'Citizen Access' (SEMAD, 2023b). In addition, procedural reviews were requested through the Electronic Information System (whose acronym in Portuguese is SEI-MG), when applicable.

For the case study of Mineração da Serra do Curral, or Tamisa Mineração, the same methodologies described above were applied, with the difference being a more in-depth content analysis of the topics that permeated the public hearing of the licensing process, with the characterization and analysis of all the statements made by the participants in the hearing.

Table 2 Environmental licensing cases surveyed and key information.

Code	Developer	Project	Main Activity	Administrative Process No.	Status Feb./2024
A	Brazilian Aluminum Company	Sustainable Production of Bauxite in the Zona da Mata	Mining	3184/2019/001/2019	Completed – License Granted
B	Taquaril Mineração S.A. (Tamisa)	CMST Project	Mining	218/2020	Completed – License Suspended
C	Renova Foundation	Renova Foundation	Waste Management and Services	1496/2020	Completed – License Granted
D	Brazilian Metallurgy and Mining Company	CBMM – EDR9 Project	Mining	2024/2020	Completed – License Granted
E	Quarry a Valemix Micon	Valemix Micon Quarry	Mining	4181/2020	Completed – License Granted
F	Vale S.A.	PDE Canga Sudeste Vale	Mining	4162/2020	Completed – License Granted
G	Mosaic Fertilizantes P&K Ltda	Category Class III (Dam B6)	Mining	2863/2021	Completed – License Granted
H	Mosaic Fertilizantes P&K Ltda	Tapira Mining Complex	Mining	00001/1988/032/2017	Completed – License Granted

Krippendorff (2004) defines content analysis as a research technique capable of making valid inferences, seeking to describe, quantify, or interpret a certain phenomenon in terms of its meanings, intentions, consequences, or contexts. Furthermore, in order to capture the entire context surrounding popular participation in the case under analysis, it was necessary to go beyond the initial methods, thus applying an approach based on media coverage analysis. The research used, both individually and in combination, the terms “Serra do Curral”, “Tamisa” and “environmental licensing” as keywords in the Google search engine, limiting itself temporally between the date of formalization of the licensing process, December 2019, and February 2024, covering the longest possible time interval within the scope of the research. References to the topics were found in various local and national news channels, online newspapers, and official state news repositories.

It was observed that the searches returned a significant recurrence of articles, with more than one channel sometimes reporting on the same events. Thus, data collection was carried out until content saturation was reached. The collected materials were then submitted to content analysis in order to identify those themes understood as strategic for understanding the case, themes related to

- (i) popular demonstrations;
- (ii) the process of state listing of Serra do Curral as a heritage site; and
- (iii) the legal actions that emerged after the environmental license for the project was granted.

During the analysis, it was also noted that one news source in particular reported more frequently and in greater detail on the developments sur-

rounding these themes: the Manuelzão Project¹. Thus, as will be observed in the presentation of the discussions, this channel stood out among the references cited.

5. Results

5.1. Characterization of environmental licensing processes and public hearings

Among the licensing processes identified during the period, all were related to mining projects, except for process C, which, although not the main activity, is directly related to mining waste. Some of the processes identified, due to their investment volumes, were classified by the state government, under the legislation in force at the time, as priority cases for environmental licensing. Table 3 lists the data relating to the processes and their respective hearings.

When analyzed from the point of view of the possibility of participation in public environments that functioned as 'transmission points', 6 of the 8 hearings had different points, which may have contributed positively to avoiding the displacement of participants. On the other hand, critical points were identified during the hearings, especially related to the difficulties in operating the virtual tools, which was a constant in all hearings. This resulted, at certain times, in poor communication and low understanding of the information presented, hindering the effective participation of some of the participants. Differences were identified in the presentation of information after the hearings, both by the environmental agency and by the entrepreneurs. Part of this is due to the normative subjectivity regarding the mandatory recording of the hearing in video format, which, if mandatory, would translate into an opportunity to improve procedural transparency.

