

## Spanish case study of long-lasting NORM exposure situation: Analysis of stakeholder involvement

Roser Sala, Sergi López-Asensio, Christian Oltra, Silvia Germán & Danyl Pérez



## Introduction

Long-lasting NORM contamination sites and remediation processes often generate public concern and social controversy.

It is assumed that involving a wide range of stakeholders in the remediation process can modulate these potential negative social effects (Booth, 2015).

## Case setting



In the south-west of Spain, there is one of the European most important NORM contaminated sites: Phosphogypsum ponds in Huelva.



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## Case description



The FERTIBERIA industrial plant in Huelva produces fertilisers using phosphate rock as a raw material for the production of phosphoric acid, various phosphates and fertilizers. In the production process, phosphogypsum are generated containing uranium and thorium and exhaling radon.

Phosphogypsum ponds cover an area of approximately 850 hectares and it is estimated that the total amount accumulated during more than 40 years (1965-2010) of operation is 70 million tones.



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## Social controversy



- In 2002, environmental NGOs and other associations started to mobilize against the waste.
- There have been demonstrations and collection of signatures.



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## Research objective



- To describe the process of public and stakeholder involvement around the Phosphogypsum ponds.
- To examine its effectiveness.

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## Method



**Case study** designed in WP3 of Territories and specified in the document “Case studies: Guidelines for researchers” (Perko & Abelshausen, 2017)

### Data collection tools:

- ✓ Documentary review
- ✓ Media content analysis (N=98, 2005-2017)
- ✓ Semi-structured interviews with representatives of the stakeholder groups (N=15)
- ✓ Semi-structured interviews with members of the local population (N=11)

Stakeholder group	N
Environmental NGOs	3
Industry representatives	2
Public authorities	5
Experts	4
Media	1
TOTAL	15

**Qualitative analysis** with MAXQDA 12 software

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## Analytical framework



Social sciences have developed frameworks to analyze and evaluate public and stakeholder involvement and participation processes:

- Rowe & Frewer (2000, 2004)
- Abelson & Gauvin (2006)

### Evaluation

Process	Outcomes
<ul style="list-style-type: none"> <li>• Representativeness</li> <li>• Inclusivity</li> <li>• Participation rate</li> <li>• Fairness</li> <li>• Process flexibility</li> <li>• Transparency</li> <li>• Interaction</li> <li>• Deliberation, etc</li> </ul>	<ul style="list-style-type: none"> <li>• Policy/decision influence</li> <li>• Public views incorporated into decision-making</li> <li>• Effect on public support</li> <li>• Participants' values/opinions changed</li> <li>• Conflict resolution</li> </ul>

Adapted from Source: Abelson, Julia & Gauvin, François-Pierre Gauvin, Assessing the Impacts of Public Participation: Concepts, Evidence, and Policy Implications. CPRN (2006). <http://www.cprn.org/doc.cfm?doc=1405&l=en>



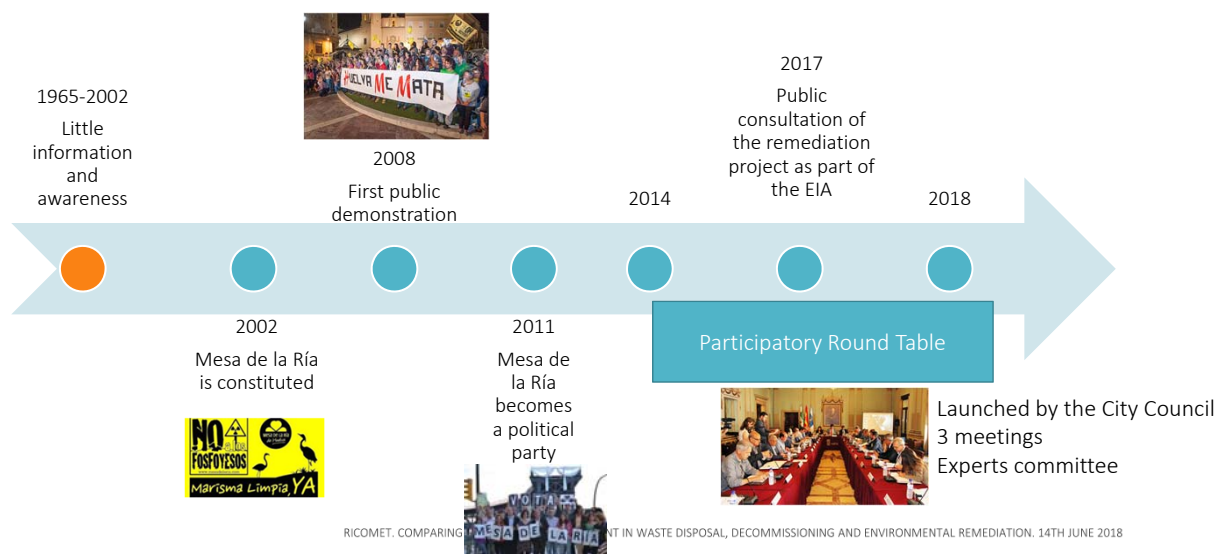
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# Findings

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## Stakeholder involvement activities



## Evaluation of the effectiveness I

Process Criteria	Finding
<b>Early involvement</b>	The public and stakeholders were not involved early in the process.
<b>Perceived openness</b>	Some of the interviewees think that Fertiberia is not open to dialogue. Fertiberia left the Participatory Round Table in 2016.
<b>Transparency</b>	Some stakeholders think that Fertiberia did not demonstrate in a transparent manner that they were managing the issue appropriately.
<b>Incorporation of values/beliefs into discussion</b>	Stakeholder interests and concerns had not been listen until the last years.

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## Evaluation of the effectiveness II

Outcome criteria	Finding
<b>Policy/decision influence</b>	Interviewees perceive that the output of the involvement procedure have not had a genuine impact on the remediation.
<b>Public views incorporated to decision-making</b>	Decisions of the Participatory Round Table are non-binding.
<b>Impact on general thinking</b>	There still exists very different risk perceptions: some perceive the waste as radiologic and very dangerous for health while others think there are harmless industrial waste.

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## Evaluation of the effectiveness III

Outcome criteria	Finding
<b>Restoring public trust</b>	A part of the local population and environmental NGOs do not trust nor Fertiberia neither authorities or experts.
<b>Conflict resolution</b>	Lack of consensus around the solution: opposed preferences for the remediation (remediation in situ vs take it away). Around 1500 allegations presented to the Environmental Impact Assessment public consultation. Antagonism between Fertiberia and environmental associations The decision about the remediation is in the National High Court.

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## Conclusions

- Limited and late stakeholder involvement.
- Low effects in the conflict resolution.
- The lack of stakeholder engagement could be one of the causes of the social controversy and opposition.
- Other wider socio-ethical aspects could also explain the controversy:
  - *Existing irreconcilable interests for the land use*
  - *Socio-economic issues related to the industry operation (e.g. employment)*
  - *Poor coordination between administrations at the local, regional at national level*
  - *Etc.*

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## Implications

- Adequate explanation of the adopted approach in a transparent manner could be crucial to obtain support and trust in the decision-making (Booth, 2015).
- Need to understand stakeholder concerns, needs and interests.
- Implement a risk communication strategy (Covello, 2003).
- Implement a good public and stakeholder involvement strategy around the remediation (SNIFFER, 2010; IAEA, 2014; CRC CARE, 2014).

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# Thank you for your attention!

[roser.sala@ciemat.es](mailto:roser.sala@ciemat.es)



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