

On contingency, confidence and trust: how international water law stabilizes expectations under conditions of uncertainty

Kenneth Kang

To cite this article: Kenneth Kang (27 Sep 2023): On contingency, confidence and trust: how international water law stabilizes expectations under conditions of uncertainty, Water International, DOI: [10.1080/02508060.2023.2257557](https://doi.org/10.1080/02508060.2023.2257557)

To link to this article: <https://doi.org/10.1080/02508060.2023.2257557>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 27 Sep 2023.



Submit your article to this journal [↗](#)



View related articles [↗](#)




View Crossmark data [↗](#)

RESEARCH ARTICLE



On contingency, confidence and trust: how international water law stabilizes expectations under conditions of uncertainty

Kenneth Kang 

Centre for the Study of Law in Theory and Practice, Liverpool John Moores University, Liverpool, UK

ABSTRACT

How is international water law able to stabilize expectations amid uncertain conditions? We use modern systems theory to hypothesize using the Lancang–Mekong River context. We propose: Hypothesis 1: Equitable utilization norms incorporate *variant* possibilities to solve the problem of contingency; Hypothesis 2: No significant harm norms *select* expectations worth protecting to solve the problem of confidence; Hypothesis 3: Cooperation norms *retain* learning opportunities to solve the problem of trust. Our aim is not to test correspondence with reality, but to stimulate understanding of international water law. Specifically, we evaluate how system problems of contingency, confidence and trust shape laws' function.

ARTICLE HISTORY

Received 14 September 2022


Accepted 7 September 2023

KEYWORDS

International water law; modern systems theory; contingency; confidence; trust; transboundary waters; hydropower dams; Lancang–Mekong region

Resituating international water law

International water law guides the optimal use of water resources for socio-economic and environmental purposes (Global Water Partnership, 2021). This is the view commonly held by water professionals. Three key principles of international water law, codified in the UN Watercourses Convention (UNWC) (1997), promote this goal: equitable and reasonable utilization (Art. 5), no significant harm (Art. 7), and cooperation (Art. 8) (Devlaeminck, 2020; Leb, 2013; Magsig, 2015; Wouters, 2013). These legal norms are well-established in customary law. However, tensions between equitable utilization and no significant harm norms often engender discord (Schmeier, 2021; Vasani, 2023). Doctrinal scholars have traditionally addressed this tension by promoting flexible frameworks (Magsig, 2015, p. 32; McCaffrey, 2003) or by enhancing existing agreements with additional procedural rules (Su, 2020; Wouters & Tarlock, 2013). This approach has practical value, undoubtedly. But the more fundamental question is often overlooked. That is, how is international water law able to stabilize expectations amid uncertain conditions? Specifically, how is it able to deal with enforcement uncertainties, information gaps, and unpredictable climatic events?

CONTACT Kenneth Kang  k.w.kang@ljmu.ac.uk

© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

To shed new light, this article examines international water law through the lens of modern systems theory (Luhmann, 2004; Simonovic, 2021), as opposed to a doctrinal standpoint confined to ‘good legal arguments’. We favour systems theory as it helps explain how systems function to ensure the continuance and acceptance of communication (Luhmann, 2004). This contrasts with doctrinal perspectives, which draw on normative values to explain laws’ function. Hence, equitable utilization of water resources is often how one portrays international water laws’ function (McCaffrey, 2001; Wouters, 2000). These perspectives are valid but partial. They overlook how deformalization alters laws’ functional purpose. Deformalization replaces substantive predictability with negotiative frameworks (Koskenniemi, 2007; Schmeier, 2021). It delegates substantial decision-making about specific best practices to expert opinion (Ambrus et al., 2014). If scientists prescribe a minimum environmental flow, then legal norms should maintain these expectations; otherwise, they should not. International water law norms’ role in specific disputes often appear unclear subsequently (Wolf, 1997). This is partly because abstract norms such as equitable utilization seem ‘to say nothing by saying too much’ (Holmes, 2011, p. 127). They simply restate the social problem.