It is also worth noting the hybrid nature of the hearings, despite the fact that the legal framework created allows for a fully remote format. While some of them took place without any participants present in the plenary, others were held in a hybrid format, with an audience present both on site and at broadcast locations. One hypothesis for these differences may be related to local decrees that limited or even prohibited events with people in attendance, in cases where participants were unable to be present (Cases A, B, and F). YouTube broadcasts were a constant feature of all hearings, as was the possibility of sending questions via WhatsApp. Differences were also identified in the variety of tools used for remote communication by hearing participants, since, for some of the projects, there were a greater

1 An extension project of the Federal University of Minas Gerais (UFMG) that operates at the environmental, social, and cultural levels, aiming to revitalize the Rio das Velhas basin (Projeto Manuelzão, 2023a).

Table 3 Characterization of public hearings.

Process	A	B	C	D
Hearing Date	10/07/2021	10/28/2021	10/15/2020	December 9, 2020
Licensing body*	SUPPRI	SUPPRI	SUPPRI	SUPPRI
Applicant	Civil Entity	Entrepreneur; City Hall; Two groups of 50 or more citizens; Civil Entity	Public Prosecutor's Office	Entrepreneur
Number of participants				
remote	770	565	235	552
at transmission points	30	16	180	115
who spoke during the hearing	35	34	21	21 (+3 reserved for women**)
Was there an audience present at the plenary session of the hearing?	No	No	Yes	Yes
Number of transmission points	1	3	5	Single***
Means of transmission	Streaming YouTube; Radio	Microsoft Teams; YouTube	Zoom; YouTube; Radio; Tablet Distribution	Zoom; YouTube
Communication platform	Website; WhatsApp; Dedicated phone line	WhatsApp; Online forms; Website	WhatsApp; Online forms; Dedicated phone line	WhatsApp; Zoom Chat
Technical Opinion Suggestion	Approval	Approval	Approval	Approval
Process status in July 2024	Completed – License Granted	Completed – License Suspended due to judicial interference	Completed – License Granted	Completed – License Granted
Process	E	F	G	H
Hearing Date	December 14, 2021	January 21, 2021	October 7, 2021	08/03/2021
Licensing body*	SUPRAM East	SUPPRI	SUPRAM Alto Paranaíba	SUPRAM Triângulo Mineiro
Applicant	Civil Entity	City Hall	In compliance with Law 23.291/2019	In compliance with Law 23.291/2019
Number of participants				
remote	99	600	545	900
at transmission points	112	5	39	89
who spoke during the hearing	14	21	5 (+2 reserved for women**)	19 (+7 reserved for women**)
Was there an audience present at the plenary session of the hearing?	Yes	No	Yes	Yes
Number of transmission points	Single***	1	2	6
Means of transmission	YouTube	Microsoft Teams; YouTube; Distribution of Tablets	YouTube; Website;	YouTube; Radio; Website
Communication platform	WhatsApp; Email; Phone; YouTube Chat; Website	WhatsApp; Phone; Website	WhatsApp; Website	WhatsApp; Website
Technical Opinion Suggestion	Approval	Approval	Approval	Approval
Process status in July 2024	Completed – License Granted	Completed – License Granted	Completed – License Granted	Completed – License Granted

* Regional Superintendences for Environmental Regulation or Licensing (SUPRAM or, if prioritized, Superintendence for Priority Projects – SUPPRI) subordinate to SEMAD.

** As determined by Law 23.291/2016, space and time will be reserved for women when it comes to public hearings on projects involving dams, with a view to discussing the specific impacts of the project on their lives.

*** Hearings where the plenary and the participating public were present in the same location.

number of virtual communication tools, such as a dedicated telephone line for comments, while others were limited to the use of *WhatsApp* and websites. Remote hearings represented an effort, in regulatory and procedural terms, to make hearings possible in the context of social isolation. It should be noted, however, that in all of them there was some presence of participants, either at the plenary venue or at transmission points, which may also characterize a hybrid format.

The above analyses were important in characterizing details of the format and implementation of the hearings. However, in order to understand how the content and format of the hearings could affect the decisions of the licensing processes, a detailed analysis was carried out of the public hearing and the licensing process of Tamisa Mineração, which were admittedly controversial, given the sensitivity of the area and the history of popular pressure mentioned above.

