frontiers | Frontiers in Climate

TYPE Original Research
PUBLISHED 29 February 2024
DOI 10.3389/fclim.2024.1275049

OPEN ACCESS

EDITED BY
Owen McIntyre,
University College Cork, Ireland

REVIEWED BY
Sonya Ziaja,
University of Baltimore, United States
Aline Telle,
Université de Genève, Switzerland

*CORRESPONDENCE
Oliver Hensengerth
✉ oliver.hensengerth@northumbria.ac.uk

RECEIVED 09 August 2023
ACCEPTED 12 February 2024
PUBLISHED 29 February 2024

CITATION
Hensengerth O (2024) Inclusive governance of hydropower on shared rivers? Toward an international legal geography of the Lower Mekong basin. *Front. Clim.* 6:1275049. doi: 10.3389/fclim.2024.1275049

Inclusive governance of hydropower on shared rivers? Toward an international legal geography of the Lower Mekong basin

Oliver Hensengerth*

Department of Geography and Environmental Sciences, Northumbria University, Newcastle upon Tyne, United Kingdom

Hydropower is now the largest source of renewable energy worldwide. The International Renewable Energy Agency estimates that current hydropower capacity will need to double by 2050 in order to transition to net zero and to arrest the rise of global temperatures at 1.5 degrees Celsius. Much of the currently built and planned dams are on rivers shared between two or more countries. This raises the risk of increased inter-state conflicts. However, to exploit hydropower peacefully, the impact on local communities must also be considered. This foregrounds the need to build inclusive institutions that can mediate the different interests, norms, and values held by communities located across different scales. The article examines the role of international river basin organizations to manage this legal pluralism in shared river basins. In many basins globally, such as the Lower Mekong, the Columbia, the Zambezi, or the Senegal, international river basin organizations are tasked with the development of shared water resources. To understand to what extent river basin organizations can mediate the legal pluralism in a shared basin, the article develops an international legal geography approach to the governance of transboundary waters in an attempt to uncover marginalization and disempowerment in the process of law-making. It therefore expands the analytical scope of legal geography to the study of transnational spaces, in this case complex ecosystems for which there are no fixed jurisdictional boundaries. It then applies this approach to the case study of the Lower Mekong basin. Findings indicate that the Mekong River Commission, despite attempts to include project-affected people in decision-making, largely operates within a Westphalian framework of sovereignty to the detriment of more inclusive forms of governance. Project affected communities are largely unable to exert influence and are relegated to participation in alternative forums. These forums, or counter publics as Yong called them, are disconnected from official processes. While they give rise to marginalized voices and enable the creation of inclusive and participatory spaces, the exclusionary official decision-making processes continue to produce significant tension and conflict potential as hydropower is championed globally as a clean, climate friendly form of energy. As hydropower is set to double by 2050, inclusive participatory institutions in basins worldwide must be built to navigate complex stakeholder interests and to benefit those who are otherwise likely to lose out in net zero transitions. These findings are relevant for other shared basins, particularly across Southeast Asia, Africa and Latin America where hydropower is booming. An international approach to legal geography can foreground these hidden and marginalized voices and help identify ways to build inclusive institutions for the governance of shared resources.

KEYWORDS

hydropower, legal geography, international water law, ecosystems governance, transboundary river basins, Mekong

Introduction

Hydropower is now the largest source of renewable energy. In 2020, it supplied 60 percent of all renewable energy generation. Hydropower will remain crucial for a transition to net zero and for limiting the rise of global temperatures to 1.5 degrees Celsius (International Energy Agency, 2020, 2021). However, more than 70 percent of all dams under construction or in the planning stage are now on shared rivers (Llamosas and Sovacool, 2021). This raises the risk of increasing inter-state conflicts and of displacing large numbers of local populations. In an article for the Wilson Center, Broek and Kim (2022) argued that in "leveraging hydropower for peace" hydropower development on shared rivers need to take into account inter-state relations but also the impact on communities within and across national borders in order to avoid the cycles of protest and repression that many communities are facing as they stand up against the construction of large dams on their territories (Temper et al., 2020).

These warnings highlight the multi-scale nature of conflicts over hydropower dams on shared rivers, as state and non-state actors compete for the use of freshwater resources, frequently applying different values, normative frameworks, and legal provisions (Roth et al., 2015). Inclusive institutions should be able mediate this pluralism by drawing state and non-state actors into a "shared social space" (Berman, 2007, p. 1194–1195). This article explores possibilities of such shared social spaces in transboundary river basins through the lens of legal geography, using the Mekong River Commission on the Lower Mekong basin as a case study. Legal geography as a field of study investigates the ways in which law, people and places are intertwined. A legal geography approach argues for a reciprocal understanding of the constitution of law and space and calls for the importance of place-based knowledge as a basis for law (Blomley, 1994; Bartel et al., 2013; Braverman et al., 2014).

By virtue of its emphasis on place, legal geography research takes a small-scale local focus such as a local community, an urban neighborhood, or a city (see for example the collection of chapters in Braverman et al., 2014, the articles in the special issue by Robinson and Graham, 2017; the collection of chapters in O'Donnell et al., 2019; or the expansive three-part overview of the field by Delaney, 2015, 2016, 2017). This article builds on this literature with the aim to expand the scope of legal geography by taking it into a transnational space to highlight how competing and overlapping normative orders are mediated to develop laws, rules and procedures for areas that are not easily contained within administrative boundaries. This is the case for ecological systems such as shared river basins. There are no political jurisdictions—either local, national, or international—that would coincide with the physical boundaries of a basin. There is, therefore, a question of what law should be applied and what kind of institutions should be established to manage such spaces (Wyborn and Bixler, 2013; Cohen and McCarthy, 2015). In such a space we are—to adopt Jeffrey's (2020) metaphor—at the "edge of law": we can follow its creation and enactment, and associated acts of meaning-making and identity-creation. The article, therefore, heeds the call by Delaney (2017, p. 670) to bring legal geography into the "world of the international."

To anchor the analysis, I focus on the role of river basin organizations and the ways in which they attempt to mediate the interests of multiple stakeholders across different scales. The article poses the following questions: How can we explore the evolution of place-based knowledge and place-appropriate governance arrangements on shared rivers? What laws, rules, and procedures do river basin organizations develop to mediate the plural legal frameworks generated by state and non-state normative communities? In considering these questions, I bring legal geography into a conversation with the literature on international water law that explores a contextual and evolutionary approach to international law (McIntyre, 2010a; Wouters and Vinogradov, 2020). This allows to understand the mediation at basin level of sources of law drawn from international scales and the interaction of these with domestic law and local community practices. I will further draw on the literature on ecosystems governance, which emphasizes the need for participatory and multi-scale governance. This literature recognizes the need to mediate different legal frameworks, norms, and values to improve environmental sustainability by recognizing diverse stakeholder needs. In the Lower Mekong basin, the Mekong River Commission aims to mediate the different state and non-state, domestic and international interests for the sustainable development of the Lower Mekong. Empirically, the focus falls on the evolution of the Procedures for Notification, Prior Consultation and Agreement (PNPCA). These are the principal forum where stakeholders negotiate the construction of hydropower dams on the Lower Mekong mainstem; and it is here where the mediation between international legal norms, domestic law, and community practices takes place.

The article proceeds in the following steps: it first outlines the legal geography approach to the study of place and argues for expanding the scope of legal geography for an analysis of law-place-people relationships in large ecosystems such as shared river basins. It then discusses shared river basins as plural legal spaces. Next, the article applies concepts from international law—an evolutionary understanding of international law and the need for contextual approaches—to understand how place-based and place-appropriate governance arrangements can emerge over time. The article then uses the case study of the Lower Mekong River basin to illustrate the theoretical discussion.

Bringing legal geography into the "world of the international"

Legal geography as a field of study investigates the ways in which law, people and places are intertwined (Braverman et al., 2014; Delaney, 2015; Robinson and Graham, 2017). Legal geographers "note that nearly every aspect of law is located, takes place, is in motion, or has some spatial frame of reference" (Braverman et al., 2014, p. 1). As a consequence, "social spaces, lived places, and landscapes are inscribed with legal significance" (Braverman et al., 2014, p. 1). Bauer (2009) highlighted the spatial character of law in his analysis of hydropower development in

Chile: laws that appear to have no geographic point of reference—in his case the 1982 Water Code and the 1982 Electric Law—are inherently geographical, "because the subject matter of these laws involves land, environment, and natural resources" (p. 593).

Places, however, are not passive receivers of law. Legal geography emphasizes the reciprocal relationship between space, law and society (Bennett and Layard, 2015, p. 408). In legal geography, therefore, "space is foregrounded and serves as an organizing principle" (Braverman et al., 2014, p. 2). This means that a legal geography perspective takes "people-place-law dynamics as a critical lens for framing problems" (Gillespie, 2017, p. 32). This interactive and reflexive approach is important: as law and place are co-constitutive, "law is both felt and made (at least in part) locally" (Bennett and Layard, 2015, p. 408). This highlights not only the ways in which different normative orders are impacting space; it also highlights "'local legal cultures' and the normative appeal and institutional significance of place" (Blomley, 1994, p. 63 and 28 cited in Bennett and Layard, 2015, p. 408). This foregrounding of space and its institutional significance are important as we come to understand how people live with water and how different groups attempt to use water, bringing with them different interests, values, and legal orders.

While legal geography originated in the global North, calls for an international legal geography have taken legal geography out of its original context to understand non-Western or Global South places (Gillespie, 2017, p. 38; Braverman et al., 2014). This has led to a rich literature examining the complexity of interlocking cross-scale normative orders in many parts of the world to illustrate how the various and often conflicting sources of law emanating from local, national, regional, and international scales impact specific places. In the field of the environment, water and hydropower dams, a literature has emerged that explores these dynamics often through an environmental justice lens in the context of specific, local development interventions (Charpleix, 2017; Cantor et al., 2020; Gillespie, 2020; Kelly, 2021).