Unlike doctrinal perspectives, systems theory explains how society experiences international water law. It does not solve doctrinal problems. It examines how system-level problems emerge from international water laws’ function. At a general level, we contend laws’ function is to ‘communicate social expectations and stabilise the future’ (Buitendag, 2022, p. 44). This matters as a future without certainty or assurances would overwhelm decision-makers with complexity. Some predictability and conformity are required, which is the law’s role. Given this, understanding international water law’s function is vital. It goes beyond restating normative values. It involves understanding how international water law facilitates collective learning about water allocation, limits the future’s possible paths, and supports legitimacy in decision planning. However, the question remains: How can we best conceptualize which system-level problem is stabilized by the legal system’s distinct international water law norms? And why does this seemingly absurd exercise, which upends traditional legal analysis, offer utility?

Consider the Lancang–Mekong River, which flows from China to Vietnam, traversing six national borders. In this context, water lawyers typically apply the fact/norm schema. Their primary concern here is to ensure compliance with international water law. When instances of pollution emerge, water lawyers scrutinize matters of state conduct and their adherence to legal norms. However, what happens when complexities are introduced into the fact/norm schema, such as whether cumulative damage from normal hydro-power activities complies with no significant harm norms? Within this framework, no significant harm norms introduce inherent uncertainties, as the definition of ‘reasonable harm’ is constantly evolving (Gupta & Schmeier, 2020). This is further exacerbated by international water law’s unending ‘strange loop’ (Hofstadter, 2007): No significant harm norms condition equitable utilization norms, which then change equitable utilization norm expectations due to no significant harm norms evolving best practices.

As a proposed approach, we suggest that systems theory can yield valuable insights. This is not because systems theory is better than doctrinal approaches; however, it can offer a different perspective. It can assist practitioners predict and systemically explain how international water law stabilizes expectations. Prediction is possible because systems theory draws on systemic processes, *variation*, *selection*, and *retention* to map how

law processes problems in a way that maintains the legal systems stability. Variation encompasses law's accommodation of variant possibilities. Selection encompasses law's (positive or negative) selection of specific variations. Retention encompasses law's retention of stabilizing mechanisms after selection has occurred. Explanation is possible because of connections between legal norms, systemic processes and system-level problems. These system problems involve contingency management, confidence maintenance, and trust retention (see the third section). Based on these conceptual tools, we formulate three hypotheses:

Hypothesis 1: Equitable utilization norms incorporate variant possibilities to solve the system problem of contingency.

Hypothesis 2: No significant harm norms select expectations worth protecting to solve the system problem of confidence.

Hypothesis 3: Cooperation norms retain learning opportunities to solve the system problem of trust.

To clarify, our aim here is not to verify correspondence with Lancang–Mekong realities. International water law's role in decision-making is inevitably more complex than any hypothesis. Instead, the Mekong context is used by our hypotheses to stimulate problem reformulation. Specifically, to stimulate reflection on how international water law stabilizes expectations amid uncertain conditions. Our rationale for hypothesizing is that international water law's stability seems elusive at first glance. Geopolitics undermines the coherence of law's doctrinal sources. Upstream states traditionally favour equitable utilization, while downstream states preference no significant harm norms (Salman, 2021). International water law's stability also does not result from applying concepts such as Earth system integrity (Kotzé, 2019, 2021). These concepts aspire to steer society towards an all-embracing ecological sense. Yet, they potentially undermine the normative force of international water law (Koskenniemi, 2007, p. 23). They potentially make the application of law more unpredictable.

In contrast, if we raise the level of abstraction and observe system problems, we gain a macro mind-map of how law stabilizes expectations amid uncertain conditions. We gain this by reconstructing how no significant harm norms (Hypothesis 2) enable equitable utilization norms to absorb contingencies (Hypothesis 1). This is despite the paradox facing cooperation norms, in which water security is both essential and unattainable (Hypothesis 3). It is essential because water security underpins a social justice aspiration. It aspires to ensure sustainable water access for all human and environmental needs (Wade, 2018, p. 1027). But it is unattainable because water security implies the absence of danger. There is no risk-free cooperation in water management planning.

