EIA screening criteria in Brazil: a logical test?

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Abstract

In the past decades, Brazilian Environmental State agencies improved their criteria to screen in or out proposed projects that should be subject to environmental licensing and environmental impact assessments. Few studies, however, have attempted to understand the extent to which EIA screening criteria are technically consistent and sound. The purpose of this study was to undertake a comparative analysis of the screening processes in four highly industrialized Brazilian States: Minas Gerais, Espirito Santo, Rio de Janeiro and São Paulo. Data were collected through literature reviews and numerous interviews (open-ended and semi-structured). The study selected four "real" projects that had been screened in for impact assessment in the Minas Gerais State agency and, based on their data, filled out environmental license applications in the other three State jurisdictions to understand how the "fictional" projects would be screened in or out for impact assessments. The "simulations" revealed a few similarities in the screening criteria used by the four jurisdictions. However, the differences among specific thresholds and units of analysis across the jurisdictions led to different screening scenarios, with had very relevant implications in terms of project approval, administrative fees and required studies. Similar projects were subjected to very different impact assessment studies. The study concludes by discussing the implications of such differences.

Keywords: EIA, screening, scope, institutional capacity, environmental impact assessment, environmental licensing, Brazil.

1. Introduction

Brazil has a four-decade mandatory Environmental Impact Assessment (EIA) and Environmental Licensing System underpinned by federal and state legislation. The system, however, is in crisis. In the past years, numerous scholars, government and civil society institutions highlighted its problems (e.g. excessive bureaucracy, slow administrative processes, legal insecurity, lack of institutional capacity, among many others), calling for significant reforms (ABEMA, 2013; CNI, 2013; FMASE, 2013; MPU, 2004; Viana, 2007). There is an expectation in Brazilian society today that the new presidential administration, to take office in 2015, will implement a number of relevant changes. EIA screening is one of the areas that are likely to be affected.

EIA screening in Brazil is regulated by federal and state regulations, which outlines a number of "project lists" that specify those projects with potentially significant environmental impacts that are required to obtain environmental licenses prior to operation. EIA is the main tool that the government uses to decide on the license approval. The screening process in Brazil, as show in Figure 1, tries to determine whether a proposed project is 1) exempt from EIAs; 2) subject to simplified EIAs; or 3) subject to comprehensive EIAs.

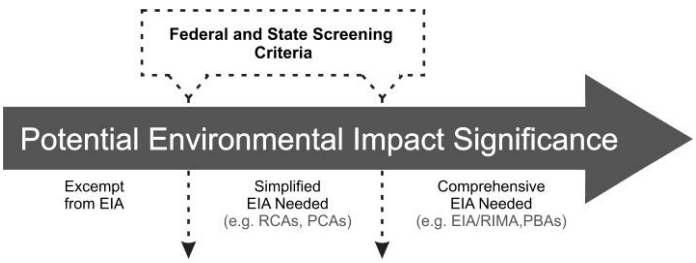

Figure 1 – General Screening Processes across Brazilian Jurisdictions

As a federation, Brazil requires projects to undergo through municipal, state or federal-level EIA, but without jurisdictional overlaps. Each jurisdiction has its own regulations and EIA procedures. The parameters (threshold) over which projects are required to undergo EIAs vary substantially across jurisdictions. These values (which may reflect criteria such as project size, type of activity, production capacity and location) are expected to be technically sound, so that only those projects with potentially high environmental impacts are subjected to impact assessments. Flaws in this screening procedure may have negative consequences: overestimated threshold values may lead to unnecessary analyzes, project delays, and increased investments; underestimated values may lead to the approval of projects without due consideration of their socio-environmental harms. The screening effectiveness is particularly relevant to Brazilian environmental agencies responsible for the analysis of EIA studies, as they often operate under low budgets and with limited administrative capacity.
In the past decade, Brazilian environmental agencies improved their criteria to screen in or out proposed projects that should be subject to environmental licensing and environmental impact assessments. While the international literature offers numerous examples of studies about the challenges of EIA screening, for example, in Denmark (Christensen & Kornov, 2011; Nielsen, Christensen, & Kornov, 2005), European Union (Pinho, McCallum, & Cruz, 2010; Weston, 2004), England (Weston, 2011), few, if any, studies have analyzed the Brazilian context, as this study set out to do.

2. Objective and Methodology

The purpose of this study was to undertake a comparative analysis of the screening procedures in four highly industrialized Brazilian state jurisdictions (Minas Gerais, Espirito Santo, Rio de Janeiro and São Paulo, as seen in Fig. 01), to evaluate their consistency and technical soundness.