This article builds on this research by expanding the scope of legal geography to the space of shared river basins. The literature on ecosystems governance has pointed out that shared basins have no preset administrative boundaries and it is, therefore, difficult to determine what legal frameworks should apply and how institutions for governance should be designed (Reed and Bruyneel, 2010; Warner et al., 2014; Zinzani and Bichsel, 2018; Therville et al., 2019). Jeffrey's (2020) "edge of law" metaphor is appropriate here, for two reasons: firstly, in such contexts we see different norm-generating communities across multiple scales—local, national, regional, and global—competing over the use of water, attempting to set rules for water access and allocation. Secondly, these conflicts are dynamic rather than static, involving the development of "local legal universes" (Holder and Harrison, 2003, p. 4). We therefore need to take an evolutionary perspective to observe the development of place-based knowledge and place-based governance arrangements as conflict and cooperation dynamics evolve between stakeholders across scale.

This perspective of time and evolution is important. Swyngedouw (2007, 2009, 2014) has argued that river basins constitute historically produced waterscapes that reflect relationships between politics, society, and nature. These waterscapes are contested, and they are also dynamic and constantly changing: they reflect dominant power relationships and development discourses at specific points in time, and thus they reflect conflict over how water is used, for what, and by whom (Molle et al., 2009). River basins can therefore be seen as hydro-social territories (Boelens et al., 2016) where competing legal practices, norms and values play out over time (Jepson, 2012). The next section investigates these dynamics by exploring shared river basins as plural legal spaces.

Shared river basins as plural legal spaces

International water law provides a key source for rules, norms, and procedures for the governance of shared rivers. It considers drainage basins as a coherent unit, to be managed as an integrated whole, "with the waters either vested in the community or divided among co-basin states by agreement, accompanied by the establishment of international machinery to formulate and implement common policies for the management and development of the basin" (McIntyre, 2010a, p. 67). Managing rivers at basin scale aims at overcoming political and sectoral fragmentation and pushing governance upwards to ecologically and hydrologically meaningful boundaries (Cohen, 2012, p. 2210). It is also considered to be more participatory and inclusive as it involves a wider range of stakeholders in the policy process. In theory, the derived benefits can then be distributed across all stakeholder groups. In reality, however, power and interest determine who gets what, often resulting in "parceling out the watershed" (Vogel, 2012, p. 161).

Finding the best approach between managing natural resources at existing political jurisdictions and at the natural scale of an ecosystem (Cohen and McCarthy, 2015) is especially difficult in complex ecological systems such as shared river basins. Where there are no existing jurisdictions coinciding with the boundaries of an ecosystem, devising new forms of governance is difficult, as large landscapes, ecosystems, and social institutions cut across multiple spatial and temporal scales. The question is therefore one of the appropriate "fit between social institutions and ecological systems" (Wyborn and Bixler, 2013, p. 58), particularly where a move toward ecosystems management at ever larger scales conflicts with local scale management needs.

The view of drainage basins as a unit was codified in 1966, when the International Law Association adopted the Helsinki Rules on the Uses of the Waters of International Rivers (Helsinki Rules).[1] The Helsinki Rules "treat international drainage basins (watersheds extending over two or more states) as indivisible hydrological units to be managed as a single unit" (Dellapenna, 2006, p. 4). It has since become common practice to manage shared rivers at the basin scale (Cohen, 2012).[2] The Helsinki Rules also developed the norm of equitable utilization as a customary rule in international water law (Dellapenna, 2006, p. 4). In 1997, the UN General Assembly approved the Convention on the Law of the Non-navigational Uses

1 For a history of international water law see Dellapenna and Gupta (2009).

2 Institution-building for transboundary river systems is not new: the Rhine and the Danube have seen the establishment of commissions in the wake of the Vienna Congress and the Crimean War in an attempt to re-order post-war political geographies (Collinson, 1972; Ardeleanu, 2020).

of International Watercourses (Watercourses Convention). This was modeled on the Helsinki Rules and developed the duty to cooperate, equitable and reasonable utilization and no harm. These norms, and their relationship, have since become the central guides in the governance of shared river basins (Wegerich and Olsson, 2010; McIntyre, 2015; Tanzi, 2020).

Effective implementation of international legal norms requires the development of procedural rules for communication between states, including notification and, where appropriate, consultations and negotiations concerning planned measures as detailed in Part III of the Watercourses Convention. However, there are also substantive requirements regarding the protection, preservation, and management of ecosystems, which relate the avoidance of minimization of water pollution or damage to ecosystems, which is detailed in Part IV of the Watercourses Convention (McIntyre, 2010b, 2013).

These conventions address the obligations of states within a Westphalian system of nation-states. However, the literature on water governance emphasizes that to govern waters for the benefits of all stakeholders, governance arrangements need to be multi-scale and must include the participation of local communities (Pahl-Wostl et al., 2010; Gupta et al., 2013; Braun and Könninger, 2018; Gunderson, 2018). Public participation aims to improve sustainability outcomes by drawing a wide range of stakeholders into the policy process (Leck and Simon, 2013; McKendry, 2016). In such a view, successful water governance is achieved via a cross-scalar approach that takes into account a diversity of actors with different interests, values, identities, and knowledges (Österblom et al., 2010, p. 1295; Baker and Mehmood, 2015; Duncan, 2017).

The 2004 Berlin Rules on Water Resources (Berlin Rules) bring public participation into the governance of shared river basins. The Berlin Rules revised the 1966 Helsinki Rules and developed a "new paradigm" in international water law that emphasizes ecological integrity, sustainability, minimization of environmental harm, and public participation—norms that were only present in rudimentary form in the Watercourses Convention (Dellapenna, 2006, p. 1). The Berlin Rules are grounded in international environmental and human rights law. Crucially, they include public participation, the rights of persons, and the need to undertake environmental impact assessments (Dellapenna and Gupta, 2008, p. 448). Both the Berlin Rules and the Watercourses Convention have become authoritative sources of international law for the governance of shared river basins. However, not only do the Berlin Rules emphasize the importance of public participation in a national context; Article 30 also stipulates that affected people in one basin state should have access to legal recourse in the basin state where the impact originates. This opens basins to the possibility of becoming a dynamic transnational normative space.

Public participation has become increasingly recognized as an important factor in the sustainable and peaceful development of shared river basins (Bruch, 2001, 2003). Two UNECE conventions deal specifically with this: the UNECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) and the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention). Both, however, are applicable only in the UNECE region. The document that goes furthest in demanding public participation—specifically in the context of hydropower—but that has only guideline character is the 2000 World Commission on Dams report. It argues that in order to use water equitably and sustainably, states must gain public acceptance. This is done by

> recognizing rights, addressing risks, and safeguarding the entitlements of all groups of affected people, particularly indigenous and tribal peoples, women and other vulnerable groups. Decision making processes and mechanisms are used that enable informed participation by all groups of people, and result in the demonstrable acceptance of key decisions. Where projects affect indigenous and tribal peoples, such processes are guided by their free, prior and informed consent (World Commission on Dams, 2000, p. xxxiv. Italics added).

International water law is not the only source for normative frameworks in shared river basins. Instead, "water use situations are often governed by a plurality of rules, norms, and laws that come from different sources" (Bavinck and Gupta, 2014; Roth et al., 2015, p. 456). In the context of hydropower in shared river basins, we can identify a range of actors and normative frameworks attempting to influence planning, construction, and operation of dams. This not only includes the above mentioned international legal frameworks; it also includes social and environmental safeguards such as those of the World Bank, the International Monetary Fund and regional development banks such as the Asian Development Bank, or the more recently established Asian Infrastructure Investment Bank and the New Development Bank; environmental policies and other corporate social responsibility policies of domestic and multinational construction firms such as Sinohydro; human rights law invoked by domestic and global non-governmental organizations (NGOs) such as International Rivers; national laws such as for environmental impact assessment and resettlement; and local and indigenous communities' environmental values and water use practices (Scheumann and Hensengerth, 2014; Hirsch, 2020). This creates a "multidirectional interaction of local, national and international norms" (Berman, 2009, p. 232) as norm generating communities across different scales occupy the same social field.

A shared river basin therefore presents a space that is characterized by interlocking global, national, domestic, and local community laws, rules, norms and practices (Bréthaut and Turley, 2020). It thus represents what Berman (2009) referred to as a global plural legal space. Where river basin organizations are tasked with the sustainable management of a basin, the question is how these organizations can mediate this pluralism to facilitate inclusive, that is, participatory and cross-scale water governance. The article will now turn to this problem by drawing on the idea of evolutionary and contextual approaches to international law for the development of place-appropriate governance arrangements.

Evolutionary and contextual approaches to international law: finding place-appropriate governance arrangements for shared river basins

Writing in 1999, Milich and Varady (1999, p. 261) argued that governance of shared river basins has historically been dominated by four conceptual paradigms: technical/scientific;

regulatory/standard-driven; closed to actors other than top-level diplomats; and top-down. Little to no room was given to public participation in the creation or implementation of transboundary agreements, including for non-governmental organizations, community-based organizations, or other actors speaking for local interests. National interests dominated local needs and sidelined cultural, economic, social, or public health consequences (p. 285–286). The authors therefore called for a new model of transboundary governance that "combines local needs with general concepts of multinational environmental security" (p. 286). Therefore, participation of those who hold critical knowledge about water management is important: this includes governments, NGOs, and the water users themselves (Jansky et al., 2005, p. 4; Troell et al., 2005, p. 53–54). To do so, institutional design needs to emphasize "openness, sustainability, and public participation" (p. 258).

Milich and Varady's call for an open, sustainable, and participatory institutional design is akin to Berman's (2007) call for institutional designs that recognize legal hybridity in environmental governance regimes. Berman argued that normative conflicts should not be erased, but that they can be productive in developing inclusive governance. As such, a legal pluralist framework should seek to manage normative conflicts "through procedural mechanisms, institutions, and practices that might at least draw participants to the conflict into a shared social space" (p. 1193). This shared social space recognizes the co-existence of different norms and values held by different communities. It also recognizes that communities do not exist in isolation but are connected across national borders and become drawn into a transnational space (Berman, 2007, p. 1194–1195).