Three analytical advantages stem from our macro mind-map. First, it provides a new transdisciplinary basis. It does this by abstracting diverse ideas into a general theory of variation, selection, and retention. This holds value because it creates a meta-language that speaks meaningfully with various fields. Second, the mind-map offers a more free-wheeling account than doctrinal methods. It does this by linking legal issues and wider social questions. This holds value because it allows one to think about doctrine outside the doctrinal fact/norm schema. Third, the mind-map permits a more systemic account than critical theories. It does this by shifting focus from social problems to the paradoxes

that found system-level problems. This holds value as we graduate beyond critique that overstates law's failures (Duvic-Paoli, 2023), to a pragmatic account of how paradoxes inform and transform law. In particular, we illuminate:

Hypothesis 1: The paradox of equitable utilization norms justifying temporary inequalities.

Hypothesis 2: The paradox of no significant harm norms' structural disposition.

Hypothesis 3: The paradox of cooperation norms' water security aspirations.

In what follows, the next section briefly contextualizes the social problems of the Lancang–Mekong River basin. The third section then *retheorizes* international water law's functional purpose by formulating three hypotheses. Finally, the fourth section summarizes the analytical value of *reproblematizing* international water law norms.

Social problems of the Lancang–Mekong river basin

Social problems entail phenomena concerning the social realm. They result from the social communication of states and actors. In contrast, system problems are generated by systems theory. They result from sociological questions about reoccurring problems. In this section, we examine two social problems in the discourses surrounding the Lancang–Mekong context. This includes *substantive* and *legal* issues.

Substantive issues comprise economic, political and scientific spheres. Hydropower development agendas are one example. They result from growing economic needs (Middleton, 2022). However, hydropower dams also have political repercussions for interstate relations and the well-being of millions (Biba, 2018; Kittikhoun & Staubli, 2020). In addition, human activities and climate change create scientific uncertainties. These influence fisheries, ecosystems (Dugan et al., 2010; Geheb & Pukinskis, 2012), hydrological patterns and extreme weather events (Phonevilay, 2022).

Legal problems result from international water law's role in stabilizing expectations. Specifically, they result from how the law supervises water disputes in the Lancang–Mekong region (Spijkers & Devlaeminck, 2022). In the region, only Vietnam has ratified the UNWC. However, this does not mean that other co-riparians can disregard international water law norms. The 1995 Mekong River Agreement, which comprises Cambodia, Laos, Thailand and Vietnam, attests this. It is 'compatible' with international water law norms (Kinna & Rieu-Clarke, 2017). These norms consist of: equitable utilization, which directs water-sharing and resolves conflicts through reciprocal obligation (UNWC, 1997, Art. 5; Mekong River Commission, 1995, Art. 5); no significant harm, which obliges states to avoid harm to other states when utilizing an international watercourse (UNWC, 1997, Art. 7; Mekong River Commission, 1995, Art. 7); and cooperation, which encourages states to cooperate regionally to plan transboundary waters (UNWC, 1997, Art. 8; Mekong River Commission, 1995, Arts 1, 4, 6).

Three key legal problems arise when applying the fact/norm schema to the Mekong Agreement context. First, the Mekong Agreement does not define the basins' scope, while the UNWC covers tributaries, groundwater and ecosystems (UNWC, 1997, Arts 1, 20). Second, the Mekong agreement limits equitable utilization to the mainstream. In contrast, the UNWC covers the mainstream and tributaries year-round (Art. 6). Third,

China and Myanmar, the two upstream riparians, are not parties to the Mekong Agreement, but act as ‘dialogue partners’ (Devlaeminck, 2022).

We do not pursue the behavioural reasons for dissonance with international water law norms here. Nor do we pursue the normative grounds for what these norms should be. Such agendas are better tackled by hydropolitical/securitization theory (Cascão & Zeitoun, 2013; Lee, 2023; Zeitoun & Mirumachi, 2008), doctrinal approaches, (Chen et al., 2013; Han, 2015; Lee, 2013; Mahbub, 2020; Spijkers & Devlaeminck, 2022) and legal theories, such as the community of interests (Loures, 2015; Rocha Loures, 2021). Instead, we seek to retheorize international water law by treating norms as system-level problems (Thornhill, 2016), as explored next.

