Health Impact Assessment in Southern Brazilian EIAs: too far away from recommended practices

Cláudia V. Viegas, UFRGS, Brazil
Alan Bond, U. East Anglia, UK
Angela M. F. Danilevicz, UFRGS, Brazil
José Luis Duarte Ribeiro, UFRGS, Brazil
Paulo M. Selig, UFSC, Brazil
Research summary

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Introduction – research context

Research context is Southern Brazilian EIA – we focus on the main types of EIA carried out in Rio Grande do Sul State, where HIA is considered mandatory for EIA delivering, according State Environmental Law (Law 11.520/2000), and consequent environmental licensing approval.

Our analysis was underpinned on EIA documents.

We have chose six EIAs: two of industrial landfills, two of Small Hydroelectrical Facilities (SHF), one of road building, and another of industrial plant project.
Main research issue and relevance

Our main research issue is to figure out how far are Health Impact Assessment (HIA) practices embedded in Environmental Impact Assessment (EIA) from the best practices we recovered from academic HIA literature.

Relevance

HIA is “a methodology that aims to facilitate the mitigation of negative and enhancement of positive health effects due to projects, programmes and policies (…)” (Erlanger et al., 2008: 349)

HIA is strengthening its importance in the face of the enforcement of sustainability methodologies designed to integrate environmental and human aspects.

Nevertheless, HIA is so far largely overlooked.
Theory/Methodology

HIA methodologies are well spread in developed countries, nevertheless not so well applied. **Grey literature** on HIA is prevalent, so what about **scientific** one?

What can we figure out from it?

A **bibliographic review** on HIA in scientific literature regarding Impact Assessment has the following result:

<table>
<thead>
<tr>
<th>Journal/Data basis</th>
<th>Available records (from...to)</th>
<th>N. of papers</th>
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<tbody>
<tr>
<td>Environmental Impact Assessment Review</td>
<td>1994-2011</td>
<td>53</td>
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<tr>
<td>Journal of Impact Assessment and Project Appraisal</td>
<td>2003-2010</td>
<td>6</td>
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<tr>
<td>Scielo</td>
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From the bibliographic review, we selected and analysed 12 papers which gave us a wide picture of HIA features. We classified 25 features according three main categories:

- **Theoretical** – related to the way authors frame HIA: as a biomedical/risk issue, as a health promotion/preventive issue, as a social/political issue under a more wide articulated view.

- **Broad measurability** – related to features with limited possibilities of quantification due to uncertainties.

- **Detailed measurability** – related to individual/familiar features that can be depicted by indicators of health, well being and environmental quality.
Theory/Methodology

Theoretical approach

(a) Biomedical approach: environmental exposure X health consequences; harms from chemical/biological/psychological exposure; epidemiological/toxicological models.

(b) Promotion approach: devised to avoid health damages – sanitation, for example.

(c) Social/political approach: related to capacity building, stakeholder and experts integration for better manage health.

Authors

(a) Steinemann (2000), Kemm (2005), Harris-Roxas and Harris (2010), Putters (2005), Petticrew et al. (2007), Bhatia and Seto (2010), Slotterback et al. (2011);

(b) Freitas (2003); Kemm (2005);

(c) Kemm (2004), Harris-Roxas and Harris (2010), Putters (2005), Erlanger et al. (2008), Harris and Spickett (2010), Morgan (2010), Slotterback et al. (2011).
Theory/Methdology

Broad measurability
- magnitude of impacts/assessment
- tracking of counterfactual issues to confirm or deny health harms
- integration of different parameters given by legislation
- mitigation measures provision
- Impacts monitoring
- enhancement of positive impacts.

Authors
Birley (2003), Kemm (2005), Harris et al. (2009), Rigotto (2009), Morgan (2010), Pennock and Ura (2010), Slotterback (2011)
**Theory/Methodology**

**Detailed measurability**

Biological/behavioral/life condition aspects: age, gender, ethnicity, nutrition, alcohol/drugs consumption, sexual practices, historic of diseases, risk acceptance, accident likelihood, occupation, education, income, housing quality.

Environmental aspects: air, water, sanitation quality/access, transportation quality, social support, health care/emergency services access, work conditions...

**Authors**

Birley (2003), Bhatia and Seto (2010), Harris and Spickett (2010), Harris-Roxas and Harris (2010), Morgan (2010), Pennock and Ura (2010).
Research design

Bibliographic review

Theoretical

Main categories/features building

Empirical

Case study

a. Health assessment is limited to statements about the likelihood of air and water contamination because of chrome compounds and other dangerous substances found in leather wastes.
b. Brings a detailed description on the health effects of chrome compounds on health, but do not provide quantification. Presents a survey with 148 local residents.
c. This study underwent several modifications due to environmental agency requests. It only describes likely effects of environmental damages on the health of community members or people employed in dam building.
d. In this project, the range of environmental impacts able to bring negative effects on health is clearly wider than that indicated in the first SHF study, including solid wastes, noise, fuels use, agrotoxics, and dust besides water effects. Social and economic issues are used just to justify the project.
e. This project does not offer a link between environmental impacts and health effects. It proposes monitoring of provisions that are not earlier forecasted and defined as impact factors.
f. This project shows a heavy bulk of technical content, but technical references are given just as scientific parameters in order to establish limits for pollutants release, without presentation of experimental relationships between pollutant levels and likely health damage.

c. SHF (1997)
d. SHF (2005)
e. Road building (2004)
f. Industrial plant (2007)
as. L.Landfill (1992)
Results

Main remarks on theoretical aspects

Epidemiological/toxicological model is only partially found in industrial plant EIA, not found in other.

Institutional aspects of HIA as a policy issue, a partnership issue among different background experts, as a capacity building needed is not found at all, no matter what EIA we look at.
Results

Main remarks on broad and detailed measurability

Population detailed profile – age, gender, nutrition, ethnicity, sexual practices, alcohol/drugs consumption, immunity/diseases’ historic: not found at all.

Enhancing of positive impacts: not found at all.

Equity issues – how the same impacts hit different people: not found at all.

Institutional support – access to primary health care, emergency services, security, transport... : only partially assessed in industrial plant EIA (2007).
## Results

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<td>%</td>
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<td>%</td>
<td>N</td>
<td>%</td>
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<td>10</td>
<td>40</td>
<td>18</td>
<td>72</td>
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Rate of best practices for each analysed EIA considering 25 requirements
Conclusions and recommendations

The lack of policies and therefore of specific guidelines for HIA are leading to shallow HIAs in Southern Brazilian EIAs. Analysed EIA present a low fulfillment level of recommended requirements. In some EIA, we realised recognition of links between social issues and health impacts, especially in the case of the recent landfill EIA. We also point out lack of epidemiological and toxicological models, poor accuracy, and isolated efforts to bring about what could be called professionals HIAs. EIAs performed before 2000 have neither considered the magnitude of health impacts nor have they investigated health determinants.
Conclusions and recommendations

Assessed Southern Brazilian’s EIAs are far from representing best practice.

We recommend more detailed research through the analysis of a greater number of documents in order to get a better representation of the evolution of HIA practice in Brazilian EIAs.
References


References