5.2. The public hearing for the Tamisa Mineração project (Serra do Curral)

Tamisa's environmental licensing process aimed to obtain a type of license classified in Minas Gerais as Concurrent Environmental License 2 (LAC2). In this category, licensing takes place in two phases, with the Preliminary License (LP) and Installation License (LI) being obtained concurrently, and the Operating License (LO) for the project being obtained in a further phase. The project in question, as presented, was divided into two phases over 13 years of operation. The object of the licensing process discussed here includes the LP and LI for Phase 1 and, for Phase 2, only the LP (SEMAD, 2022). Thus, the application was formalized on January 20, 2020, and sent for analysis by the priority arm of the Minas Gerais licensing agency (SUPPRI).

The project seeks to exploit iron ore reserves located in the municipality of Nova Lima, focusing on one of the variants south of the main axis of the Serra do Curral, known as Serra do Taquaril. Mining and processing activities are planned for approximately 31 million tons of iron ore, with the removal of 41.27 ha of native vegetation in Phase 1 of the project alone (Golder Associates, 2019). The hearing was held on October 28, 2021, predominantly in remote format, without participants present at the plenary session, and was broadcast via *YouTube* and the *Microsoft Teams* platform. The hearing had three specific broadcast points located in the municipalities of Nova Lima, Sabará, and Belo Horizonte. The protesters at the hearing were categorized, as were their respective statements. According to the hearing minutes, it was possible to extract the origin of the protesting participant when recorded. In most cases, the participant did not register their origin and was therefore categorized here as (i) Unidentified. The other categories identified were (ii) Representatives of Civil Entities; followed by (iii) Representatives of the Legislative Branch, with a predominant presence of

representatives from the Belo Horizonte City Council; (iv) Representatives of Private Organizations, represented here by an institute that operates in the mineral sector; and finally, (v) Members of Conservation Unit Advisory Councils. The percentage distribution of protesters is shown in Figure 1:

The types of statements predominantly captured from the protesters' speeches were classified into the following groups:

- (i) Questions and Requests for Clarification;
- (ii) Expression of Opposition to the Project;
- (iii) Support for the Project; and
- (iv) Criticism of the format of the hearing.

It was observed that, in most cases, a participant made more than one statement, so the sentences of the statements were counted, rather than the statement as a whole. Figure 2 shows the percentage breakdown found.

As observed, there was a predominance of statements aimed at answering questions and providing general clarifications. These results were found in another study (Duarte et al., 2016), which shows that the innovation of the hearing format did not alter the predominant objective of public hearings in environmental licensing processes, which is the search for information. With regard to the main topics criticized, based on statements opposing the project, the following were identified with the following frequency:

The difficulties in implementing the remote model, already listed throughout the article, were also evident in Table 4 by the quantification of statements against the virtual format of the hearing. For the central objective of this article, which is to assess the extent to which the contributions of the public hearing were considered in the decision-making process,

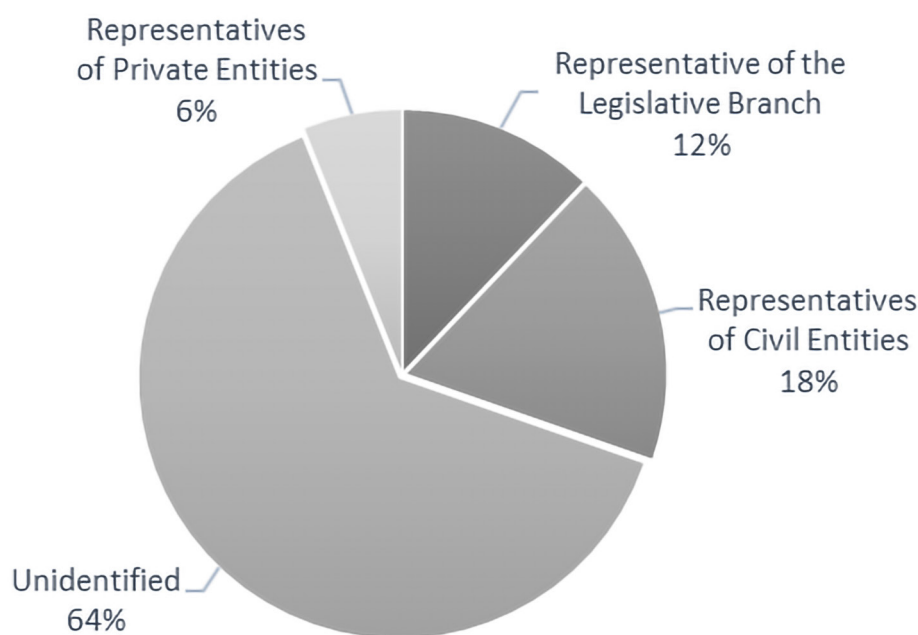


Figure 1
Distribution of protesters by group of actors.