Retheorizing international water law

To retheorize how international water law stabilizes expectations, we formulate three hypotheses (see above). These hypotheses draw on systems theory, method and the Lancang–Mekong setting. We contend that hypothesizing relies on a sufficiently complex systems theory. However, this also necessitates methodological precision and a thorough appraisal of Lancang–Mekong discourses.

First, we apply a general systems theory of variation, selection, and retention to mind-map systemic processes. We offer the following justifications. (1) Systems theory segments’ systemic processes, but also keeps them in relation. (2) A relational perspective reveals international water law’s unity. It reconstructs how equitable utilization norms’ *variations* set in (Hypothesis 1) when no significant harm norms *select* (Hypothesis 2) and cooperation norms *retain* (Hypothesis 3) specific expectations worth protecting. (3) A conceptualization of international water law’s unity distinguishes law from politics. It offers a renewed appreciation of law’s uniqueness, rather than reducing law to a political tool. (4) Reconstructing law’s uniqueness permits insight into law’s capacity to stabilize expectations.

Second, we use a cybernetic method to analyse how international water law operates. This method evaluates the patterns of complex systems (Paetau, 2014). It does not use deductive methods that adhere to normative or ideological positions (Kang, 2019; Kundsén, 2010). It does not reduce international water law’s function to normative values, such as equitable utilization of water resources. Instead, a cybernetic method makes the ‘empty square circulate’ (Deleuze, 2004, p. 84). It draws on a theory of variation, selection and retention to mind-map legal processes. It then uses this mind-map to link a constellation of system-level problems with legal theory using three hypotheses (see the first section). Hypothesis 1 captures how equitable utilization norms filter the vast *variation* of water-sharing viewpoints. Hypothesis 2 captures how no significant harm norms handle disappointments by *selecting* legal consequences. Hypothesis 3 captures how cooperation norms *retain* learning opportunities by coordinating ‘knowledge and ignorance’ (Luhmann, 2017, p. 29).

Third, we take an exploratory approach to empirical evidence. This entails examining the interplay between systems theory, method, and the Lancang–Mekong context. To achieve this, we focus on the low-profile, day-to-day aspects of decision-making before court adjudication. Our rationale is that international water law extends beyond high-profile international court rulings. Such rulings are rare and often inconsequential

(Bostian, 1998, pp. 426–427). Rather, international water law permeates the minutiae of organizational life. To understand this phenomenon, we use the concept of planning systems as our site of empirical enquiry. This concept elucidates the interplay between entities like technical bodies, legal departments, and governments. It explains how these entities react to each other regarding their daily decision-making processes. By observing mundane trivialities, we can gain new insights into the following:

Hypothesis 1: How equitable utilization norms form an aspect of a planning system's contingency management.

Hypothesis 2: How no significant harm norms provide a framework for maintaining a planning system's confidence.

Hypothesis 3: How cooperation norms express trust-building understandings that allow planning systems to exist.

Before proceeding, we note that although we have separated each hypothesis for analysis, they cannot be empirically isolated. Therefore, to gain a systemic understanding of how international water law stabilizes expectations, we must combine them, as explored next.

Hypothesis 1: Equitable utilization norms incorporate variant possibilities to solve the system problem of contingency

Contingency articulates the system problem that events may not unfold as anticipated, even in the best-devised plans. It implies that factors may elude planning systems and are thus beyond their grasp. Equitable utilization norms can offer a basis for contingency management, however. This stems not from their conflict resolution capacity, but from their visible and amendable procedures. For example, the Mekong River Agreement requires equitable use of resources through clear 'rules of procedure' (Arts 5 and 25). These procedures are also amendable by mutual consent of all parties (Articles 37). In contrast, preferential bargaining among 'old boys' (Koskenniemi, 1996, pp. 455, 478) is more secretive and difficult to amend. This is partly due to the influence of external donors (Hansson et al., 2011) that operate in a manner less transparent or accountable.