Basin actors need to work out in each basin what these procedural mechanisms, institutions and practices should be. Indeed, how the international legal norms become applied in a specific basin context is subject to local arrangements. International water law is not prescriptive here and recognizes the importance for local actors to find arrangements that are suited to historical, political, social, and cultural characteristics (Schmeier, 2021). Looking at the role of international water law and its relationship with place, McIntyre states that international legal norms are "inevitably … vague in terms of their practical implications, and thus largely meaningless, in the absence of procedural rules to facilitate effective engagement and information exchange" amongst states. International water law is, therefore, a "'living' body of rules" that requires the locally appropriate development of practices (McIntyre, 2010a; Mekong River Commission, 2016). The implementation of these norms in the context of a river basin, therefore, means that they interact with other laws, norms, and practices drawn from national and local community scales. Holder and Harrison (2003, p. 4) write in their exploration of the relationship between law and place: "law must make room for local conditions and experience, and recognize the changing of laws to work in local contexts. The identification here is with 'local legal universes,' or 'legal localization'—forms of regulation rooted in local conditions of existence."

Leb (2014, p. 24) argues that international agreements are "outcomes of and reflections of the political realities at the time of their conclusion [but they have often been] subject to modification to better reflect changes in underlying circumstance." Treaty-based institutions or joint mechanisms must therefore have the capacity for adaptation and should allow for an incremental broadening of the scope of cooperation as new issues arise and state interests change (Gerlak and Haefner, 2017). Finding place-appropriate governance regimes also requires "patience" to allow states with limited capacity to fully participate in their setting up, growth and reform (Hooper and Lloyd, 2011, p. 20). Therefore, where river basin organizations are tasked with the governance of shared river basins, a flexible and inclusive design is key that can adapt over time and can draw actors across scales into a common space. Such practice allows for the development of a place-based and place-appropriate governance regime. The need to find locally appropriate governance mechanisms that can be embedded in the local cultural, historical, and political context also addresses the need for a contextual approach to international law. As Wouters and Vinogradov (2020, p. 391) argue:

> the legal discourse on transboundary water cooperation can be reframed such that a riparian nation's "way of doing things" provides an intrinsic context for understanding its transboundary water practice. This reframing exercise offers new insights and opportunities for devising more meaningful cooperation.

While Wouters and Vinogradov focus on the practices of nation-states, we can take this contextual approach to understand the need to find place-based and place-appropriate governance regimes that take into account local cultures, politics and histories. These should not only consider national interests. They should also take into account local community practices to build inclusive, participatory and cross-scalar institutions.

Materials and methods

The article analyzes the evolution and ongoing reform of the legal regime on the Lower Mekong basin and the mediation of plural legal frameworks through the PNPCA process by employing qualitative document analysis. The article adopts the framework by Wood et al. (2020) who themselves adopted the framework by Miller and Alvarado (2005) and applied it in the context of an Australian dam building project. This framework suggests a four-step iterative process: establishing the corpus of documents, open coding to identify broad thematic areas, theoretical coding to organize themes around relevant theories, and establishing a coherent story. The documents used in this article were broadly organized into two categories: the evolution of legal norms and procedures for hydropower governance on shared rivers, that is, the development of institutional structures of the Mekong River Commission and specifically the PNPCA; and documents pertaining to specific dam negotiation processes for the mainstream dams where these would be applied.

Documents were initially drawn from the Mekong River Commission and its predecessors: the Committee for Coordination of Investigations on the Lower Mekong River Basin (known as

the Mekong Committee, 1957–1978) and the Interim Mekong Committee (1978–1995). Documents include legal texts and commentaries, procedural guidelines, technical reports, meeting notes, annual reports, press releases, and member country statements. This served to piece together the process of evolution and the ongoing reform of the Mekong River Commission framework; but it also served to understand why and when such reforms took place. Documents were sifted for relevance and grouped into broad themes: "(transboundary) environmental impact assessment," "equitable and reasonable utilization," "no harm," "duty to cooperate," and "community consultation." To understand how this applies to the development of hydropower dams on the Mekong mainstem, documents were cross-referenced for the six Mekong mainstream dams that have to-date undergone the PNPCA: Xayaburi, Don Sahong, Pak Beng, Pak Lay, Luang Prabang, and Sanakham. The case study traces the reforms of the PNPCA and associated processes to the year of writing (2023). It then provides a detailed case study of the Pak Beng dam, which was the first dam affected by the reforms.

In doing this research, it was important to establish the meaning of documents in their wider context. Qualitative document analysis emphasizes the need to understand the purpose of a document, its author and target audience (Bowen, 2009, p. 33). Qualitative document analysis regards documents as social actors (Miller and Alvarado, 2005). Drawing on insights from critical document analysis (Sankofa, 2022) the article adopts the position that documents are not neutral objects, but that they are inherently political. They can, therefore, tell stories of conflict, power and marginalization. To contextualize the Mekong River Commission documents, civil society and media reports were included in the analysis to further understand the social and political conflicts within which hydropower development takes place. Themes identified included "social impact," "environmental impact," "livelihoods," "resettlement," "protest," and "new actors." The latter identified new finance entities and construction firms particularly from the wider Southeast and East Asian region, but also beyond.

As the research progressed, the open codes were grouped into theoretical clusters around "cross-scale governance," "transnational space," "development of place-based laws, rules, and procedures," "evolutionary international law," and a "contextual approach to international law." This led to the emergence of a picture where the Mekong River Commission has become the focal point for negotiating and mediating the disparate interests of member states, transnational hydropower developers, civil society, and local communities in the development of Mekong mainstream dams while further developing the local application of the international legal norms of the duty to cooperate, no harm, equitable and reasonable utilization, and public participation. While this highlights a positive story about the continual development and improvement of institutional processes, it also shines a light on the foregrounding of national interests. The case study now first traces the evolution and reform of the Mekong River Commission's PNPCA process. It then explores these dynamics in relation to the Pak Beng dam.

Developing inclusive governance in the Lower Mekong basin: mediating and contextualizing international norms for hydropower development

The Lower Mekong Basin has the potential to generate 30,000 megawatts of electricity. Over 200 large dams, defined as having an installed capacity of at least 15 megawatts, are currently in various phases of planning, construction and operation on the Lower Mekong mainstream and its tributaries (Open Development Mekong, 2015; Eyler, 2020). Laos alone is planning to build eleven hydropower dams on the Mekong mainstream, which together have a potential to generate 11,000 megawatts (Open Development Mekong, 2015). Both Cambodia and Laos see hydropower as a crucial source of economic growth. Cambodia is plagued by frequent electricity outages and has amongst the region's highest electricity prices. Laos, meanwhile, has styled itself as the battery of Southeast Asia and is making use of its hydropower potential to gain revenue through electricity sales. The Mekong's waters, therefore, are subject to a process of commodification in which governments actively seek the investment from investors across the wider region, including Vietnam, Thailand, Malaysia, and China (Bakker, 1999; Middleton et al., 2009; Merme et al., 2014). Governing elites see the widespread local resistance to this development programme with suspicion: for example, facing sustained opposition from Cambodian environmental activists and indigenous groups, Cambodia's former prime minister Hun Sen angrily called them "extremists" who are standing in the way of creating "thousands" or even "millions" of jobs (Voice of America, 2015). Hydropower construction, therefore, sees the contestation of local communities, activists, multinational corporations, and national governments (Bakker, 2012; Hensengerth, 2017; Bakker and Hendriks, 2019).

The organization tasked with the sustainable development of the Lower Mekong basin is the inter-governmental Mekong River Commission, comprised of Laos, Cambodia, Thailand, and Vietnam. It was founded in 1995, with predecessor organizations stretching back to 1957. The commission provides a platform through which the four member states negotiate their interests in water resources development, and specifically their interpretations of the legal norms underpinning the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin (Mekong Agreement): the duty to cooperate, equitable and reasonable utilization (Article 5), and no significant harm (Article 7). These norms are drawn directly from international water law. The question is how these norms can be operationalized through the commissions' rules and procedures.

For hydropower on the Mekong mainstem, the principal vehicle for negotiating these norms is the PNPCA. It is here where we can observe the development of procedural rules to facilitate communication between states, and where we can see the localization of the substantive requirements for ecosystems protection, preservation and management (McIntyre, 2010b, 2013). It is also here where public participation is included by assessing "the potential impacts on multi-stakeholder rights and interests" (ICEM, 2010, p. 26). Opportunities for public participation are potentially widespread: PNPCA stipulates that consultations

must be conducted within the framework of the Mekong River Commission. Under these rules, the Secretariat organizes regional consultations, and the National Mekong Committees hold national consultations.

PNPCA further requires national governments proposing mainstream hydropower projects to submit environmental and social impact assessments and resettlement plans. All member states now have national laws governing environmental impact assessment and resettlement. These require public participation, although implementation is uneven and often tokenistic, constrained by a lack of resources, a lack of expertise in conducting such assessments, and dependent on the nature of the political regime (Wayakone and Makoto, 2012; Xia, 2020; Clarke and Vu, 2021; Kantamaturapoj et al., 2023). These are also national decision-making processes outside of the remit of the Mekong River Commission, thus creating a "scalar disconnect" between national and regional processes (Suhardiman et al., 2012, p. 572). It is important to note that PNPCA is not a process that decides on whether or not projects should be built (Grumbine et al., 2012, p. 95). It is a process that is designed to negotiate different interests and to develop processes for multi-stakeholder engagement.