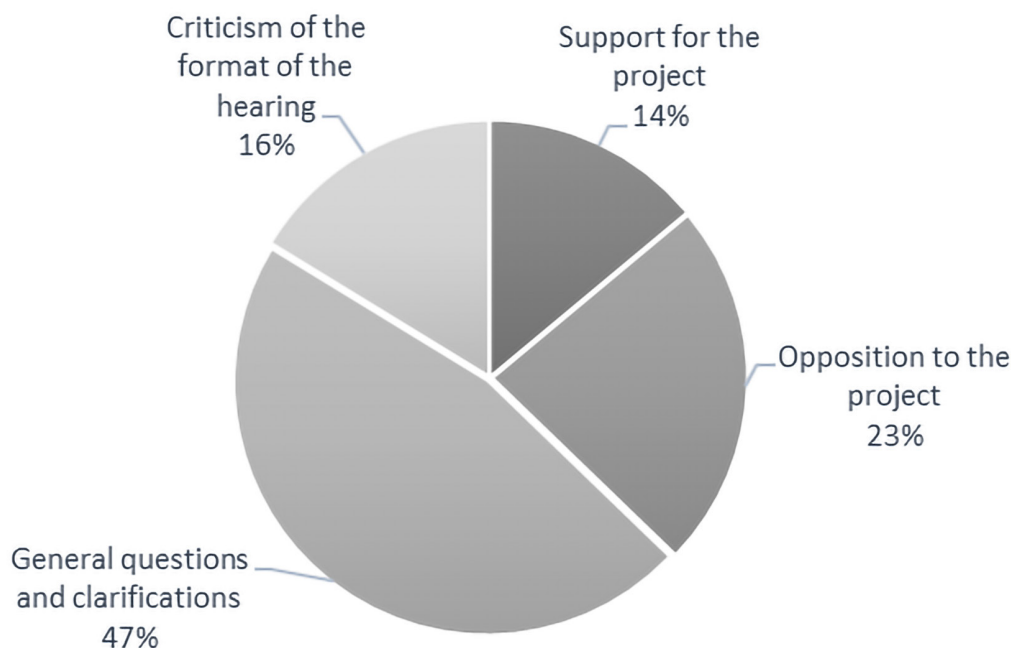


Figure 2

Predominant positioning of participants, in percentage terms.

Table 4 Quantification of the main topics criticized in statements against the project.

Criticized Issues	Number of times mentioned
a) Remote hearing model	6
b) Listing of Serra do Curral	5
c) Water security in Belo Horizonte	4
d) Lack of information/Quality of studies	3
e) Affected Municipalities	3
f) Possibility of Splitting the Licensing Process	1
g) Refusal to engage in dialogue with the developer	1
h) Negative statements by conservation unit advisors	1
i) Logistics for transporting the ore	1
j) Project infrastructure	1
l) Vegetation removal	1
m) Criticism of SUPPRI	1

the requests for additional information (ICs) made by the licensing body to Tamisa Mineração after the public hearing was held were taken into account, as well as the conditions and programs proposed in the opinion of the granted license.

Regarding the additional information requested, a direct relationship was identified between two of them and topics discussed at the hearing, namely:

- 1) Presentation of a Visibility Analysis Study, which confirmed that the project will have a visual impact on certain points observed in the municipality of Belo Horizonte (Information ID: 112); and

- 2) Diagnosis of the trails around the Serra do Curral ridge, both listed and unlisted, with the presentation of the proposed change to the route that would be affected (Information ID: 110).

It can be inferred that the discussions and statements regarding 'd) Lack of Information' and 'e) Affected Municipalities', presented in Table 3, encouraged the licensing agency to request such information. In addition to the requests listed above, there was also a request for a statement that the project would not have a social impact on protected property. In response, the entrepreneur confirmed, through a statement, that the project would not have such an impact (Information ID: 124). This is noteworthy because the project's environmental license was suspended due to public civil action – ACP No. 1029068-41.2022.4.01.0000 (Ministério Público Federal, 2022), which was motivated by the failure to consult, in advance and in an informed manner, the quilombola community 'Manzo Nzungo Kaiango', as required by Convention No. 169² of the International Labor Organization (ILO) and Articles 215 and 216 of the Federal Constitution.

