Helmcke, Cornelia. 2023. *Engineering reality: The politics of environmental impact assessments and the just energy transition in Colombia*. Palgrave Macmillan. ISBN 978-3-031-40642-3. €160.49.

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Just days after the Silkyara tunnel collapse late last year—41 workers were trapped underground in the Central Himalayas for 16 days—India's former Minister of Environment and Forests, Jairam Ramesh, criticized the incumbent government for having relaxed the norms of environmental impact assessment (EIA). The tunnel disaster was "only a symptom of the larger malaise," he wrote. By splitting large tunnel, dam, and mining projects into smaller parts, the Modi government was bypassing the legal requirement for EIA to speed up the licensing process. Ramesh's remarks contrasted with his views a decade earlier. While a minister in 2011, he made headlines suggesting that EIAs were "a bit of a joke." How could it be acceptable that the company applying for clearance was also responsible for preparing the report? Set in a context geographically distant but thematically close, Cornelia Helmcke's *Engineering Reality* examines the use and misuse of EIA in a large dam project in Colombia to bring clarity to the politics that surrounds it. The book enables us to understand the role of this powerful tool of environmental governance, not only as part of Colombia's hesitant energy transition but also in contested environments around the world.

The book speaks to a number of topical debates in political ecology, making it of interest to a wide readership. These include the political economy of green development and energy transitions, the dynamics of environmental social movements, and how the coloniality of knowledge interplays with efforts to achieve energy justice. The main contribution, however, is to revive discussions harking back to texts such as James Ferguson's (1994) *The Anti-Politics Machine*. In Part 1, Helmcke starts by situating the study in the Colombian empirical context as well as that of dam construction worldwide. After decades as a stronghold of the FARC guerilla, the region of Huila became something of a backwater. This was until a local movement mobilized against the construction of the 400 MW El Quimbo dam and the Spanish-Colombian enterprise Emgesa. Building on sustained ethnographic engagement in Huila, Helmcke develops a searing critique of EIA in Part 2. In the Colombian legal context, the El Quimbo EIA was framed neutrally as a "tool of accountability," providing the scientific basis for environmental license. Yet by deconstructing the EIA Helmcke demonstrates that the assessment was nothing but neutral: the EIA legitimized and depoliticized the dam project in the name of science, turning a lived environment into an object for corporate environmental governance. As Ashley Fent (2021) has argued in relation to a mining controversy in Senegal, EIAs construct the environments they purport to assess, and then become the basis for politically sanctioned, corporate management. Impact assessment, therefore, not only is but should also be recognized as "explicitly political," Helmcke argues (p. 274). It is an intervention in the environment more than a reflection of it.

Engineering Reality fully comes to life in the final Part 3. Helmcke does not stop at acknowledging the politics of EIA, but her more ambitious aim is to turn it into a subversive tool with decolonial potential. At the risk of creating stereotypes, the argument is structured around three definitions of science. First, the conventional EIA is buttressed by "traditional science," which insists on the objectivity and universality of knowledge; and second, it rests on "corporate science," which is deployed to serve corporate and elite interests. Attesting to the tricks of the trade, the El Quimbo EIA is shown to in part be based on some really sketchy, sometimes simply misleading research. The proposal for a new kind of EIA instead builds on a "relational science" characterized by "those forms of knowledge practices that are post-abyssal, co-produced and situated (inspired by relational ontology, '*sentipensar*' [feeling-thinking] and 'walking with' methodologies …)" (p. 65). The basis for the remodeled EIA is a conceptual framework of "energy data justice." This framework integrates three aspects of data justice with four dimensions of energy justice to enable fairer socio-environmental outcomes. While energy justice scholarship has often focused on questions of equality in distribution, together with representation and recognition in matters of energy system governance, the infusion of a data justice perspective draws attention to the knowledge produced as part of energy development: how is data collected and composed? Who uses, accesses, and controls data? And to whom are the authors of an EIA accountable—the communities affected by a large project, or as the quote above from Ramesh suggests, the companies proposing it? The energy data justice framework brings important new questions to the table in critical social-science energy research.

In my own interpretation of Helmcke's argument, the conventional use of EIA is as a management tool for "weak" sustainability—that is, the idea that natural and human capital are substitutable. If we degrade a river ecosystem over here, we can make up for it by investing to restore another one over there. Indeed, a key task of any EIA is to identify mitigation measures for a project's socio-environmental impact. In contrast to the conventional EIA, Helmcke's alternative turns impact assessment into a tool for "strong" sustainability. Ecological considerations, followed by social concerns, then always come before economic interests. Quoting Jessica Smith's (2021) recent work, Helmcke argues that the key question in an EIA "should not be 'how can this be done responsibly/with the least negative effect' but 'should this be done at all?'" (p. 275). Vibrant ecosystems and the interests of local, otherwise marginalized groups are in this way given priority—at the expense of dam constructors, utilities, and pro-growth politicians.

The main thrust of the analysis is captured in two images at the opening of the book. The first pictures a lush valley landscape as seen in 2012; the second, a desert, which is an only partially filled dam reservoir as documented in 2017. Despite the stark differences between the two images, the mountains on the horizon reveal that this is in fact the "same" place: El Quimbo valley, before and after it was flooded to make space for the hydroelectric dam. Reading *Engineering Reality*, I am struck not only by the implications of Helmcke's argument for the governance of energy transitions but also by the care she conveys for the people and the landscape of Huila. The book is a testament to her decade-long engagement with communities there, including fieldwork as a master's and PhD student (and for full disclosure, we were masters students at the same time at Lund University).

If I were to identify one shortcoming of the book, it would not be directed at Helmcke's commendable work; rather, it would be the price charged for it, which is simply off the charts. The most effective way of maintaining the status quo is perhaps to make scholarship like Helmcke's unavailable to those who struggle against multinationals in yet another act of data injustice.

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References

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