**Special Issue: The Material Politics of Damming Water: Contestation and Conflict in Hydroelectric Energy Projects**

# The Material Politics of Damming Water: An Introduction

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Hydroelectric power is on the rise. Both developed and emerging economies establish hydroelectric dams in order to make use of natural water resources, contribute to electrification, and supply energy to national industries. For their advocates, dams are a silver bullet combining three pillars of sustainable development that are often perceived as being in mutual conflict, namely: economic growth, social welfare and ecological sustainability. Dams are often in line with donors' funding priorities relating to low-carbon energy production and therefore attract major investments by private companies. In short, dam building is seen as a pathway to a bright and promising future, a road to modernity, progress, and – to take the most prevalent prescription for a desirable future – sustainable development.

At the same time, hydroelectric dam projects are often faced with large-scale protests and political contestation. National public donors and multinational funding agencies such as the World Bank have repeatedly refused or withdrawn their support for megaprojects that may bring with them adverse ecological and social impacts,

including the destruction of unique natural habitats, the extinction of endemic species, biodiversity reduction, and large-scale violations of human rights, notably those of indigenous peoples. At a time when terms such as the ‘Anthropocene’ and ‘terrestrial thinking’ are becoming more widely used, both public demands for radical climate change policies and skeptical attitudes towards the hubris of the belief in developmental progress and ‘green economies’ are gaining ground. The ‘material politics’ (Barry 2013) of hydroelectric dams have thus become the site of clashing imaginaries and norms of capitalist economic growth involving the relationships between human societies, ecosystems, and perhaps the very concept of sustainable development.

However, hydroelectric dams are not a new phenomenon. Since the beginning of the twentieth century, they have often been constructed in moments of crisis and renewal, particularly when governments and international institutions have wanted to demonstrate that they were ‘taking the future in their hands’ and to drive progress. Of interest is the fact that all types of regimes and political parties have promoted large hydroelectric dam projects: communist and capitalist, statist and neoliberal, authoritarian and democratic. What they share is a belief in human creativity and agency, in what Hannah Arendt (1998) refers to as the capacities of ‘homo faber’. Typically, the belief in technical creativity goes hand in hand with a conviction that we, as humans, can shape not only the natural environment but also social and political relations; technical engineering can accordingly be used as a form of social engineering. In this conceptual context, energy relations can therefore not only be understood in their material or geographic dimensions but also as social relations (Hoffmann, 2018). In problematizing the relationship between these dimensions, we

are reminded of Arendt's conviction that the realm of human political interaction is distinct from that of technical production.

Today, new materialism and object-centered conceptions of the political problematize this relationship in a novel way: not only are technical productions and objects always already driven by societal discourses and conceptions of normativity, but the materiality of dams and practices of 'making them known', also give rise to specific forms of contestation and resistance. Therefore, in the physical structure of the hydroelectric dam, we see a manifestation of fundamental societal questions and political conflicts: Who shapes whose future in whose name? Who benefits? Who has a say? Who is silenced? What kind of power distribution is reflected in the constellations in which dams are built, in the practices of calculating their costs, and in the valuation of their consequences? This last consideration problematizes the relationship between a nation's central authority and its local peripheries and between international donors and the governments of developing states. To make matters more complicated, large dams also reflect the power of materiality, which attests to the irreversible decisions of the past or are turned into projection screens for the future.

In the pursuit of low-carbon energy and climate change mitigation, large hydropower dams are experiencing a renaissance in many parts of the world, particularly in low and middle-income countries. Notwithstanding a rising global awareness facilitated by the World Commission on Dams regarding the adverse impacts of dam construction upon biodiversity, ecosystems, population displacement and socio-economic conditions of affected groups and despite suggestions of an integrative normative framework to address these problems (WCD, 2000), dam building is, once again, on the rise. China's aggressive foreign investment in large-scale infrastructure projects, including dams,

has decisively influenced dam building in many parts of the world and opened a window of opportunity for low and middle-income countries to meet their growing energy demands (Urban, 2015). The social and environmental standards followed by many Chinese investors, for example those of Sinohydro's policies, are usually weak and vague (Nordensvärd et al. 2015). However, looking at the case studies in this issue, it can be asserted that the same holds true for many private and public investors from other parts of the world. Indeed, with the decline of international organizations and financial institutions involved in the establishment of hydroelectric dams, and the increase of private and government investments, a number of studies have reported resettlement and displacement in relation to dam building, highlighting the fact that social groups who are already marginalized, such as pastoralists and indigenous peoples, are often the most adversely affected (Morvaridi, 2004; Heggelund, 2006). Resettlement and developmental planning involving reallocation of land, forest or water resources are often used by governments as strategies of 'nation building' (Gadgil & Ramachandra, 1994, p. 110) making it nearly impossible for indigenous peoples to sustain their livelihoods. In this context, new discussions about the meaning of norms and safeguards in hydroelectric dam projects (Kirchherr et al., 2017; Hensengerth, 2015) have emerged, including ideas concerning a global benchmarking system or compulsory codes of conduct (Nordensvärd et al. 2015).