Of the conditions set, only two are noteworthy, specifically referring to the LP. The first established the obligation to create a channel of communication between the entrepreneur and the community. This condition may demonstrate a concern on the part of the environmental agency that the need for communication between the entrepreneur and the affected population would not end there, when the analysis of the licensing process for imminent approval was completed. Another condition dealt with the signage of trails, a subject addressed at the hearing, with the necessary arrangements being made through requests for additional information (SEMAD, 2022).

5.2.1. Beyond licensing: civil mobilization and the state listing process

The content analysis of Tamisa Mineração's environmental licensing process made it clear that the licensing agency saw no legal impediment to granting the license. Although the public hearing made it clear that several stakeholders opposed the project for different reasons, coupled with the strength and size of the various popular movements already active since before its approval, the license was granted in May 2022 based on a single opinion favorable to its approval (SEMAD, 2022), being deliberated and approved by the State Council for Environmental Policy (COPAM) in a session lasting a total of 19 hours.

One of the aspects that made up the movements outside the scope of

2 Convention No. 169 of the International Labor Organization (ILO 169) is an international human rights treaty that provides specific forms of protection for indigenous and tribal peoples. Brazil is a signatory to this convention and is therefore committed to consulting the peoples concerned "whenever legislative or administrative measures likely to affect them directly are being considered".

environmental licensing was the processing of the state listing process, one of the main issues questioned at the public hearing. The Serra do Curral Listing Dossier (IEPHA, 2020), prepared with the aim of supporting the approval of the state listing, was submitted for approval at the end of 2020, when the Tamisa Mineração licensing process had already been formalized. For the listing to take effect, deliberation and approval by the State Council for Cultural Heritage (CONEP) would be necessary. However, between requests for clarification on the content of the dossier by CONEP, and even with the recommendation by the Public Prosecutor's Office of Minas Gerais (MPMG) to implement the listing, months after the submission of the process, it had still not been reviewed by the Council. As a way of demonstrating the popular dimension of the issue, a petition with approximately 62,000 signatures was delivered in August 2021 to the Legislative Assembly of Minas Gerais (ALMG), mediated by the legislative branch of Belo Horizonte, in favor of the listing (Fiuza, 2021).

Meanwhile, Tamisa's environmental licensing application moved forward and was approved in May 2022, as mentioned above. Shortly after approval, in response to strong public reaction to the granting of the license, the State Institute of Historical and Artistic Heritage of Minas Gerais (IEPHA) issued Ordinance No. 22/2022 (IEPHA, 2022), which determined the provisional protection of the mountain range. In its text, the grounds for the justification for issuing the ordinance were based on State Decree No. 48,443/2022 (Decreto Estadual nº 48.443, 2022), which declares the Serra do Curral, located between the municipalities of Belo Horizonte, Nova Lima, and Sabará, as an asset of relevant cultural interest to the State of Minas Gerais.

There is a contradiction between government forces focused on the preservation of heritage and the economic exploitation of the mountain range. The state government's actions seemed awkward. While there were no incentives to speed up the deliberation on the listing when the dossier was submitted, shortly after the license was granted, a reactive action was observed, demonstrating a change in tone by the government, which publicly recognized the importance of the mountain range, but without guaranteeing its full protection. Based on all the elements presented, it can be inferred that the listing is a fundamental agent, contributing to the popular pressure that helped to justify the various legal actions that would follow the issuance of the license.