PNPCA was activated for the first time in 2010 when Laos notified the Mekong River Commission of its intention to build the Xayaburi dam, the first dam on the Lower Mekong mainstem. Xayaburi was not only contested by the downstream commission members Cambodia and Laos. The PNPCA process lacked serious public participation so that it led to large-scale and persistent protests by transnational NGOs, community-based organizations, and local activists (Hensengerth, 2015). The Mekong River Commission commissioned a Strategic Environmental Impact Assessment, which called for a dam-building moratorium of 10 years to allow data collection on the transboundary impacts (ICEM, 2010). This document, rejected by Laos, provided a rallying point for those opposed to the dam and created a counter public opposed to the official process. The commission itself was unable to solve the conflict, with Laos declaring the 6-months PNPCA process (the official timeframe) complete. However, the commission's Council, the highest decision-making body, commissioned a study to explore the impacts further. This subsequently became known as the Council Study. It was not published until 2017 and had no impact on Laos' decision to press ahead with the construction of Xayaburi.

Evolutionary international law in action: the reform of the PNPCA process and the development of transboundary environmental impact assessments

The very contentious experience of this first ever PNPCA process and a similarly fractious PNPCA for the Don Sahong dam (Yong and Gillespie, 2022)—the second dam proposed by Laos—resulted in a significant reform process at the Mekong River Commission level: a clear road map of the PNPCA; improved stakeholder engagement including releasing information in a more timely manner; better engagement with the proposing country and the project developer; clearer post-PNPCA engagement to monitor impact; and regular use of the Joint Platform, a body created by the Joint Committee and tasked with helping to improve the Mekong River Commission procedures, including PNPCA (Mekong River Commission, 2018a, p. 18–20). The main vehicle for post-PNPCA monitoring would become the Joint Action Plan, for the first time implemented during the Pak Beng PNPCA. A pilot Joint Environmental Monitoring Programme ran from 2020–2021 to monitor the impacts of Xayaburi and Don Sahong. A new regional consultation mechanism, the Regional Stakeholder Forum, launched in 2017 as part of the Pak Beng PNPCA. In 2019 and 2020, the commission released the three-volume Guidelines for Hydropower Environmental Impact and Risk Management in the Lower Mekong Mainstream and Tributaries, which support whole basin planning and project development. They also support the 2023 Preliminary Design Guidance for Proposed Mainstream Dams in the Lower Mekong Basin, which are an update of the 2009 Preliminary Design Guidance. This update now contains a section on socio-economic impacts, which was not included in the 2009 guidance, although socio-economic impacts were included in the 2019–2020 Guidelines for Hydropower Environmental Impact and Risk Management. The 2023 update now requires the engagement of directly affected communities "in all phases of the projects [sic] development and operation in a participatory manner," and to "[e]nhance existing, or create new, transboundary cooperative mechanisms as needed (e.g., to implement support mechanisms for transboundary riparian communities), such as through national, bilateral, regional and MRC [Mekong River Commission]-related frameworks" (Mekong River Commission, 2023b, p. 126).

In 2023, the Mekong River Commission released its Guidelines for Transboundary Environmental Impact Assessment in the Lower Mekong River Basin. The process of drafting these goes back to the 1998 Methodology for Environmental Impact Assessment. The 2023 Guidelines integrate PNPCA, Joint Action Plan, Joint Environmental Monitoring and the Preliminary Design Guidance for Proposed Mainstream Dams in the Lower Mekong Basin into an eight-step process (Mekong River Commission, 2018b, p. 34–36; Mekong River Commission, 2023a). For public participation, the guidelines note that national consultations on the (draft) environmental impact assessment should be held in accordance with national laws, the (draft) reports should be disseminated to stakeholders including potentially affected communities in the relevant countries, and consultations on the report should include public participation. This is defined as "a process through which key stakeholders gain influence and take part in decision-making in the planning, implementation, monitoring, and evaluation of a given project" (Mekong River Commission, 2023a, p. 15). National consultations are supported by the National Mekong Committees (p. 39). Regional consultations are conducted following the rules of the PNPCA (p. 29). There are, however, no provisions for transboundary participation whereby, for example, mutual access to legal systems is granted, as laid down in the Berlin Rules. Public participation, therefore, remains largely under the control of national governments.

The first dam to be affected by these reforms was Pak Beng. Pak Beng is developed by Datang (Lao) Pak Beng Hydropower, of which Thailand's Gulf Energy holds 49 percent and China Datang

Overseas Investment 51 percent (Kaohoon International, 2022). The environmental and social impact assessment was carried out by Kunming Engineering Corporation. Laos submitted the Pak Beng project documentation to the Mekong River Commission Secretariat in November 2013. This triggered the third PNPCA process, which was held between December 2016 and June 2017. The Pak Beng PNPCA provided the first test case for the recommendations for an improved PNPCA. Indeed, there was "clear expectation from the Member Countries, Development Partners and stakeholders that there should be a continual improvement" from Xayaburi and Don Sahong (Mekong River Commission, 2018b, p. 39). The Pak Beng PNPCA for the first ended with an agreed Joint Statement detailing improvements to avoid, minimize and mitigate impacts and recommending for the first time a Joint Action Plan to implement the Joint Statement. The Joint Action Plan is designed as a mechanism for continuous feedback and data and knowledge exchange between the developer, the Mekong River Commission, and stakeholders during the design, construction, and operation phases of the project, thus theoretically pulling together cross-scale stakeholders into what Berman (2009, p. 1194–1195) called a "shared social space." A final Joint Action Plan for Pak Beng, however, was not agreed until 2 years later at a Joint Committee meeting in April 2019 (Mekong River Commission, 2019).

Participation and the emergence of transboundary environmental publics: toward transnational social spaces in the Lower Mekong basin?

Pak Beng affects 26 villages, comprising 923 households, or 4,726 people (Suhardiman and Geheb, 2022, p. 324). This includes ethnic Lao and indigenous communities whose livelihoods rely on farming, fishing, and non-timber forest products (Kunming Engineering Corporation, 2015). Laos has national rules governing environmental impact assessment and resettlement. The 2019 Decree on Environmental Impact Assessment requires the project developer—in this case China Datang—to carry out an environmental impact assessment and to consult project affected people. However, in practice environmental impact assessments are often conducted without such consultations. Although Kunming Engineering Corporation (2015) argues that local consultations in affected villages had taken place, and lists dates and locations, Suhardiman and Geheb (2022, p. 325) show that project affected people in two of the affected villages were unaware that an environmental impact assessment had taken place or that China Datang was supposed to consult them. Similarly, under the Decree on Compensation and Resettlement Management in Developing Projects, China Datang is required to draw up a resettlement action plan, but formulation of this plan was carried out without local consultations (Suhardiman and Geheb, 2022, p. 325–326).

In a similar vein, a review of the social impact assessment and the environmental impact assessment commissioned by International Rivers argues that the resettlement action plan, which is carried out under overall supervision of the Ministry of Environment and Natural Resources, contains no mechanisms for input by affected communities (International Rivers, 2017, p. 15). The review also points out that indigenous communities are likely to face assimilation pressures into Lao majority society: Lao language training as part of the support mechanisms, and a lack of sufficient land to enable livelihood restoration in resettlement sites risks loss of traditional belief systems, livelihoods, and languages (International Rivers, 2017, p. 15). It is noteworthy that the social impact assessment references the World Commission on Dams guidelines, along with 1995 Mekong Agreement, World Bank Safeguards and—by now outdated—Lao rules for conducting environmental and social impact assessments. However, it argues that the World Commission on Dams recommendations are of a strategic nature and do not all apply to the Pak Beng project (Kunming Engineering Corporation, 2015, p. 3–16). Notably, it does not reference the principle of free, prior and informed consent.

These national-level processes are distinct from the regional processes conducted within the Mekong River Commission framework. Here, national consultations were held by the National Mekong Committee in February and April 2017; and two Regional Stakeholder Forums were held in February and May 2017 in line with the post-Xayaburi recommendations aiming at more timely information release and a wider and more inclusive reach (Mekong River Commission, 2018b, p. 40–41). Regional consultations included a site visit and were attended by member countries, private developers, academics, NGOs, and media organizations (Mekong River Commission, 2017a,b). Starting in 2017, these Regional Stakeholder Forums were set up as a new mechanism, designed to engage more regularly with civil society, the private sector, and academics on matters pertaining to Mekong development. This engagement now also includes translation of key documents into riparian languages (Mekong River Commission, 2018b, p. 50–57).

During the Pak Beng PNPCA, stakeholder views, both national and regional, were more clearly built into the reporting structure of the Mekong River Commission (see Pak Benk PNPCA Roadmap in Mekong River Commission, 2017b, p. 13). While national consultations should inform national positions in the Joint Committee, regional consultations inform the Secretariat's technical review reports (Mekong River Commission, 2017a, p. 5). Both should be considered in negotiation processes at Joint Committee level. The Pak Beng Joint Action Plan further mentions that "NGOs, implementing partners, civil society organizations, research institutions, academics, individuals and other interested groups will be kept informed of progress with the implementation of the Joint Action Plan through the MRC's regular engagements" (Mekong River Commission, 2019).

Nevertheless, civil society organizations and riverine communities criticized Pak Beng harshly for its environmental and transboundary impacts (International Rivers, 2017). Lao villagers expressed concern that the amounts of compensation offered were too low; and Thai human rights NGOs petitioned the Thai prime minster and the minister for energy to postpone the signing of the power purchase agreement (Radio Free Asia, 2023). Court cases were also launched: In June 2017, the Rak Chiang Kong Conservation Group and the Thai Mekong People's Networks from Eight Provinces filed a petition in the Thai Administrative Court against the Pak

Beng environmental impact assessment. The petition was rejected by the court, and an appeal by both groups to the higher Central Administrative Court was rejected in 2021 (Radio Free Asia, 2021).

