Book Review

Whitington, Jerome. Anthropogenic Rivers: The Production of Uncertainty in Lao Hydropower. Ithica, NY: Cornell University Press, 2019, 277 pages.

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Focusing on "sustainable hydropower," or the attempt to reconcile economic prospect and socio-environmental concerns in hydroelectric production, *Anthropogenic Rivers: The Production of Uncertainty in Lao Hydropower* investigates the anthropogenic potential of late industrial capitalism.

Taking place in the broader context of dirty ecologies, energy transition, and the collapse of trust in [environmental] science, the book considers the Theun-Hibound Hydropower Company (THPC) in the Mekong Valley. Triggering the ethnographer's curiosity are the company's initiatives to tame the impacts of the dam on downstream villages as well as the collaboration it initiated with International Rivers Network (IRN), an anti-dam NGO, in the framework of a joint-assessment of the company's environmental performance. Separated by brief ethnographic vignettes, each chapter takes the reader closer to the river, from [trans]national investments in Lao hydropower to the micropolitics of managing life along the riverbanks. Along the way, the multiplicity of voices confluencing in sustainable hydropower vividly comes to life. Also explored is the larger meaning of development, the contemporary role of hydropower and the conflicts of interest between its stakeholders at international, national and local scales.

The grounded theory that emerges for understanding anthropogenic possibilities stimulated by late industrial environments is relevant beyond the Lao case. For Whitington, it is the active production of uncertainty more than scientific objectivation that characterises sustainable hydropower. In the capitalist industry, uncertainty manifests itself in various ways, including in the strategic dissemination of misleading claims or disinvestment in knowledge infrastructures. Above all, uncertainty is built into the riparian environment as the dam imposes changing water fluxes and reconfigurations of water and soil with predictable, yet unpredicted detrimental effects on fisheries, farmland, and the overall intelligibility of waterworlds for their inhabitants. Uncertainty is the "felt apprehension" of dangers with biopolitical stakes unfathomable given available knowledge. When anxiety and aspirations dominate, uncertainty functions as both "opportunity and threat" where reward comes to those—activists or managers—comfortable navigating through risk. Technical entrepreneurship, or sustainability politics, is what Whitington calls the technically-savvy practices designed to "exploit or manifest the uncertain potentiality of specific, real relations" (6–8). Beyond human-induced ecological destruction, late industrial environments are also a fertile ground for practices that explore the potential of disturbed ecologies and the capacities for being human that they encapsulate.

Chapter I presents sustainability enclaves, or public-private partnerships, as the novel form of green governmentality through which hydropower dams came to flourish in Lao's neoliberal postsocialism. Contrary to state-centred hydropower projects prior to the 1990s, these concession-type financial arrangements match the needs of capitalist investors, international development institutions, and the Lao state alike. Importantly, this helps understand how environmental matters came to be delegated to private, foreign actors with little incentive for risk-proof approaches to project outcomes. Uncertainty is already palpable here as it is the speculation over the benefits dammed rivers might entail that brings public-private assemblages to life.

Chapter 2 retraces how institution hacking, a practice of technical entrepreneurialism deployed by IRN, served as a primary site for the production of uncertainty in the hydropower industry. Strategically exploiting the vulnerabilities of hydropower development, activists exposed development institutions and bankers to the negative externalities of dams experienced in riparian villages. By so doing, they "subjected the hydropower company to a labyrinth of unknown that was of its own making" (102). As a result, it is the managers' perception of the environment as a tacit background to development projects that crumbles in favour of the experience of sticky, uncertain ecological relations topped with a crisis of expertise.

Chapter 3 looks at what managing uncertainty means. For the deepest impacts triggered by the industrial intensification of rivers, such as the collapse of fisheries, are problems that cannot be fixed but only managed. Sustainability management does not thrive on rational mastery over nature—it plays out as a capacity to manipulate ecological relations. Wrapped in charisma and goodwill, it rests on an entrepreneurial ethos of risk-taking and performative achievements, or greenwashing, that serve to defer, disable, distract and undermine anti-dam critics and shield the company from any environmental liability. The joint-evaluation initiated by THPC's anglophone managers itself appears as a product of such strategy. Managing uncertainty requires a talent for distilling hope while producing chaos, a set of dispositions and techniques necessary to support capitalism. Management, Whitington argues, emerges as the hegemonic way of living with anthropogenic ecologies. Although management is represented by a limited set of actors that rarely has to bear the consequences of its actions, it is the managerial ethos that produces the ruined landscapes humanity lives with.

Chapter 4 considers the ethics of the anthropogenic as it unpacks the work of the consulting team co-selected by THPC and IRN for the purpose of the environmental joint-evaluation report. Dodging the tactical demands of both managers and activists, the expatriate consultants must learn to navigate a "compromised situation shot through with questions of power, inequality, and dispossession" (176). The goal is to develop a technical criticism that is able to integrate others' uncertainties, namely those faced by the Lao environmental staff responsible for on-the-ground interventions, but that is also mild enough to be heard. What matters then is to know "*whose* uncertainties are acknowledged" in the production of environmental expertise (156).

The tragedy at play in the enclave fully unfolds in Chapter 5. Following the activists' campaign about the impacts of the dam, intrusive and unsuccessful interventions in rural life pile up, carried by the Lao's environmental staff and enforced by district civil servants. Via such experiments, like rice intensification programs, THPC's operators promote an entrepreneurial ethos among villagers and introduce a sense of "cruel optimism" by opening up new possibilities for living, "thriving" or "wearing out" in the ruined landscape created by the dam itself. In the valley, the production of uncertainty in hydropower results not in the unilateral destruction of life but in a "partial abandonment" where conditions for living are undermined. Looking at villagers whose lives have been tied to forces and expertise they do not control, tactics of evasion and survival practices highlight the extent of the dispossession they endure, and the "thin possibilities for maintaining life along anthropogenic rivers" (217). Eventually,

late industrial environments encompass but also exceed a biopolitics of letting die, where new capacities for inflicting, bearing or evading ecological harm expand the limits of what it means to be human.

Clearly, focusing on the responsibilities of foreign experts was primordial to representing the dispossession undergoing in the enclave, yet a gap remains in the villagers' forms of resistance touched upon in the final chapter. This book is an important contribution in a time when the promises of technology, such as CO2 sequestration or solar geoengineering, keep tying us to a more uncertain future. Whitington's insights will appeal to environmental social scientists and STS scholars, while applied anthropologists and practitioners working in flood prevention and water management will find this book a useful companion when pondering the long-term effects of water infrastructures.