



Controversial water extraction projects: bringing mitigation options in the discussion

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The exploitation of natural resources often leads to negative ecological and/or social impacts, and thus such projects meet more and more opposition. Many scientific arguments are mobilized, but not necessarily well understood. This is particularly true concerning the extraction of water from a deep aquifer, as groundwater is inherently difficult to observe.

The practical case analysed here is the well field project “Landes du Médoc”, Gironde county, France. Water mining in a deep aquifer is planned as a substitute to part of the current domestic water resource for Bordeaux conurbation and local villages. Fears about the impacts on the unconfined aquifer and the surface environment are expressed by the joint voices of environmental associations, inhabitants and foresters (the main local agricultural stakeholders), even if the simulated impact on the unconfined aquifer, far above the tapped formation, is small (less than 40 cm of lowering of the water table).

The challenge is thus to work on the hydrogeological present and future situation in directions that can participate to ease the policy issue.

Collaborative work with sociologists helped thinking out of the box. We decided to take a sidestep from a classic pro/against situation, by exploring ways of mitigating the potential impacts. A heuristic model has thus been developed as a tool to test an environmental engineering solution, and as a tool to communicate with stakeholders. In the tested solution, requiring no additional infrastructure, a small amount of the extracted water in the deep aquifer is re-injected in the surface system, through existing streams or shallow wells.

Continuing collaboration with all stakeholders will hopefully allow the realization of vital deep water mining, while making sure of its sustainability and of the concerns of inhabitants.

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