Yong (2022) pointed out how the PNPCA process for Pak Benk engendered different transboundary environmental publics: one official public was convened through the medium of the PNPCA. This was regional and national, with the national consultations under the purview of the National Mekong Committees. Although quality and range differed somewhat by country, national consultations were constrained in the participation of locally affected communities, who often were unable to travel to the cities where consultations were held. This official public ceased to exist when the PNPCA ended. In contrast, a cross-scale and transboundary counter public was convened through the work of civil society organizations. Crucial here was the Save the Mekong Coalition, which took a rights-based approach based on the principle of free, prior, and informed consent and aimed at inclusivity. Consultation events took place in villages, were held in local languages with translators present, used familiar places such as village temples as sites for debate, and included "non-human and cultural elements of life" (p. 301) which form part of local associations with rivers and are often part of indigenous cosmologies. Such rights-based approaches contrasted with the formal, often "staged" official processes, which took place in central government buildings and hotels and were held in English (Yong, 2022, p. 297).

Such transboundary environmental publics were already present during previous PNPCAs. The loud and persistent region-wide protests during the first PNPCA process for Xayaburi developed transnational and participatory spaces that were not permitted during the official PNPCA and that were supported by community-based groups and regional and international NGOs (Yeophantong, 2017). These were principally led by Save the Mekong, the Cambodian NGO Mekong Conservation, the Bangkok-based NGO Toward Ecological Recovery and Regional Alliance (TERRA), a Cambodian group of 200 local villagers led by Buddhist monks, and the Network of Thai People in Eight Mekong Provinces (Bangkok Post, 2012; Phnom Penh Post, 2012; Radio Free Asia, 2012a,b,c,d; Thul, 2012; Wangkiat, 2012). Similar protests ensued against during the Don Sahong PNPCA. This included regional organizations such as the Viet Nam Rivers Network, the Save the Mekong Coalition, and the Representatives of River Coalitions in Cambodia and Tonle Sap and Mekong Communities; and the global organizations Fauna and Flora International and Oxfam (Mekong River Commission, No date). In March 2014, an estimated 400 people, including local fishermen, staged a four-day protest in Cambodia's Kratie and Stung Treng provinces (Khuon, 2014; Phak Seangly, 2014). In December 2015, an estimated 200 people from across Cambodia followed a call by WWF Cambodia and the Fisheries Action Coalition Team to stage protests in Preah Rumkel commune at the Lao-Cambodia border (WWF, 2015).

This rise of alternative transboundary publics advocating a rights-based approach is similar to what Troell et al. (2005, p. 73) referred to as "parallel public participation" where dissatisfied citizens and organizations hold alternative public participation sessions and may also resort to legal recourse where they see the official process as inadequate. Similarly, Varkkey (2022) argued that transboundary publics can provide alternative venues and "fill policy gaps" (p. 348) where official, state-led processes fail to produce adequate results. Therefore, where public participation does not take into account local needs, local resistance to projects may become widespread. We therefore see the development of counter publics that exist in a participatory, transnational space in the Lower Mekong basin, but which is largely disconnected from the Mekong River Commission process. This foregrounds national interests and the principal aims of the Mekong River Commission to develop governance arrangements and interpretations of international legal norms that are acceptable to national governments.

Discussion: legal geography, shared river basins, and the "world of the international"

This article developed an international approach to legal geography to analyze the formation of law in a space that is not neatly contained by local, national, or international laws, rules, and procedures. Taking space as an analytical anchor requires understanding a shared river basin as a transnational space where local, national, regional, and international norms emanating from state and non-state actors compete in the creation of local, place-based governance regimes. In such a space, we are at the "edge of law" (Jeffrey, 2020). The article asked: How can we explore the evolution of place-based knowledge and place-appropriate governance arrangements on shared rivers? What laws, rules and procedures do river basin organizations develop to mediate the plural legal frameworks generated by state and non-state normative communities? In considering these questions, the article brought legal geography into a conversation with international water law to explore a contextual and evolutionary approach to understand the mediation at basin level of sources of law drawn from international scales and the interaction of these with domestic law and local community practices. International legal norms must be brought to life through the local development of laws, rules, and procedures (McIntyre, 2010a). In this process, global norms engage national and local laws, rules, and practices for water use. This echoes concerns of legal geography that "law must make room for local conditions" (Holder and Harrison, 2003, p. 4).

The literature on ecosystems governance recognizes that ecosystems require a multi-scale approach, including the participation of local communities, to improve environmental sustainability. This must recognize the different norms, values, and uses of water and establishes shared river basins as global plural legal spaces (Berman, 2007, 2009). River basin organizations are important actors as they are tasked with the development of laws, rules, and procedures to mediate this pluralism. In such spaces, however, power dynamics create a hierarchy of norms and values. River basins are therefore an expression of what Blomley (1994, p. 4) called the "spatiality of social life and the politicized nature of space." In such a view, river basins can be understood as hydro-social territories (Boelens et al., 2016) that see shifting

power configurations over time (Molle et al., 2009; Swyngedouw, 2014) and where power determines "who gets what and under what circumstances" (Reed and Bruyneel, 2010, p. 651).

The Lower Mekong basin provides an excellent case study to observe these dynamics. It is a space that sees the negotiation and mediation of norms from across international, regional, national and local scales. The 1995 Agreement incorporates norms drawn from international water law; and these norms meet national practices for environmental and social impact assessment, the practices of multinational corporations such as China Datang and Kunming Engineering Corporation, transnational civil society organizations invoking rights-based norm frameworks such as those of the World Commission on Dams, and the water use practices of local and indigenous communities.

These norms are mediated in the PNPCA process, which was activated for the first time in 2010 when Laos submitted project documentation for the Xayaburi dam to the Mekong River Commission. The ensuing conflict led to a reform process in line with what Holder and Harrison (2003, p. 4) referred to as "legal localization:" the development over time of local legal regimes "rooted in local conditions of existence." To some extent, the Mekong River Commission is able to draw these different normative communities into a "shared social space" (Berman, 2007, p. 1194–1195). However, PNPCA is mainly set up to negotiate national interests within a Westphalian framework of sovereignty. This is not necessarily a problem. Although Tarlock and Wouters (2007, p. 524) warned that while "equitable sharing … is the norm, unilateral use is too often the practice on the ground," Schmeier (2021) argued for the Lower Mekong that the members of the Mekong River Commission never questioned the applicability of the principles of equitable and reasonable utilization and no harm. She also argued that countries accept and adhere to the procedural principle of the PNPCA. The question is instead: "how to adhere to the principles … rather than questioning them" (p. 175). Indeed, the continued evolution of increasingly detailed guidelines indicates the willingness of member states to develop locally specific rules, procedures, and practices that serve to provide mutual understandings of how to bring to life norms drawn from international water law.

Public participation, however, remains a challenge. This not only emphasizes the primacy of national governments versus affected populations. Suhardiman et al. (2012, p. 572) have also identified a "scalar disconnect" that prevents a conversation between national and regional frameworks: the environmental impact assessment and resettlement processes are governed by national law. And although these documents must be part of a country's PNPCA submission, PNPCA can only make recommendations such as to improve dam design or monitor impact; but it is not possible to press for a better inclusion of marginalized communities within these national decision-making processes. The institutional processes meanwhile that are part of the PNPCA have seen marked improvements since Xayaburi. A host of rules and guidelines has been published to improve environmental outcomes and to include affected communities more effectively. However, as Pak Beng has shown, the inadequacy of these lead to the emergence of transboundary counter publics within a transnational social space that is disconnected from the official dam negotiation processes. This creates a hierarchy of legal orders, with the concerns of local and indigenous groups sidelined and indigenous communities exposed to pressures of cultural assimilation.

Norman and Bakker (2009, p. 212) observed that hydropower development "at any scale" leads to an expansion of state power and control into rural areas. "This … will increase the likelihood that revenue flows of hydrodevelopment will, once captured, be redirected away from local people and local use." This is echoed by Roth et al. (2015, p. 467) who observed that the "new national-transnational configurations and global-local interactions [… involve] the introduction of new legal norms and procedures" to manage the watershed in a manner that expands state power and disempowers local water users. This is not only so in Mekong basin countries where democratic processes are at best incomplete. Studying cross-border water governance between the United States and Canada, Norman and Bakker (2009) argued that although there is more public participation and greater appreciation of the local scale of water management, this has not led to an empowering of local actors vis-à-vis national-level decisionmakers. Tarlock and Wouters (2010, p. 53) aptly point out that national and basin scales "remain the primary focus of water planning and management." This, however, generates the emergence of significant local opposition (Varkkey, 2022; Yong, 2022). In turn, this opens up new and creative participatory spaces that draw civil society and local communities across the river basin into a shared space.

Conclusion

The Lower Mekong basin is a space where norm-generating communities across scale compete over the use of freshwater resources. It is also a shared space: international water law recognizes the watershed as a single unit, a notion that is supported by the literature on ecosystems governance; but in developing the waters of shared river basins, interests from beyond the basin exert influence: multinational corporations seek investment destinations, and NGOs invoke human rights norms. At the sub-basin level, national governments emphasize national development interests, and local and indigenous communities attempt to pursue their own needs for water use. Where river basin organizations are tasked with the management of shared rivers, they need to mediate these different interests and plural norms and values across scale (Troell et al., 2005).

Legal geography, combined with an evolutionary perspective of international law, is well positioned to analyze these dynamics in complex ecosystems, such as large river basins, that defy simple administrative jurisdiction. Expanding legal geography to such transnational spaces helps to understand the dynamic evolution of laws, norms, practices, and procedures over time for the governance of large ecosystems. This is particularly relevant at a time when climate change continues to exert pressure on natural resources, and the development of open, transparent and inclusive institutions becomes pressing.

In the Lower Mekong basin, the 1995 Agreement established the Mekong River Commission and incorporates key norms of international water law. PNPCA is the main vehicle through which

these norms are brought to life. Public participation occurs at the institutional level as part of PNPCA, and nationally environmental impact assessment and resettlement planning laws require that project developers conduct public consultations. However, as the case of the Pak Beng dam has shown, public participation either does not occur or is often superficial and tokenistic. This emphasizes the inter-governmental character of the Mekong River Commission: in developing rules and procedures for cooperation, the focus lies on mediating national interests. This is especially pronounced in cases where democratic governance is lacking and governing elites view local and indigenous resistance as a threat to national economic development.