Figure 2 – Study's geographical focus: Brazilian Southeastern state EIA jurisdictions

The study adopted a qualitative approach to the investigation, involving screening simulations, based on literature reviews, documental reviews, and interviews. First, the authors characterized four "real cases" of projects that had been screened in for impact assessment in the state of Minas Gerais between 2007 and 2013. The cases were located in different cities and reflected four different activities likely to occur in southeastern Brazil: hydroelectric power plant; granite mining; sewage treatment plant; gas station. Then, the authors, who had access to the Minas Gerais Environmental Agency's archives, reviewed the projects' original documentation. Based on the projects' data, the authors filled out online environmental license applications in the other three State jurisdictions (São Paulo, Rio de Janeiro and Espírito Santo) in order to understand how the "fictional" projects would be screened in or out for impact assessments. To make the simulations work, the authors had to make a number of arbitrary choices related to the configuration of the twelve fictional projects (three projects per state), that is, their location, name, owner, legal identity, etc. Moreover, eleven managers across the three state environmental agencies were interviewed to understand whether the simulations made sense, and thus reflected a "real life" situation. The sample of interviewees was determined through a snowball approach. Through the screening simulations, the study tried to understand how different

were the screening methods and its required studies, project classification, administrative fees, public input, among others. Results are presented below.

3. Results

The screening results of the four "real cases" of Minas Gerais and the twelve simulations are presented in the appendix. The screening procedures had similarities and differences. The screening methods across the four states, including São Paulo, were found to be based on state-regulated "project lists", which specified the types of projects subject to EIA and environmental licensing. The only exception was the state of São Paulo, which adopts a predominately case-by-case analysis. The projects lists of Minas Gerais, Espírito Santo and Rio de Janeiro could be better described as "project matrixes", as those lists include not only the types of projects but their respective parameter values of pollution potential and project size used to determine the projects' potential impact significance, given by a "project class" (Tables 1-3). The higher the class, the higher the potential impact significance.

Table 1 – Project screening classes in Minas Gerais

		Pollution Potential		
		Small	Medium	High
Project Size	Small	1	1	3
	Medium	2	3	5
	Large	4	5	6

Table 3 – Project screening classes in Espírito Santo

		Pollution Potential		
		Small	Medium	High
Project Size	Small	I	I	II
	Medium	I	II	III
	Large	II	III	IV

Table 4 – Project screening classes in Rio de Janeiro

	Pollution Potential			
Size	Insignificant	Small	Medium	High
Minimum	Class 1	Class 2	Class 2	Class 3
Small	Class 1	Class 2	Class 3	Class 4
Medium	Class 2	Class 2	Class 4	Class 5
Large	Class 2	Class 3	Class 5	Class 6
Exceptional	Class 3	Class 4	Class 6	Class 6

The quantity, rationale and implications of classes varied considerably across the four states. This finding was particularly clear after the simulations. The legislation of the four states *per se* does not provide sufficient information to understand the potential results of the screening process. But during the simulations it became clear that similar projects (same size, layout, project configuration, area, etc.) may be subject to different EIA and licensing procedures across the four states. For example, the granite mining enterprise, which was exempt from EIA in Minas Gerais and paid a fee of about R$1,104.33, would be subject to a comprehensive EIA in Rio de Janeiro. Similarly the evaluated gas station in Espírito Santo was required to obtain three environmental licenses prior to operation, but, in São Paulo, the same enterprise would probably need only two licenses. The most notable differences found in the screening processes and respective results were related to the parameters used to determine "pollution potential" "project size"; the quantity and types of required environmental licenses; the comprehensiveness of the required studies; the administrative fees charged by the environmental agency; and the environmental license renewal period. The study also found that none of the screening procedures took into consideration the potential existence of cumulative effects. As for the locational factors, only the state of Rio de Janeiro, took them into consideration in the

screening process. Such differences, based on the authors' observations, appear to be more a result of arbitrary bureaucratic choices than of scientific and/or technical peculiarities found in each state.

4. Final Remarks

This study analyzed the screening procedures in four highly industrialized Brazilian state jurisdictions to evaluate their consistency and technical soundness. It was found a great degree of discrepancy in the screening procedures, a situation that has very relevant implications in terms of project approval timing, administrative fees and required studies. The research corroborates the importance of harmonizing screening procedures criteria in Brazil. The current situation might create unwanted incentives or disincentives to the installation of projects in particular jurisdictions, without clear benefits to the environment and society.

5. Acknowledgments

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Table 1 – Real Cases versus Simulated EIA Screenings of Four Project Types

