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The “ red mud ” dispute: interdisciplinary approach with the Human-Environment Observatory ”Bassin Minier de Provence”.

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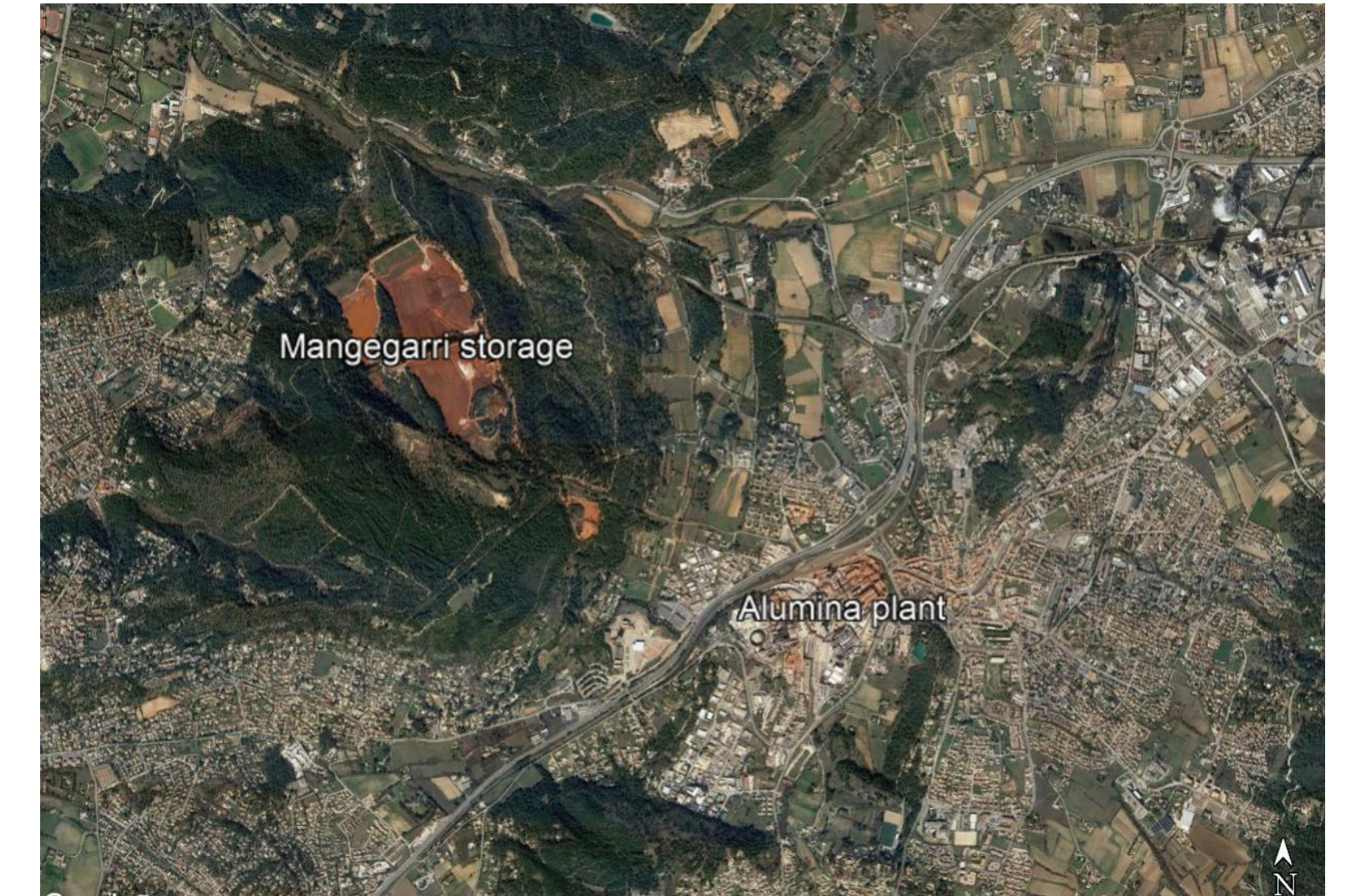
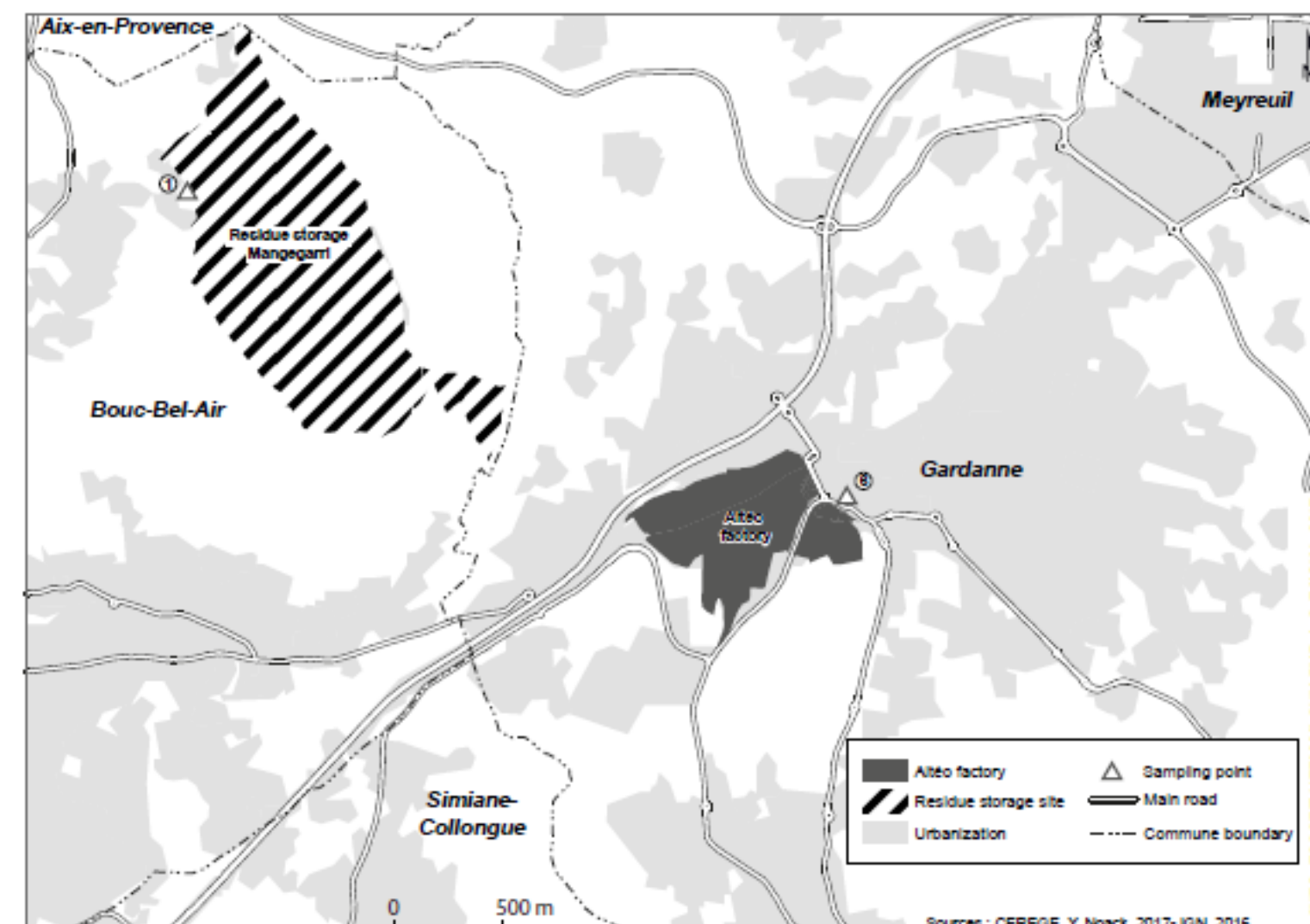
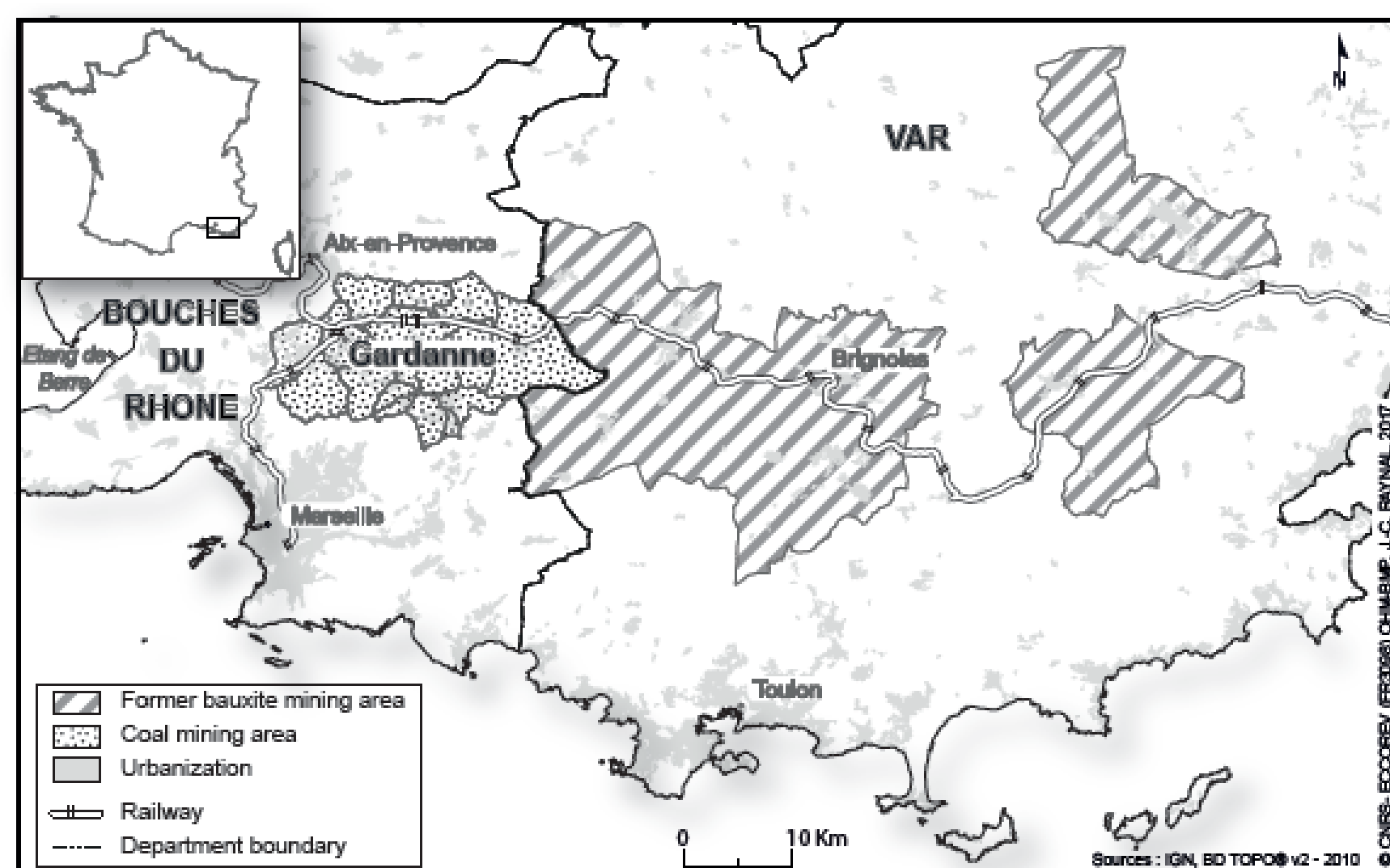
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The « red mud » dispute: interdisciplinary approach with the Human-Environment Observatory