This has implications for hydropower development. Mobilizing "hydropower for peace" (Broek and Kim, 2022) requires an institutional design that is open, transparent, and inclusive—to reiterate Milich and Varady's (1999) two-decade old call. Not only need institutions manage inter-state conflicts, they also need to ensure vertical collaboration that draws local water users into a cooperative, shared social space (Berman, 2007). Conflicts over dams in the Lower Mekong basin—the mainstem, its tributaries, and across the wider Mekong region—shine a light on the continuing conflict potential, despite the regions' "authoritarian turn" (Middleton, 2018, p. 81). These conflicts echo developments in other parts of the world, such as Latin America, where local and indigenous communities face pressures over the commercial exploitation of river basins and connected ecosystems such as forests (Atkins and Hope, 2021). As hydropower is set to double by 2050 in order to transition to net zero, the question is therefore how to engender a transition that is just and leaves no one behind. Peaceful hydropower development not only needs to account for setting rules for inter-state conduct. It also needs to develop credible and transparent procedures to include local water users into decision-making processes.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

OH: Writing – original draft.

Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Ardeleanu, C. (2020). *The European Commission of the Danube, 1856-1948: An Experiment in International Administration*. Leiden: Brill. doi: 10.1163/9789004425965

Atkins, E., and Hope, J. (2021). Contemporary political ecologies of hydropower: insights from Bolivia and Brazil. *J. Polit. Ecol.* 28, 246–265. doi: 10.2458/jpe.2363

Baker, S., and Mehmood, A. (2015). Social innovation and the governance of sustainable places. *Local Environ.* 20, 321–334. doi: 10.1080/13549839.2013.842964

Bakker, K. (1999). The politics of hydropower: developing the Mekong. *Polit. Geogr.* 18, 209–232. doi: 10.1016/S0962-6298(98)00085-7

Bakker, K. (2012). Water: political, biopolitical, material. *Soc. Stud. Sci.* 42, 616–623. doi: 10.1177/0306312712441396

Bakker, K., and Hendriks, R. (2019). Contested knowledges in hydroelectric project assessment: the case Canada's site C project. *Water* 11:406. doi: 10.3390/w11030406

Bangkok Post (2012). *Mekong Villagers Take Egat to Court to Stop Xayaburi Deal.* Available online at: http://www.bangkokpost.com/news/local/302489/mekong-villagers-take-egat-to-court-to-stop-xayaburi-deal (accessed December 9, 2023).

Bartel, R., Graham, N., Jackson, S., Prior, J. H., Robinson, D. F., Sherval, M., and Williams, S. (2013). Legal geography: an a ustralian perspective. *Geogr. Res.* 51, 339–353. doi: 10.1111/1745-5871.12035

Bauer, C. J. (2009). Dams and markets: rivers and electric power in Chile. *Nat. Resour. J.* 49, 583–651.

Bavinck, M., and Gupta, J. (2014). Legal pluralism in aquatic regimes: a challenge for governance. *Curr. Opin. Environ. Sustain.* 11, 7885. doi: 10.1016/j.cosust.2014.10.003

Bennett, L., and Layard, A. (2015). Legal geography: becoming spatial detectives. *Geogr. Comp.* 9, 406–422. doi: 10.1111/gec3.12209

Berman, P. S. (2007). Global legal pluralism. *Southern California Law Rev.* 80, 1155–1238.

Berman, P. S. (2009). The new legal pluralism. *Ann. Rev. Law Soc. Sci.* 5, 225–242. doi: 10.1146/annurev.lawsocsci.093008.131539

Blomley, N. K. (1994). *Law, Space, and the Geographies of Power*. New York: Guildford Press.

Boelens, R., Hoogesteger, J., Swyngedouw, E., Vos, J., and Wester, P. (2016). Hydrosocial territories: a political ecology perspective. *Water Int.* 41, 1–14. doi: 10.1080/02508060.2016.1134898

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualit. Res. J.* 9, 27–40. doi: 10.3316/QRJ0902027

Braun, K., and Könninger, S. (2018). From experiments to ecosystems? Reviewing public participations, scientific governance and the systemic turn. *Public Underst. Sci.* 27, 674–689. doi: 10.1177/0963662517717375

Braverman, I., Blomley, N., Delaney, D., and Kedar, A. S. (2014). "Introduction: expanding the spaces of law." in *The Expanding Spaces of Law: A Timely Legal Geography*, eds. I. Braverman, N. Blomley, D. Delaney and A. Kedar (Stanford: Stanford University Press), 1–29. doi: 10.2307/j.ctvqsdzbj.5

Bréthaut, C., and Turley, L. (2020). "Exploring the politics of institutional fragmentation in transboundary river basins," in *Oxford Research Encyclopedia of Environmental Science.* Available online at: https://oxfordre.com/environmentalscience/view/10.1093/acrefore/9780199389414.001.0001/acrefore-9780199389414-e-647 (accessed December 5, 2023).

Broek, E., and Kim, K. (2022). *Leveraging hydropower for peace.* Wilson Center, Available online at: https://www.newsecuritybeat.org/2022/08/leveraging-hydropower-peace/ (accessed December 9, 2023).

Bruch, C. (2001). Charting new waters: public involvement in the management of international water courses. *Environ. Law Report.* 31, 11389–11416.

Bruch, C. (2003). "Role of public participation and access to information in the management of transboundary watercourses," in *International Waters in Southern Africa,* ed. M. Nakayama (Tokyo: United Nations University Press), 38–70.

Cantor, A., Kay, K., and Knudson, C. (2020). Legal geographies and political ecologies of water allocation in Maui, Hawai'i. *Geoforum* 110, 168–179. doi: 10.1016/j.geoforum.2020.02.014

Charpleix, L. (2017). The Whanganui River as Te Awa Tupua: Place-based law in a legally pluralistic society. *Geogr. J.* 184, 19–30. doi: 10.1111/geoj.12238

Clarke, B. D., and Vu, C. V. (2021). EIA effectiveness in Vietnam: key stakeholder perceptions. *Heliyon* 7:e06157. doi: 10.1016/j.heliyon.2021.e06157

Cohen, A. (2012). Rescaling environmental governance: watersheds as boundary objects at the intersection of science, neoliberalism, and participation. *Environ. Plann. A* 44, 2207–2224. doi: 10.1068/a44265

Cohen, A., and McCarthy, J. (2015). Reviewing rescaling: strengthening the case for environmental considerations. *Progr. Hum. Geogr.* 39, 3–25. doi: 10.1177/0309132514521483

Collinson, D. S. (1972). The Rhine regime in transition: relations between the European Communities and the Central Commission for Rhine Navigation. *Columbia Law Rev.* 72, 485–516. doi: 10.2307/1121413

Delaney, D. (2015). Legal geography I: constitutivities, complexities, and contingencies. *Progr. Hum. Geogr.* 39, 96–102. doi: 10.1177/0309132514527035

Delaney, D. (2016). Legal geography II: discerning injustice. *Progr. Hum. Geogr.* 49, 267–274. doi: 10.1177/0309132515571725

Delaney, D. (2017). Legal geography III: new worlds, new convergences. *Progr. Hum. Geogr.* 41, 667–675. doi: 10.1177/0309132516650354

Dellapenna, J., and Gupta, J. (2008). Toward global law on water. *Global Govern.* 14, 437–453. doi: 10.1163/19426720-01404004

Dellapenna, J., and Gupta, J. (2009). "The evolution of global water law," in *The Evolution of the Law and Politics on Water,* eds. J. Dellapenna, and Joyeeta (Cham: Springer), 3–20. doi: 10.1007/978-1-4020-9867-3_1

Dellapenna, J. W. (2006). "The Berlin rules on water resources: the new paradigm for international water law," in *World Environmental and Water Resource Congress 2006: Examining the Confluence of Environmental and Water Concerns,* ed. R. Graham (New York: American Society of Civil Engineers). doi: 10.1061/40856(200)250

Duncan, R. (2017). Rescaling knowledge and governance and enrolling the future in New Zealand: a co-production analysis of Canterbury's water management reforms to regulate diffuse pollution. *Soc. Nat. Resour.* 30, 436–452. doi: 10.1080/08941920.2016.1265187

Eyler, B. (2020). *2020 Status of Lower Mekong Mainstream and Tributary Dams. Stimson Center.* Available online at: https://www.stimson.org/2020/2020-status-of-lower-mekong-mainstream-and-tributary-dams/ (accessed December 9, 2023).

Gerlak, A. K., and Haefner, A. (2017). Riparianization of the mekong river commission. *Water Int.* 42, 893–890. doi: 10.1080/02508060.2017.1376267

Gillespie, J. (2017). Wetland conservation and legal layering: managing Cambodia's great lake. *Geogr. J.* 184, 31–40. doi: 10.1111/geoj.12216

Gillespie, J. (2020). *Protected Areas. A Legal Geography Approach.* Cham, Switzerland: Springer. doi: 10.1007/978-3-030-40502-1

Grumbine, E. E., Dore, J., and Xu, J. (2012). Mekong hydropower: drivers of change and governance challenges. *Front. Ecol. Environ.* 10, 91–98. doi: 10.1890/110146

Gunderson, R. (2018). Global environmental governance should be participatory: five problems of scale. *Int. Sociol.* 33, 715–737. doi: 10.1177/0268580918792786

Gupta, J., Pahl-Wostl, C., and Zondervan, R. (2013). 'Glocal' water governance: a multi-level challenge in the anthropocene. *Curr. Opin. Environ. Sustain.* 5, 573–580. doi: 10.1016/j.cosust.2013.09.003

Hensengerth, O. (2015). Where is the power? Transnational networks, authority and the dispute over the Xayaburi Dam on the Lower Mekong mainstream. *Water Int.* 40, 911928. doi: 10.1080/02508060.2015.1088334

Hensengerth, O. (2017). Regionalism, identity, and hydropower dams: the Chinese-built lower Sesan 2 Dam in Cambodia. *J. Curr. Chinese Affairs* 46, 85118. doi: 10.1177/186810261704600304

Hirsch, P. (2020). Scaling the environmental commons: broadening our frame of reference for transboundary governance in southeast Asia. *Asia Pacific Viewpoint* 61, 190–202. doi: 10.1111/apv.12253

Holder, J., and Harrison, C. (2003). "Connecting law and geography," in *Law and Geography,* eds. J. Holder, and C. Harrison (Oxford: Oxford University Press), 3–16. doi: 10.1093/acprof:oso/9780199260744.003.0001

Hooper, B. P., and Lloyd, G. J. (2011). *Report on IWRM in Transboundary Basins.* UNEP-DHI Centre for Water and Environment. Available online at: https://unep.dhigroup.com/wp-content/uploads/sites/2/2020/06/Report-on-IWRM-in-Transboundary-Basins.pdf (accessed December 9, 2023).