Equitable utilization norms may at first seem to be wholly determined by geopolitics. Consider the tensions between upstream Laos and downstream Vietnam. Vietnam expects Laos to favour equitable utilization, as it allows Laos to exploit the watercourse for the Xayaburi dam project (Giovannini, 2018). Vietnam counters by promoting no significant harm norms to mitigate the effects of Laos' activities on existing watercourses (Mekong River Commission, 2011, p. 2). However, Vietnam's counterclaims cannot elude equitable utilization norms. Rather, they must conform to how the purposive formula, 'to decide Y to achieve goal X', constrains future courses. The equity purposive formula (McIntyre, 2013) typically manifests this. It conveys that each party must recognize the correlative rights of the other to achieve equitable utilization (Rieu-Clarke, 2005, p. 148). Thus, unwarranted claims of property expropriation should be rare if the legal system fulfils its function properly. The China–Laos Bilateral Investment Treaty exemplifies this in the way it can align expectations before conflicts occur (BIT) (1993, Art. 4; Daza-Clark, 2020). But what if concepts such as benefit-sharing enter the equation and equitable utilization norms are invoked to supervise decision-making?

To manage contingencies and supervise decision-making, equitable utilization norms use conditional formulas. These formulas often follow the benefit-sharing *if-then* formula (Lee, 2015). They state that *if* rare events occur, *then* the equal opportunity to justify specific inequalities applies. For example, the Columbia River Treaty (1964) justifies inequalities in attainment terms. *If* Canada uses water storage for downstream flood control, *then* it must forego hydropower and receive monetary compensation from the United States (Art. VI). In contrast, the Colorado Treaty (1922) justifies inequalities in temporal terms. *If* there is a drought, *then* Mexico may reduce its water supply, but it must compensate for the shortfall over agreed subsequent periods (Art. 4B). These examples show how conditional escape clauses legitimize the non-compliance of normal water allocations. In doing so, such clauses afford planning systems a degree of complexity, structure, and certainty that they might otherwise lack. But what if states such as China and Myanmar depend on soft law instruments instead of treaties to allocate transboundary waters (Spijkers & Devlaeminck, 2022, p. 146)? Furthermore, what if these instruments create ambiguity for equitable utilization norms' distributive/corrective alignment (Louka, 2006, pp. 68, 100)?

Consider a scenario where China, upstream, and Laos, downstream interprets equitable utilization norms differently. China emphasizes equitable utilization as a distributive concept. This promotes that China can utilize the water in proportion to its current population and level of economic development (Mahbub, 2020). Conversely, Laos with lower levels of socio-economic development emphasizes equitable utilization's corrective aspects. This promotes that Laos obtains water allocation or financial entitlements to offset power imbalances (Ogden, 2022). To displace conflicting expectations, key here is how *variations* of expectations worth protecting are *selected* and *retained* by equitable utilization norms. Equitable utilization purposive formulas incorporate all *variant* factors to cope with complexities (UNWC, 1997, Arts 5, 6). Equitable utilization conditional formulas *select* if factors compete their importance require weighting (UNWC 1997, Arts 5, 10). This includes weighing factors such as 'vital human needs', economic development, or conservation protection. Equitable utilization norms *retain* legitimacy not by seeking truth-based consensus, but by ensuring that procedures such as notification, consultation, and negotiation are cognitively understood by planning systems (UNWC 1997, Arts 14–19) (see also Hypothesis 3).

Admittedly, how equitable utilization norms incorporate contingencies is a double-edged sword. On one hand, they transform treaty norms into the law of reasonable arguments that respect both existing and potential water uses (UNWC, 1997, Art. 6e). It is unreasonable to deny existing water supply to sustain current levels of economic development. This contravenes distributive equitable utilization conceptions. It is equally unreasonable to deny potential water supply to level power asymmetries. This contravenes corrective equitable utilization conceptions. On the other hand, the more planning systems rely on reason to balance interests, the more their actual functioning will rely on organizations. Specifically, river basin organizations (Devlaeminck, 2021) that priorities criteria set by science, technology, and capital (Kang, 2018, p. 322). How, then, can international water law compensate planning systems for their increasing reliance on technical expertise to specify the content of equitable utilization norms? Here, returning to no significant harm norms demonstrates its potential.

