

# The environmental impact assessment in Chile: Overview, improvements, and comparisons

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## Abstract

In this study, we carried out a comparative analysis of the Chilean Environmental Impact Assessment (EIA) system using evaluation criteria compared against three countries to allow for an objective evaluation within the growing demand of society for a more creditable and trustable EIA system. A total of 18 evaluation criteria were selected from the literature, and four new criteria for comparing EIA systems were proposed. The Chilean EIA system was compared to that of Brazil, Spain, and Canada using the following four evaluation criteria categories: EIA Legislation (four criteria), EIA Administration (four criteria), EIA Process (eleven criteria), and After EIA (three criteria). A Hierarchical Agglomerative Cluster Analysis for assessing similarity among the EIA systems of Chile, Canada, and Spain was performed: the similarity being 88%. A Principal Component Analysis shows that only 13 of the selected 22 criteria contribute to the variability of the selected EIA systems. The main strengths of the Chilean EIA system are the existence of Specialized Environmental Courts for the resolution of disputes and Appeal options before execution. The identified weaknesses are an EIA system with high centralization at the national level, the absence of consideration of project alternatives, no requirement for scoping, and that the process of Strategic Environmental Assessment is not binding. Modifications to the Environmental Impact Assessment System Regulation are proposed by authors as feasible improvements particularly in relation to, Decentralization of the EIA system, Alternatives for design, Scoping incorporation, Register of reviewers of baseline information, and the public information process and post-evaluation. The method used seeks out to serve as guidance for countries with similar environmental and social contexts, as well as environmental legislation improvement needs.

## Author keywords

Chile

Comparative criteria selection

Environmental impact assessment

Hierarchical clustering analysis

Improvements

System evaluation