ICEM (2010). *MRC SEA for Hydropower on the Mekong Mainstream. Impacts Assessment (Opportunities and Risks).* Volume II: Main Report. London: ICEM.

International Energy Agency (2021). *Net Zero by 2050: A Roadmap for the Global Energy Secto*. Available online at: https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf (accessed December 9, 2023).

International Energy Agency. (2020). *Global Energy Review 2020*. Available online at: https://iea.blob.core.windows.net/assets/7e802f6a-0b30-4714-abb1-46f21a7a9530/Global_Energy_Review_2020.pdf (accessed December 9, 2023).

International Rivers (2017). *Independent Expert Review of the Pak Beng Dam Environmental Impact Assessment and Supporting Project Documents*. Available online at: https://www.riverresourcehub.org/wp-content/uploads/files/attached-files/independentexpertreview_pakbengdameia_may2017.pdf (accessed December 9, 2023).

Jansky, L., Sklarew, D. M., and Uitto, J. I. (2005). "Enhancing public participation and governance in water resources management," in *Enhancing Participation and Governance in Water Resources Management: Conventional Approaches and Information Technology,* eds. L. Jansky, and J. I. Uitto (Tokyo: United Nations University Press), 3–18.

Jeffrey, A. (2020). *The Edge of Law: Legal Geographies of a War Crimes Court.* Cambridge: Cambridge University Press. doi: 10.1017/9781108186018

Jepson, W. (2012). Claiming space, claiming water: contested legal geographies of water in South Texas. *Ann. Assoc. Am. Geogr.* 102, 614–631. doi: 10.1080/00045608.2011.641897

Kantamaturapoj, K., Chanchitpricha, C., Hongsuwan, P., Suebsing, P., Thaweesuk, S., and Wibulpolprasert, S. (2023). A framework of stakeholder analysis for public participation in EIA process: a case study of Thailand. *Impact Assess. Project Appr.* 41, 444–462. doi: 10.1080/14615517.2023.2261748

Kaohoon International (2022). *Gulf Signs Tariff MOU for Pak Beng Hydroelectric Power Project in Lao PDR.* Available online at: https://www.kaohooninternational.com/markets/510980 (accessed December 9, 2023).

Kelly, S. H. (2021). Mapping hydropower conflicts: a legal geography of dispossession in mapuche-williche territory, Chile. *Geoforum* 127, 269–282. doi: 10.1016/j.geoforum.2021.11.011

Khuon, N. (2014). *Communities to Stage Four-Day Protest to Stop Don Sahong Dam.* The Cambodia Daily. Available online at: https://www.phnompenhpost.com/national/hundreds-protest-laos-dam (accessed December 9, 2023).

Kunming Engineering Corporation (2015). *SIA-Social Impact Assessment, Pak Beng Hydropower Project*. Available online at: https://www.mrcmekong.org/assets/Consultations/PakBengBengHydropowerProject/13.-Social-Impact-Assessment.pdf (accessed December 9, 2023).

Leb, C. (2014). One step at a time: international law and the duty to cooperate in the management of shared water resources. *Water Int.* 40, 21–32. doi: 10.1080/02508060.2014.978972

Leck, H., and Simon, D. (2013). Fostering multiscalar collaboration and co-operation for effective governance of climate change adaptation. *Urban Stud.* 50, 1221–1238. doi: 10.1177/0042098012461675

Llamosas, C., and Sovacool, B. K. (2021). Transboundary hydropower in contested contexts: energy security, capabilities, and justice in comparative perspective. *Energy Strat. Rev.* 37:100689. doi: 10.1016/j.esr.2021.100698

McIntyre, O. (2010a). "International water law: concepts, evolution and development," in *Transboundary Water Management: Principles and Practice,* eds. A. Early, A. Jägerskog, and J. Öjendal (London: Earthscan), 59–71.

McIntyre, O. (2010b). The proceduralization and growing maturity of international water law: case concerning pulp mills on the River Uruguay (Argentina v. Uruguay). *J. Environ. Law* 22, 475–497. doi: 10.1093/jel/eqq019

McIntyre, O. (2013). "The contribution of procedural rules to the environmental protection of transboundary rivers," in *International Law and Freshwater: The Multiple Challenges,* eds. L. B. de Chazournes, C. Leb and M. Tignino (Cheltenham: Edward Elgar), 239–265. doi: 10.4337/9781781005095.00024

McIntyre, O. (2015). Benefit-sharing and upstream/downstream cooperation for ecological protection of transboundary waters: opportunities for China as an upstream state. *Water Int.* 40, 48–70. doi: 10.1080/02508060.2014.990350

McKendry, C. (2016). Cities and the challenge of multiscalar climate justice: climate governance and social equity in Chicago, Birmingham, and Vancouver. *Local Environ.* 21, 1354–1371. doi: 10.1080/13549839.2015.1116064

Mekong River Commission (2016). *Dialogue Workshop on Lessons Learnt from the Implementation of the Procedures for Notification.* Bangkok: Prior Consultation and Agreement (PNPCA).

Mekong River Commission (2017a). *Technical Review Report: Prior Consultation for the Proposed Pak Beng Hydropower Project*. Vientiane: Mekong River Commission Secretariat.

Mekong River Commission (2017b). *Regional Stakeholder Forum on the Pak Beng Hydropower Project and Council Study*. Vientiane: Mekong River Commission.

Mekong River Commission (2018a). *Annual Report 2016*. Available online at: https://www.mrcmekong.org/resource/ajg7ae (accessed December 9, 2023).

Mekong River Commission (2018b). *Annual Report 2017*. Available online at: https://www.mrcmekong.org/resource/ajg7ab (accessed December 9, 2023).

Mekong River Commission (2019). *Joint Action Plan For the Implementation of the Statement on the Prior Consultation Process for the Pak Beng Hydropower Project*. Available online at: https://www.mrcmekong.org/assets/Publications/Joint-Action-Plan-for-Implementation-of-Statement-on-Pak-Beng_Unedited.pdf (accessed December 9, 2023).

Mekong River Commission (2023a). *Guidelines for Transboundary Environmental Impact Assessment in the Lower Mekong Basin*. Vientiane: MRC Secretariat.

Mekong River Commission (2023b). *Preliminary Design Guidance for Proposed Mainstream Dams in the Lower Mekong River Basin (PDG)*. Vientiane: MRC Secretariat.

Mekong River Commission. No date. *Don Sahong Hydropower Project*. Available online at: https://www.mrcmekong.org/news-and-events/consultations/pnpca-prior-consultations/don-sahong-hydropower-project/ (accessed December 9, 2023).

Merme, V., Ahlers, R., and Gupta, J. (2014). Private equity, public affair: hydropower financing in the Mekong basin. *Global Environ. Change* 24, 20–29. doi: 10.1016/j.gloenvcha.2013.11.007

Middleton, C. (2018). National human rights institutions, extraterritorial obligations, and hydropower in Southeast Asia: implications of the region's authoritarian turn. *Austrian J. Southeast Asian Res.* 11, 81–97. doi: 10.14764/10.ASEAS-2018.1-5

Middleton, C., Garcia, J., and Foran, T. (2009). "Old and new hydropower players in the Mekong region: agendas and strategies," in *Contested Waterscapes in the Mekong Region: Hydropower, Livelihoods and Governance,* eds. F. Molle, T. Foran and M. Käkönen (London: Earthscan), 23–54.

Milich, L., and Varady, R. G. (1999). Openness, sustainability, and public participation: new designs for transboundary river basin institutions. *J. Environ. Dev.* 8, 258–306. doi: 10.1177/107049659900800304

Miller, F. A., and Alvarado, K. K. (2005). Incorporating documents into qualitative nursing research. *J. Nurs. Scholar.* 37, 348–353. doi: 10.1111/j.1547-5069.2005.00060.x

Molle, F., Foran, T., and Floch, P. (2009). "Changing waterscapes in the mekong region: historical background and context," in *Contested Waterscapes in the Mekong Region: Hydropower, Livelihoods and Governance,* eds. F. Molle, T. Foran and M. Käkönen (London: Earthscan), 1–13.

Norman, E. S., and Bakker, K. (2009). Transgressing scales: water governance across the Canada-U.S. borderlands. *Ann. Assoc. Am. Geogr.* 99, 99–117. doi: 10.1080/00045600802317218

O'Donnell, T., Robinson, D. F., and Gillespie, J. (2019). *Legal Geography: Perspectives and Methods*. London: Routledge. doi: 10.4324/9780429426308

Open Development Mekong (2015). *Hydropower dams*. Available online at: https://opendevelopmentmekong.net/topics/hydropower/ (accessed December 9, 2023).