“Bassin Minier de Provence”

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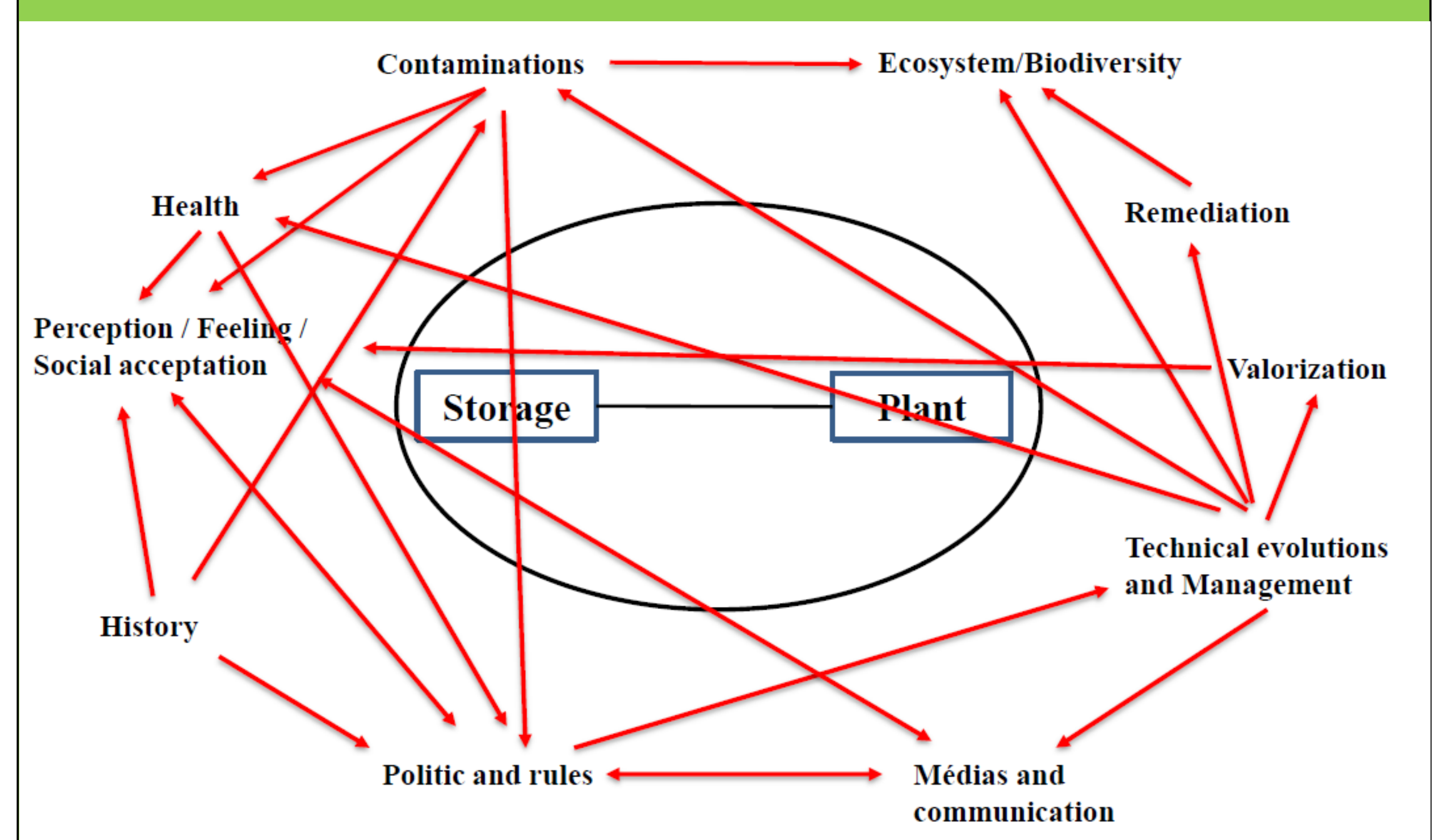
Situation of « Bassin Minier de Provence », Gardanne alumina plant and Mangegarri storage

Bayer process : chemical attack of bauxite with soda at high temperature and pressure
 Production of alumina and bauxite residues (actually approximatively 450 kg of residues for 1 t of bauxite)
 Chemical composition of bauxite residues : 50 % Fe oxides, 15 % Al oxides, 10 % Ti oxides, pH in water : 11-12

An OHM is a study tool of anthropized socio-ecosystems, designed to meet their complexity through a comprehensive approach combining environmental sciences and creating the dynamics for the development of interdisciplinarity. Each OHM is organized around a focal object which is deeply modify by a founding event.
 The OHM system is thus a tool to promote interdisciplinarity in the field of global ecology.

Story of the bauxite residues storage :
 Before 1905 : storage in the factory
 From 1905 to 1967 : storage, by lagooning, in small valley closed off by dams (Mangegarri site)
 From 1967 to 2015 : sea discharge in Cassidaigne Canyon, Mediterranean Sea
 From 2016 to : residues are treated by filter press in order to obtain, on the one hand, a solid residue (less than 28% water content) with a low caustic soda content, stored in Mangegarri site and, on the other hand, a liquid without suspended solids but with a high pH content and high content of some dissolved elements

From 2010, OHM BMP had supported near 20 research projects, with an interdisciplinary approach, about contamination, remediation, valorisation and social acceptance.



The dispute concerns the composition and the toxicity of the liquid effluent and of the dust generated by wind around the storage site:
But, generally, no scientific data are presented

In 2015, OHM BMP had produced the first data on the atmospheric contamination around the storage site.
 The results are not recognized by the industrial and the environment administration. But they are accepted by the environmental association college.

The “ Commission de suivi de site” (CSS) :
 Forum for information and concertation, without decision power, with five colleges : Administrations, Local authorities, Industrial, Employees, Neighbours and associations
But, no scientist as permanent members

OHM BMP is not member of the CSS, but had been sometimes invited at the request of environmental associations

What role for an OHM in an environmental conflict ? :

- Only an observer ?
- Do we have to let it be said everything and the opposite or contribute to more serene and effective debates, from the most objective possible data ?
- How be known, recognized by the actors of the conflict?
- How to avoid the instrumentalization by one or other of the parties?