In addition, social movements had already consolidated in defense of Serra do Curral even before the licensing process began in 2020, including the group "Mess with Serra do Curral, mess with me!" (Universidade Federal de Minas Gerais [UFMG], 2018). During the analysis of the environmental licensing process, as well as after the license was approved, other new movements emerged, focused on petitions, signatures, and various protests. In December 2021, more than forty environmental movements and non-governmental organizations (NGOs) established a coalition in

defense of Serra do Curral, composed of activists, social movements, and civil society organizations in a demonstration called at Praça do Papa, at the foot of the Belo Horizonte side of the mountain range, to pressure the state government and mobilize public opinion for the listing of the entire area (Projeto Manuelzão, 2021). The coalition of various social movements using social media advertising and direct actions, in the form of demonstrations in public spaces, was an important demonstration of the strength of the demands. Other relevant actions cited by Carneiro et al. (2023), in a recent article that focused on the strength and scale of the conflicts surrounding the issue, was the use of WhatsApp groups to engage and disseminate information in order to mobilize new demonstrations. According to the authors, the movement expanded with the support of other grassroots associations that had previously been affected by other mining operations.

After the license was granted, a legal “saga” was also initiated by interested parties with various motivations, with the aim of achieving judicial review and the consequent suspension or revocation of the mining company’s license. In addition to the broad network of actors already mentioned, two central agents entered the scene to block the license: the Public Prosecutor’s Office and the Judiciary. Despite all the popular efforts mentioned in the previous item, in favor of revoking Tamisa’s license and protecting the Serra do Curral, these were not sufficient, or did not constitute a legal path to make it possible, in the administrative sphere, to reject or revoke it. However, although insufficient, all the mobilization created around the issue contributed to the filing of public and popular civil actions by and for different interested parties. In a news article dated May 4, 2023, which at the time listed all active lawsuits, a total of 13 lawsuits related to the project were identified (Projeto Manuelzão, 2023a). The reasons for the lawsuits were diverse, ranging from allegations of geological risks, water security, and air quality in the municipality of Belo Horizonte, to more explicitly illegal acts, such as the one that led to the suspension of the license, which was the failure to consult the *Manzo Ngunzo* quilombola community in advance. This public civil action (ACP 1028801-18.2022.4.01.3800) was filed by the Federal Public Prosecutor’s Office (MPF), with the mining company and the Government of the State of Minas Gerais as defendants (Ministério Público Federal, 2022). The ACP case file cites anthropological technical opinion number 597/MPF, prepared with elements extracted from the *Manzo* Quilombo Registration Dossier, which demonstrates the connection between Mata da Baleia, one of the regions affected by the mining complex, and the cultural, social, religious, and ancestral reproduction of the quilombo community in that location. Also according to the ACP, the proximity of the mining project to Mata da Baleia can be proven by information contained in the environmental impact study, which places the headwaters of Córrego da Baleia in the area of direct influence of the

project. This Quilombo Registration Dossier was prepared in 2018, prior to the preparation of Tamisa's impact assessment studies.

Among the appeal decisions, which were initially favorable to the project, the scenario at the time of writing this article is that the project's license remains suspended, as decided by an appeal filed by the Federal Public Prosecutor's Office (MPF) and reviewed by the 3rd panel of the TRF-6, the 2nd instance of the Federal Court. The trial was concluded in August 2023, maintaining, by a vote of 2 to 1, the suspension of the company's operating licenses. The company can still appeal the decision (Projeto Manuelzão, 2023a).

Finally, what is certain is the creation of a provisional legal instrument, which can be understood as a response to popular reactions to the issue, including the granting of the Tamisa Mineração license. The imbroglio surrounding the issue has been addressed in specific conciliation hearings held by the TJMG to discuss the definitive listing (Projeto Manuelzão, 2023c). However, the course of its implementation and its real effects remain difficult to predict.

The results found in this article are in line with studies showing that public hearings on environmental licensing contribute little to changes in decisions, except when they are linked to vigorous popular movements. In this regard, Devlin & Yap (2008) highlight the importance of informal forms of participation in the context of environmental impact assessment: "Even very closed and technocratic processes can be opened up if the public becomes aware of the project and begins to mobilize against it" (p. 19). In similar cases of environmental conflicts caused by the implementation of large projects, it was observed that the resistance strategies of those affected were the main means by which power relations could be mitigated, balancing the democratic process and resulting in less harmful development projects (Acseirad & Silva, 2004).

What was observed, corroborating the conclusions of the authors cited, was that the course of the project's installation and operation was drastically influenced by movements that occurred outside the scope of the licensing process, movements that manifested themselves in the form of protests, civil society mobilizations, and widespread media coverage of the issue. Even though the environmental license was issued, all these movements catalyzed a series of actions that led not only to its suspension (which can still be reversed) but also to widespread resistance to the project among the general population.