Analytical Aspect	**Real Cases**	**Simulations**		
State	**Minas Gerais**	**Espírito Santo**	**Rio de Janeiro**	**São Paulo**
State Legislation on Screening Criteria	DN COPAM 74/2004	Screening project list on IN 10/2010	State Decree 42.159/09 and State Resolutions INEA 31/2001, 52/2012 e 53/2012	State Decrees 8.468/1976 and 47.397/2002
Hydroelectric Power Plant				
Affected Municipality	Conceição do Mato Dentro, Gouveia e Santana de Pirapama.	Divino de São Lourenço	Macuco	Borá
Screening method	Screening list with specifying threshold values that take into account Pollution Potential on Water, Air and Soil, as well as Project Size given by the Plant Installed Capacity in MW	Screening list with specifying threshold values that take into account Pollution Potential and Project Size given by the reservoir area	Screening list with specifying threshold values that take into account Pollution Potential and Project Size given by the reservoir area and installed capacity	Case-by-case basis
Project Classification and Code	Class 5; Code E-02-01-1	Class IV; Code 21.14	Class 6-A; Code 21.14	No class; not coded
Required Environmental License	Previous License → Installation License → Operation License	Previous License → Installation License → Operation License	Previous License → Installation License → Operation License	Previous License → Installation License → Operation License
Required EIA studies	Comprehensive EIA studies (e.g. EIA/RIMA)	Comprehensive EIA studies (e.g. EIA/RIMA)	Comprehensive EIA studies (e.g. EIA/RIMA)	Comprehensive EIA studies (e.g. EIA/RIMA)
Mandatory Public Hearing	Yes	Yes	Yes	Yes
Compentent Authority Fee	R$ 57.977,707	R$ 27.940,86	R$ 136.069,164	R$ 98.787,00
License Renewal Period	Up to 4 years	Up to 4 years	Up to 5 years	Up to 5 years
Granite Mining				
Affected Municipality	Itinga	Divino de São Lourenço	Macuco	Borá
Screening Method	Screening list with specifying threshold values that take into account Pollution Potential on Water, Air and Soil, as well as Project Size given by the Annual Bulk Production in m3	Screening list with specifying threshold values that take into account Pollution Potential and Project Size given by the ore reserve area in hectares (ha)	Screening list with specifying threshold values that take into account Pollution Potential and Project Size (area and monthly production in m3) as well as Project Location aspects (proximity to conservation areas and surface area bodies)	Case-by-case basis
Project Classification and Code	Class 1, Code A-02-06-2	Class II, Code 1.01	Class 3-C, Code 00.22.21	No class; not coded
Required Environmental License	Operational Environmental Approval	Previous License + Installation License + Operation License	Previous License + Installation License + Operation License	Not eligible to Environmental Licensing
Required EIA studies	N/A	Simplified EIA studies (RAP)	Comprehensive EIA studies (e.g. EIA/RIMA)	N/A
Mandatory Public Hearing	No	No	Yes	N/A
Compentent Authority Fee	R$ 1.104,33	R$ 485,93	R$ 86.524,49	N/A
License Renewal Period	Up to 4 years	Up to 4 years	Up to 5 years	N/A
Sewage Treatment Plant				
Affected Municipality	Caratinga	Divino de São Lourenço	Macuco	Borá
Screening Method	Screening list with specifying threshold values that take into account Pollution Potential on Water, Air and Soil, as well as Project Size given by Maximum Sewage Flow Capacity in L/s	Screening list with specifying threshold values that take into account Pollution Potential, as well as Project Size given by Maximum Sewage Flow Capacity in L/s	Screening list with specifying threshold values that take into account Pollution Potential and Project Size (Maximum Sewage Flow Capacity in L/s, system extension, project technology, etc.)	Case-by-case basis
Project Classification and Code	Class 3, Code E-03-06-9	Class III, Code 19.02	Class 2-B, Code 35.41.14	No class; not coded
Required Environmental License	Previous License and Installation License (combined) → Operation License	Previous License → Installation License → Operation License	Simplified License	Previous License and Installation License (combined) → Operation License
Required EIA studies	Simplified EIA studies (RCA + PCA)	Simplified EIA studies (Location map, diagnostic, project)	Simplified EIA studies	Simplified EIA studies
Mandatory Public Hearing	No	No	No	No
Compentent Authority Fee	R$ 11.043,39	R$ 1.538,77	R$ 2.587,10	Unclear
License Renewal Period	Up to 6 years	Up to 5 years	Up to 10 years	Up to 6 years
Gas Station				
Affected Municipality	Ribeirão das Neves	Divino de São Lourenço	Macuco	Borá
Screening Method	Screening list with specifying threshold values that take into account Pollution Potential on Water, Air and Soil, as well as Project Size given by Gas Storage Capacity in m3	Screening list with specifying threshold values that take into account Pollution Potential, as well as Project Size given by Gas Storage Capacity in m3	Screening list with specifying threshold values that take into account Project Size given by Station Area in m2	Case-by-case basis
Project Classification and Code	Class 1, Code F-06-01-7	Class III, Code 27.01	Class 2-B, Code 55.21.31	No class; not coded
Required Environmental License	Operational Environmental Approval	Previous License → Installation License → Operation License	Simplified License	Previous License and Installation License (combined) → Operation License
Required EIA studies	N/A	Simplified EIA studies	Simplified EIA studies	Simplified EIA studies
Mandatory Public Hearing	No	No	No	No
Compentent Authority Fee	R$ 1.104,33	R$ 1.538,77	$ 3.282,60	Unclear
License Renewal Period	Up to 4 years	Up to 5 years	Up to 10 years	Up to 2 years