

Guest editorial

Exploring political ecologies of water and development

This theme issue draws on political ecology scholarship to explore how hydrosocial relations are produced and transformed through development interventions that provide and manage water in the Global South. In the five papers that draw insights from different contexts globally, the authors examine historical and contemporary water-related development interventions to show how power is produced through water in ways that perpetuate, or even exacerbate, inequality, exclusion, and impoverishment. In doing so, the authors contest a set of important yet taken-for-granted narratives around water provision in international development. The broader ambition of the theme issue is to direct research on water-related development interventions in the Global South in new and productive ways, by showing how water and power relations intersect to shape differential access and outcomes among diverse social groups, to configure particular discourses around water management, and to produce uneven waterscapes (Linton, 2010; Loftus, 2009; Swyngedouw, 2004; 2009). Thus, the theme issue contributes to wider theorisations of water and power, and advances the understanding of the socionatural hybridity of water, whereby flows of water are not external to power relations, but intricately enmeshed in, and reflective of, them (Swyngedouw, 2004).

While existing literature has examined how people's relations with water are configured by power relations embedded within wider spatial and temporal processes, the papers here demonstrate the role that water plays in shaping such interventions and their outcomes. On the one hand, they are attentive to the ways in which water's physical properties and cultural meanings influence its management and governance (Bakker, 2003; Strang, 2004) and how society's engagements with water shape histories and subjectivities (Loftus, 2007; Sultana, 2009a). They also acknowledge that 'water' is not homogenous, but heterogeneous; it comprises multiple forms, materialities, and temporalities, which intersect with material and discursive social relations to produce distinct hydrosocial arrangements (Bear and Bull, 2011; Budds, 2009; Linton, 2010). On the other hand, they pay attention to how power is pursued and consolidated by reworking hydrosocial relations (Ekers and Loftus, 2008; Swyngedouw, 2007). This entails, as Bear and Bull (2011, page 2262) note, "a politics played out not *around* water, but through water and often driven by water" (emphasis in original).

The papers engage specifically with development interventions that seek to expand or improve the provision of water to people in the Global South. Not only is access to water essential for survival and well-being, it also underpins the livelihoods of many communities, and often plays a role in social and cultural identity. Improving and extending access to water has long been central to development policies and programmes to alleviate poverty and fuel social progress, whether led by international multilateral or bilateral development assistance agencies, developing country governments at various levels, international or local civil society organisations, or community groups and their federations. The importance of improving access to sufficient, safe, and affordable drinking water, in particular, is reflected in high-profile global initiatives, most notably the International Drinking Water Supply and Sanitation Decade (1980–90), the Millennium Development Goals (set in 2000 with targets for 2015), and the United Nations resolution on the Human Right to Water and Sanitation (2010). However, in any given context, complexities exist as to how water is managed, who decides, who benefits, what (un)foreseen consequences arise, and the broader impacts on the goals of development. Since improving lives and livelihoods is often articulated as the

aim of water governance and socioeconomic development, the trajectories and outcomes of such planning and interventions become critically important to investigate and explain, with greater attention to intricacies and nuances across sites and scales.

In recent years, policies and programmes to improve access to water for consumption and for productive activities have generally centred on the material need to improve water provision, and have adopted measures designed to improve project uptake and maintenance, such as including the participation of users—particularly women—in the design and implementation stages. This is to ensure that interventions meet these users' needs and to encourage them to take ownership of water systems and capacity building activities so that they are able to continue to maintain them beyond the timeframe of the intervention. Nevertheless, many interventions have consistently fallen short of expectations, arguably because of a dominant focus on technical criteria and superficial changes, often overlooking or ignoring the political underpinnings of deficiencies in access to water, framings of their causes and solutions, and designs of interventions to address them (Budds and Loftus, in press; Sultana and Loftus, 2012; UNDP, 2006).

As such, water interventions in the Global South are receiving increasing attention from political ecologists, who explore how social power relations intersect with the material, social, and symbolic dimensions of water to shape access among different social groups, to configure discourses around water management, and to produce waterscapes with particular characteristics (Loftus, 2009; Swyngedouw, 2009). A growing literature is exploring the ways in which people's relations with water are configured by power and wider spatial and temporal processes. Studies have thus contributed to understanding the mechanisms and discourses that underpin exclusion from water services (Kooy and Bakker, 2008; Swyngedouw, 2004), the unequal development outcomes of water privatisation and markets (Bakker, 2003; Budds, 2004), and the shortcomings and unintended effects of interventions to provide water to the poor (Loftus, 2007; O'Reilly et al, 2009; Sultana, 2009b). Contributing to such scholarship, this special issue posits that deficiencies and interventions in water-related development endeavours emerge from the fact that they are typically framed, analysed, and addressed in a *technical* manner, with insufficient regard for the *politics* that configure these processes. By technical, we refer to the definition of water and water issues in ways that are dehistoricised, desocialised, and depoliticised (Li, 2007). Framing them as technical in turn justifies problem-solving interventions, based on scientific expertise, administrative/bureaucratic reforms, and technological measures, which are water-centric rather than people-centric (Budds, 2009; Chhotray, 2011). The papers thus show how, by reconfiguring water through development interventions, broader social structures, relations, and subjectivities become constituted in particular ways, as interventions target symptoms rather than causes, ignore existing social practices and relations, and are organised around particular narratives and technologies, which in turn contribute to uneven and exclusionary outcomes. In this way, the papers by Bakker (2013) and Budds (2013) reveal the politics with which the concepts of state failure and market provision were constructed historically within the World Bank and Chile's military regime, respectively, as well as the ways in which they later became normalised in water development discourse. The paper by Meehan (2013) demonstrates how the Mexican state uses water theft as a source of power in order to discipline unserved groups and the infrastructure that they have constructed, but in an uneven manner: while informal plastic pipe networks in untenured settlements are tolerated, ad hoc perforations into the mains by itinerant groups are policed and eradicated. The papers by Sultana (2013) and Birkenholtz (2013) show how water technologies—tubewells and new infrastructure networks, respectively—were framed as representing development through increased access to water, but have ultimately reinforced and exacerbated existing forms of marginalisation.