6. Conclusions

The main objective of the article was to evaluate the remote public hearings in environmental licensing processes with EIA during the COVID-19 pandemic in Minas Gerais, with special attention to the Tamisa case of mining in Serra do Curral. In general, all the hearings analyzed complied with the

rules, including the requirements included in Resolution n. 3.108/2020. Subtle differences were identified in relation to the virtual tools used in the hearings, since different platforms were used for transmission and interaction among participants. Differences were also identified in relation to the availability of the hearing recording, in video format, at a later time, which may demonstrate different views and trends in the openness and availability of information on the part of entrepreneurs. Another notable fact was the dominance of projects related to mining activities, including a predominance of projects that were classified as priority projects. This fact may demonstrate, albeit indirectly, the economic and strategic relevance of such activities for the state.

Specifically regarding the case study of Tamisa's environmental licensing, it was evident that popular movements in favor of preserving the areas to be affected by the project echoed some of the themes that emerged at the public hearing, through various protests, petitions, and other demonstrations, ultimately attracting widespread media coverage on the topic at the national level. All these movements corroborate the fact that society's perceptions and concerns, when not addressed, can 'return' in the form of conflicts and lawsuits. The most concrete development at the time of writing this article is the provisional heritage listing of Serra do Curral, which covers the same area proposed in the Listing Dossier. This scenario may indicate a partial victory for the cause; on the other hand, it may also represent a strategy by the state to soften the issue and thus achieve, for example, negotiations in favor of modifying the perimeter proposed for listing, excluding areas already mined or destined for mining, such as Tamisa. In any case, even if the scenario favorable to the mining company materializes, maintaining the project's license, based on the size and strength of popular resistance, it is possible to infer that the project will face serious complications throughout its installation and operation, with civil and popular actions becoming commonplace, to the point of making its operation unfeasible.

Environmental licensing subsidized by EIA was created to improve decision-making on economic development projects to avoid social and environmental impacts. However, in the case of Tamisa Mineração, the state government seems to have taken a narrow, merely "legalistic" view of decision-making, evaluating not the impacts, but rather what is explicitly permitted or not legally permitted. The public hearing seems to have played a small role as a 'trigger' or catalyst for popular movement, but, as demonstrated, it did not, in itself, have the capacity to influence the state's decision on the licensing of the project. Popular resistance to the project seems to have encouraged the Public Prosecutor's Office to take action, which was decisive in suspending the license.

The results obtained point to some ways to improve public participation in the EIA process, more specifically focused on environmental licensing.

It was clear that it is important to go beyond strictly technical and encapsulated understandings and definitions for delimiting the spaces and the affected public, which aim at questionable procedural efficiency. Based on the conclusion that the rules proved insufficient to capture the various stakeholders in the project, as well as their different desires, it is of fundamental importance that the delimitation of the interested public goes beyond the regulatory instruments currently in force. In the meantime, not only the remote format of the hearings, but all virtual tools can become allies in a process of participation and learning, providing more instruments and structures for the effective practice of this right.

The international models listed here, as well as the results presented, allow us to propose initial guidelines for the formulation of digital inclusion protocols in the context of public participation in environmental licensing processes. A key point that has been widely discussed in the literature is the late incorporation of public participation in projects. Virtual tools, if regulated for this purpose, could help anticipate and facilitate the practice of participation, providing the public with basic information about the project in an objective and didactic manner, gathering initial perceptions from the population involved. To this end, it is necessary that the application of the tools be supported by clear guidelines and regulations on this type of participation.

Investment in digital literacy programs could also help overcome the barrier of unfamiliarity with digital tools, which was strongly observed in the audiences analyzed in this article. The use of alternative communication channels for receiving written or recorded contributions can allow groups with limited access to participate at their own pace and on their own terms. It is also essential to invest in robust satellite internet access infrastructure, bridging connectivity gaps in remote areas or areas lacking infrastructure. Digital inclusion focused on environmental assessment and licensing processes requires a multidimensional approach, which can strengthen the legitimacy of participatory processes. Finally, we recommend continuous technical and academic monitoring of experiences focused on hybrid or remote participation practices, with the adoption of metrics to assess the effectiveness of strategies and their impact on the public participation process.

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