Österblom, H., Gårdmark, A., Bergström, L., Müller-Karulis, B., Folke, C., Lindegren, M., et al. (2010). Making the ecosystem approach operational—Can regime shifts in ecological-and governance systems facilitate the transition? *Marine Policy* 34, 1290–1299. doi: 10.1016/j.marpol.2010.05.007

Pahl-Wostl, C., Holtz, G., Kastens, B., and Knieper, C. (2010). Analyzing complex water governance regimes: the management and transition framework. *Environ. Sci. Policy* 13, 571–581. doi: 10.1016/j.envsci.2010.08.006

Phak Seangly (2014). *Hundreds Protest Laos Dam*. Phnom Penh Post. Available online at: https://www.phnompenhpost.com/national/hundreds-protest-laos-dam (accessed December 9, 2023).

Phnom Penh Post (2012). *Xayaburi Study Locks in Funding*. Available online at: http://www.eco-business.com/news/xayaburi-study-locks-in-funding/ (accessed December 9, 2023).

Radio Free Asia (2012a). *Cambodia Warns Laos over Mekong Dam*. Available online at: http://www.rfa.org/english/news/cambodia/dam-04192012143244.html (accessed December 9, 2023).

Radio Free Asia (2012b). *Anti-Dam Protests Target Builder, Lender*. Available online at: http://www.rfa.org/english/news/laos/protests-04242012161824.html (accessed December 9, 2023).

Radio Free Asia (2012c). *Cambodia Lodges Dam Protest with Laos*. Available online at: http://www.rfa.org/english/news/laos/xayaburi-05012012190456.html (accessed December 9, 2023).

Radio Free Asia (2012d). *Xayaburi Dam Redesign Mulled*. Available online at: http://www.rfa.org/english/news/laos/xayaburi-05162012180613.html (accessed December 9, 2023).

Radio Free Asia (2021). *Thailand Court Rejects Appeal for Petition Against Laos' Pak Beng Dam*. Available online at: https://www.rfa.org/english/news/laos/pakbeng-02252021145302.html (accessed December 9, 2023).

Radio Free Asia (2023). *Lao Villagers Worry that Compensation for Pak Beng will be too low*. Available online at: https://www.rfa.org/english/news/laos/dam-03142023160455.html (accessed December 9, 2023).

Reed, M. G., and Bruyneel, S. (2010). Rescaling environmental governance, rethinking the state: a three-dimensional review. *Progr. Hum. Geogr.* 34, 646–653. doi: 10.1177/0309132509354836

Robinson, D. F., and Graham, N. (2017). Legal pluralisms, justice and spatial conflicts: new directions in legal geography. *Geogr. J.* 184, 3–7. doi: 10.1111/geoj.12247

Roth, D., Boelens, R., and Zwartveen, M. (2015). Property, legal pluralism, and water rights: The critical analysis of water governance and the politics of recognizing 'local' rights. *J. Legal Plur. Unofficial Law* 47, 456–475. doi: 10.1080/07329113.2015.1111502

Sankofa, N. (2022). Critical method of document analysis. *Int. J. Soc. Res. Methodol.* 26, 745–757. doi: 10.1080/13645579.2022.2113664

Scheumann, W., and Hensengerth, O. (2014). *Evolution of Dam Policies: Evidence from the big Hydropower States*. Berlin: Springer. doi: 10.1007/978-3-642-23403-3

Schmeier, S. (2021). International water law practices in negotiations and water diplomacy. *AJIL Unbound* 115, 173–177. doi: 10.1017/aju.2021.21

Suhardiman, D., and Geheb, K. (2022). Participation and politics in transboundary hydropower development: the case of the Pak Beng dam in Laos. *Environ. Policy Govern.* 32, 320330. doi: 10.1002/eet.1974

Suhardiman, D., Giordano, M., and Molle, F. (2012). Scalar disconnect: The logic of transboundary water governance in the Mekong. *Soc. Nat. Resour.* 25, 572–586. doi: 10.1080/08941920.2011.604398

Swyngedouw, E. (2007). Technonatural revolutions: the scalar politics of franco's hydro-social dream for Spain, 1939-1975. *Trans. Inst. Br. Geogr.* 32, 9–28. doi: 10.1111/j.1475-5661.2007.00233.x

Swyngedouw, E. (2009). The political economy and political ecology of the hydro-social cycle. *J. Contemp. Water Res. Educ.* 142, 56–60. doi: 10.1111/j.1936-704X.2009.00054.x

Swyngedouw, E. (2014). 'Not A Drop of Water…': State, Modernity, and the Production of Nature in Spain, 1898-2010. *Environ. Hist.* 20, 67–92. doi: 10.3197/096734014X13851121443445

Tanzi, A. M. (2020). The inter-relationship between no harm, equitable and reasonable utilisation and cooperation under international water law. *Int. Environ. Agreem.* 20, 619–629. doi: 10.1007/s10784-020-09502-7

Tarlock, A. D., and Wouters, P. (2007). Are shared benefits of international waters an equitable apportionment? *Colorado J. Int. Environ. Law Policy* 18, 523–536.

Tarlock, D., and Wouters, P. (2010). Reframing the water security dialogue. *J. Water Law* 20, 53–60.

Temper, L., Avila, S., Del Bene, D., Gobby, J., Kosoy, N., Le Billon, P., et al. (2020). Movements shaping climate futures: a systematic mapping of protests against fossil fuel and low-carbon energy projects. *Environ. Res. Lett.* 15:123004. doi: 10.1088/1748-9326/abc197

Therville, C., Brady, U., Barreteau, O., Bousquet, F., Mathevet, R., Dhenain, S., et al. (2019). Challenges for local adaptation when governance scales overlap. Evidence from Languedoc, France. *Reg. Environ. Change* 19, 1865–1877. doi: 10.1007/s10113-018-1427-2

Thul, P. C. (2012). *Cambodian Villagers Protest Controversial Lao Dam. Reuters*. Available online at: http://www.reuters.com/article/2012/06/29/us-cambodia-laos-idUSBRE85S0FX20120629 (accessed December 9, 2023).

Troell, J., Bruch, C., Cassar, A., and Schang, S. (2005). "Transboundary environmental impact assessment as a tool for promoting public participation in international watercourse management," in *Enhancing Participation and Governance in Water Resources Management: Conventional Approaches and Information Technology,* eds. L. Jansky and J. I. Uitto (Tokyo: United Nations University Press), 53–80.

Varkkey, H. (2022). Emergent geographies of chronic air pollution governance in Southeast Asia: transboundary publics in Singapore. *Environ. Policy Gover.* 32, 348–361. doi: 10.1002/eet.1994

Vogel, E. (2012). Parcelling out the watershed: the recurring consequences of organising columbia river management within a basin-based territory. *Water Alter.* 5, 161–190.

Voice of America (2015). *Hun Sen slams activists opposing hydropower dams*. Available online at: https://www.voacambodia.com/a/hun-sen-slams-activists-opposing-hydropower-dams/3117183.html (accessed December 9, 2023).

Wangkiat, P. (2012). *Anti-dam Activists Picket Phuket Meeting. Phuket News*. Available online at: http://www.thephuketnews.com/anti-dam-activists-picket-phuket-meeting-30281.php (accessed December 9, 2023).

Warner, J. F., Wester, P., and Hoogesteger, J. (2014). Struggling with scales: revisiting the boundaries of river basin management. *WIREs Water* 1, 469–481. doi: 10.1002/wat2.1035

Wayakone, S., and Makoto, I. (2012). Evaluation of the environmental impacts assessment (EIA) system in Lao PDR. *J. Environ. Protect.* 3, 1655–1670. doi: 10.4236/jep.2012.312182

Wegerich, K., and Olsson, O. (2010). Late developers and the inequity of 'equitable utilization' and the harm of 'do no harm'. *Water Int.* 35, 707–717. doi: 10.1080/02508060.2010.533345

Wood, L. M., Sebar, B., and Vecchio, N. (2020). Application of rigour and credibility in qualitative document analysis: lessons learnt from a case study. *Qualit. Rep.* 25, 456–470. doi: 10.46743/2160-3715/2020.4240

World Commission on Dams (2000). *Dams and Development: A New Framework for Decision-Making*. London: Earthscan.

Wouters, P., and Vinogradov, S. (2020). Reframing the transboundary water discourse: contextualized international law in practice. *Rev. Eur. Compar. Int. Environ. Law* 29, 385–394. doi: 10.1111/reel.12361

WWF (2015). *Over 200 People Gather for a Board March to Stop Don Sahong Dam: The Voice of the Impacted Communities Needs to be Heard!* Available online at: https://wwf.panda.org/wwf_news/?258570/Over-200-people-gather-for-a-boat-march-to-ask-MegaFirst-to-Stop-Don-Sahong-Dam-the-voice-of-impacted-communities-needs-to-be-heard (accessed December 9, 2023).

Wyborn, C., and Bixler, R. P. (2013). Collaboration and nested environmental governance: scale dependency, scale framing, and cross-scale interactions in collaborative conservation. *J. Environ. Manag.* 123, 58–67. doi: 10.1016/j.jenvman.2013.03.014

Xia, H. (2020). The role and problems of environmental impact assessment in governing hydro-power projects in Cambodia. *Beijing Law Rev.* 11, 501–518. doi: 10.4236/blr.2020.112031

Yeophantong, P. (2017). River activism, policy entrepreneurship and transboundary water disputes in Asia. *Water Int.* 42, 163–186. doi: 10.1080/02508060.2017.1279041

Yong, M. L. (2022). Transboundary environmental publics and hydropower governance in the Mekong River basin: a contested politics of place, scale and temporality. *Environ. Policy Gover.* 32, 292–304. doi: 10.1002/eet.1973

Yong, M. L., and Gillespie, J. (2022). Towards relational geometries of public participation and hydropower governance in the Lower Mekong river basin. *Polit. Geogr.* 99:102773. doi: 10.1016/j.polgeo.2022.102773

Zinzani, A., and Bichsel, C. (2018). IWRM and the politics of scale: rescaling water governance in Uzbekistan. *Water* 10:281. doi: 10.3390/w10030281