In the case of tubewells this occurred due to the unexpected discovery of arsenic in groundwater in Bangladesh, whereas the new rural drinking water network in India replaced the poorest villagers' water sources but then provided them with the lowest and most intermittent supply. The papers thus demonstrate how these interventions are organised around water, yet water is not the *focus* but rather the *means* through which interests are pursued and particular hydrosocial arrangements are produced: the economic viability of World Bank loans, the political ambitions of Chilean elites, a sanitised urban landscape, a thriving development industry based on water technologies, or the construction of new water infrastructure.

In exploring these dynamics, the authors advance existing understandings of power in political ecologies of water. Bakker, Meehan, and Sultana demonstrate how water is not simply political but also biopolitical, by virtue of the role of (drinking) water in producing and sustaining social control as well as in connecting individual bodies to infrastructure and governance. Budds also examines the role of water in producing power, and employs a relational–dialectical approach to contend that institutional reforms to neoliberalise water constitute a means of consolidating wider political interests. Sultana and Birkenholtz engage with debates around technonatures, to explore how power is not just embedded in water, but in the technologies that produce it, showing that these sociotechnical assemblages become actants in development processes, which reproduce existing forms of marginalisation and subjectivity. Furthermore, all authors further note the heterogeneity of water, demonstrating the importance of critical and careful analyses of the material, discursive, and symbolic aspects of water (Swyngedouw, 2004). This is seen in the various unimproved sources used by unserved groups that are urban (Bakker) and rural (Birkenholtz); groundwater contaminated with biological pathogens or carcinogenic metals (Sultana) or increasingly extracted for agriculture (Budds); and different types of illegal connections (Meehan). These different waters combine with various forms of state action, technological solutions, governance style, and social status to produce particular waterscapes. Such investigations thus challenge conventional and unproblematised development discourses of gains through water-related interventions and improvements in the Global South.

The analyses presented in this theme issue contest and rethink several key development directions and narratives. There is inherent critique of development policies and practices that currently continue to insufficiently address issues of power, control, and inequity in regions facing different types of water crises. Bakker thus reveals how the notion of state failure emerged from a particular mode of water governance pursued by a powerful international development institution, the World Bank, which was organised at the municipal scale and which was hampered by weak municipal-level governance. Budds contextualises the arguments supporting water rights markets in Chile within the ambitions of the key supporters of the military regime: the military, the technocrats, and the country's principal business conglomerates, who favoured market principles and private rights to water in order to make the neoliberal programme a success and to secure their own political ambitions. Meehan rethinks the notion of illegal water connections as dysfunctional, anti-development, and antithetical to state provision, arguing not only that illegal use constitutes a means through which low-income groups fulfil their unmet basic needs, but also that it is organised and regulated by communities. These papers contribute to further blurring the conceptual boundaries between the public and private sectors, and between private and human rights (Bakker, 2007; Budds and McGranahan, 2003). Sultana and Birkenholtz contest the neutrality and inertness of development technologies, demonstrating how they can become counterproductive. Sultana problematises the continued emphasis on technologies as the solution to delivering water to the poor, whereby development interventions in water enrol people into certain types of development subjects, while Birkenholtz questions the validity of 'gender' in development

processes given intergender differences and intersection with other subjectivities. Indeed, Birkenholtz and Meehan highlight the double impact that interventions can have for the most marginalised groups: through residents having to buy water obtained by vendors from the very system that has failed to serve them, and through the state closing off perforations in the municipal supply that provide a lifeline to the most vulnerable groups who are excluded from this formal supply, respectively.

This theme issue overall recasts understandings of water-related development interventions by demonstrating how different modes of power and various types of water intersect through development discourses and interventions to reconfigure hydrosocial arrangements. The papers contend that, by naturalising the causes of poor provision, hydrological conditions, and social structures, water-related development interventions reproduce or exacerbate the very deficiencies and inequalities that they were designed to address. Water governance and development are thus intertwined and inherently political processes, although they are often presented as technical or economic issues. This theme issue thereby argues that development interventions should not be understood simply as mechanisms to provide water to un(der)served people, but as means of pursuing control, whether designed to rework hydrosocial relations in new ways, or to maintain existing forms of inequality. It will thus not be superficial solutions based on technical expertise, administrative reforms, or new technologies that will be effective in providing water to the poor in the Global South, but rather measures that enable people to reclaim control over their own hydrosocial relations (Narain, 2005). Water is power, and water-related development has to be understood as drenched with uneven and complex socionatural power relations that affect not only the lives and opportunities of billions in the Global South, but also influences the way we conceptualise water governance and development in any context.

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