When Risk is out of Reach: Reconstructing Remediation Processes in Contaminated Sites Management as Deciding under Ignorance

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Overview/Abstract

Whereas different types of risk assessments are important, real world decision making in processes of restoring contaminated land often necessitates an open acknowledgement that ignorance cannot be avoided. In this presentation a sociological reconstruction of different examples of real world decision making is offered to discuss some of the strategies used to cope with ongoing situations involving ignorance in the remediation of areas containing multiple contaminant sources. Analysis of these processes of dealing with the unknown indicates that planning and policy making benefit when limits to knowledge are openly acknowledged and communicated and when scientific-technical risk assessments are calibrated with these limits in mind. If ignorance is taken as unavoidable, the allocation of blame radically changes its meaning. Such processes can be seen as a lynchpin of successful planning and acting in face of unknowns during remediation processes on contaminated land.

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Acknowledging Ignorance and Surprise

Besides risk assessments, cleaning up contaminated areas in a timely and effective manner involves considerable pressure to act in spite of ignorance – although these decision making processes are often simply filed under the label of decision making under risk. Using examples taken from sociological case studies in a major German research program, SAFIRA II (Remediation Research in Regionally Contaminated Aquifers), this presentation focuses on the acknowledgement of ignorance and openness to unexpected events, or surprises, demonstrated by the actors involved. My previous research (e.g., Gross 2010a, 2010b) has shown that this approach has become a rule of thumb for actors dealing with contaminated land and related fields, since clean-up plans for a site includes awareness that you never know what will turn up next. If this is taken seriously, however, its renders obsolete the idea that mistakes and failures always need to be based on decision makers' wrong choices or other human mishaps. Instead, if ignorance is taken as unavoidably, blame and finger pointing do not have such a strong importance; they may even lose their target (cf. McDaniel et al. 2003).

Thus understood, straightforward acknowledgement of the limits of knowledge among the actors involved needs to be viewed as an important part of successful remediation projects when ignorance is a daily reality to be faced and addressed. The fact that the stakeholder representatives in the cases studied openly acknowledged their own ignorance promoted flexibility. Acknowledging what was not known also benefited the direct flow of information among the actors, which was seen as a precondition for dealing successfully with ignorance. This departs from the common view in which ignorance is seen as detrimental (cf. Pushkarskaya et al. 2010), but adds to the idea in what circumstances ignorance or nonknowledge can even serve as a productive resource.

An important issue in successfully coordinating ecological remediation projects is the institutionalization of contacts and information exchange (Bleicher 2011). Seen in this way, dealing with the unknown in the remediation of contaminated sites appears as a normal part of the overall process rather than as an anomaly or as an indicator of failure. An important prerequisite for pursuing such a strategy is that the actors involved need to be prepared to act and make decisions despite the existence of ignorance. Without this, the opportunity to create visions of shared futures instead of finger pointing and blame shifting will have gambled away.

Literature

Bleicher, Alena 2011. *Abenteuer Altlasten. Vom Umgang mit Nichtwissen in Entscheidungsprozessen am Beispiel der Altlastensanierung.* Dissertation, Institute of Sociology: Martin Luther University of Halle, Germany.

Gross, Matthias. 2010a. *Ignorance and Surprise: Science, Society, and Ecological Design*. Cambridge, MA: MIT Press.

Gross, Matthias. 2010b. "Ignorance, Research and Decisions about Abandoned Opencast Coal Mines," Science & Public Policy 37 (2): 125-134.

McDaniel, Reuben R., Jr., Michelle E. Jordan, and Brigitte F. Fleeman. 2003. "Surprise, Surprise! A Complexity Science View of the Unexpected," *Health Care Management Review* 28 (3): 266-278.

Pushkarskaya, Helen; Xun Liu; Michael Smithson & Jane E. Joseph. 2010. "Beyond Risk and Ambiguity: Deciding under Ignorance," *Cognitive, Affective, & Behavioral Neuroscience* 10 (3): 382-391.