In this interdisciplinary special issue, we bring together conceptual considerations and several case studies that examine the politics and conflicts around large hydroelectric dam projects. Given the complexity of problems involved in the planning, construction, operation and contestation of hydroelectric dams, as well as in studying and understanding them, the range of disciplinary perspectives is deliberately broad. History, political science, international relations, economics, as well as environmental

sciences and conservation studies are included. Assembling diverse disciplinary insights on the politics of dams from the social and natural sciences in one special journal issue is a unique undertaking, and will hopefully foster an interdisciplinary dialogue and novel, transdisciplinary research results. Individual articles also try to bring in a comparative perspective: what can we learn by exploring commonalities and differences between individual dam projects? In order to help answer this question, we examine dam building over time and in various political contexts, ranging from authoritarian states to democratic environments. Our collection of contributions does not therefore confine itself to following a particular disciplinary logic, nor is it the result of a specific theoretical lens. Instead, an academic concern with an object – the hydroelectric dam –is the common theme that binds the contributions to this special issue together. Barry (2013) has suggested the notion of material politics to emphasize how objects and the ways of knowing and contesting them are bound up with each other. Rather than understanding materiality as a mere manifestation of discourse and power relations or assuming material objects as directly creating political effects, his concept ties material objects, technical knowledge and contestation closely together in order to understand the politics emerging from it. It is in this sense that we see the value of our interdisciplinary exploration of dams.

The first contribution is by Benjamin Brendel (2019), who focuses on the construction of the Mequinenza dam in Francoist Spain. As his historical case study shows, the construction of the dam was used to articulate notions of a glorious past alongside projections of a bright future characterized by development, modernity and progress. At the same time, his paper shows that official interpretations were contested, and that discursive opposition and unexpected shifts of alliance were possible even within an authoritarian context, without, however, being able to stop the project.

In the second article, Rhodante Ahlers (2019) gives a broad-brush account of recent developments in large hydroelectric dam construction with an emphasis on processes of financialization. Using an analytical framework inspired by Lefebvre's concept of the 'production of space', she explores the question of whether the interest in renewables, as part of a wider focus on infrastructure as capital sink, has changed the role of large dams as instruments of political, financial and territorial power.

The issue proceeds to present two quite different takes on dam opposition, which agree in their conviction that dam opposition faces extremely high obstacles today, not only in authoritarian contexts but also in democratic states. Andrea Schapper, Christine Unrau and Sarah Killoh (2019) investigate the impact of social mobilizations against large-scale hydroelectric dams in the three cases of Gibe III in Ethiopia, Belo Monte in Brazil and Barro Blanco in Panama. The authors focus on 'political opportunity structures', 'actor constellations', and 'frames', and show how in authoritarian as well as democratic contexts social mobilization often faces insurmountable barriers.

Marina Jose Kaneti (2019) explores dam opposition along the Teesta river in India and the Nu river in China and argues that opposition in times of neoliberal discourse and rigid legal institutions often requires pathways beyond established institutional frameworks. Drawing on both Rancière's writings and Baogang He's notion of 'authoritarian deliberation', she claims that a holistic perspective on the various impacts of dams as well as an emphasis on societal duties and responsibilities is more likely to successfully spur opposition and facilitate change than individual rights and fragmented legal claims. Last but not least, Isabel Jones and Joseph Bull (2019) add a contribution from environmental sciences and conservation studies. In their article, they critically examine 'no net loss' (NNL) strategies as an attempt to manage and compensate for adverse socio-ecological impacts of large-scale hydroelectric dam projects. Investigating Uganda as a case study, the authors identify major challenges in achieving no net loss with respect to biodiversity regarding dams. They also argue that

current NNL policies must go further, including downstream biodiversity impact estimates and ecosystem-loss services, which in turn will increase the challenge of assessing and achieving no net loss outcomes.

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