Hypothesis 2: No significant harm norms select expectations worth protecting to solve the system problem of confidence

Confidence articulates the system problem of managing situations characterized by contingency and danger. Consider the possibility of an earthquake-inducing avalanche along the Mekong River. Such disasters can plunge planning systems into chaos. But this does not mean no significant harm norms permit the floodgates of litigation. System paralysis would ensue from lawsuits demanding compensation for unforeseeable dangers. Instead, law relieves responsibilities, particularly where decisions are not causally linked to damage caused by natural disasters. This relief manifests itself as the due diligence (best effort) obligation not to cause significant harm. We can conceptualize this using conditional formulas.

Conditional formulas specify the conditions under which law considers the legality of actions. They govern social conduct by establishing that *if* a certain event happens, *then* the law will enact certain repercussions. Specifically, *if* state X breaches no significant harm norms, *then* the relevant party can expect legal consequences. Cambodia and Vietnam's opposition to Lao's Xayaburi hydropower project illustrates this principle (Hensengerth, 2015). In this case, the reality reference of expectations rests not on the consistency of complying with no significant harm norms, but on the normative realities that duplicate disappointments. From Lao's viewpoint, no significant harm norms generate disappointment and learning. They verify that planned projects necessitate consultation and agreement, not just notification (Schmeier, 2020, p. 688). From a legal system viewpoint, no significant harm norms offer disappointment relief. They consolidate a world of expectations that regard consultation and agreement omissions as illegal. This is evident when third-parties normatively expect this. Mekong riparian states expect disappointment from consultation omissions. Laos also expects Mekong riparian states to expect disappointment from consultation omissions. Therefore, Laos enters into consultations with Cambodia and Vietnam to avoid further disappointments.

Nevertheless, no significant harm conditional formulas are also structurally limited, and thus susceptible to conflicts. This is because no significant harm norms cannot subvert systemic integration rules (Vienna Convention on the Law of Treaties, 1969, Art. 31(3)(c)), as evidenced by their input orientation: only if existing (inputted) rules are not breached can no significant harm norms enforce environmental protection. In other words, the legal bindingness of no significant harm norms hinges on whether (inputted) equitable utilization norms remain in effect, as illustrated by the dispute resolution attempts of the Xayaburi hydropower dam (Mekong River Commission, 1995, Art. 5). Seen in this light, it is reasonable to assume that interstate agreements will favour the interests of the most powerful stakeholders (Zeitoun & Warner, 2006). Otherwise, international water law would be at risk of losing its legitimacy. But this does not imply that structural biases will become part of official legal policy. Rather, more vital is the extent to which no significant harm purposive formulas mitigate structural biases.

No significant harm purposive formulas define goals to mitigate structural biases. This manifests as the output-orientated formula: to implement Y to achieve no significant harm norm compliance. Specifically, to require that states take 'all appropriate measures', to achieve legal norm compliance. The advantage here is that this enables no significant harm norms to ascribe goals with a legal conflictual framing. It creates the expectation

that even in the absence of agreement (UNWC, 1997, Art. 7), states cannot ignore norms such as the precautionary principle (Rio Declaration, 1992, Art. 15). This principle implies that states cannot use scientific uncertainty to disregard potential risks. For example, if uncertainty arises over the impact of hydropower dams, one cannot use this as a reason to refuse environmental protection. Instead, maximum responses must be elicited from institutional structures, such as formalizing information sharing platforms (LMC, 2020). Admittedly, such platforms may not lead to more clarity and reliability, but more information demands. In fact, information overload fuelled by ‘media sensations’ (Grünwald, 2021, p. 10; Kang, 2019, p. 677) may hinder planning systems, as too many cogs will make each cog less visible (Luhmann, 1990). Therefore, international water law always conditions the criteria for future objectives with specific stabilities.

To gain this systemic orientation, no significant harm norms function to safeguard against information overload. This is a confidence-building mechanism designed to protect law from endless causality questions. Accordingly, the systemic priority of no significant harm norms is not identifying the causation of harm. Rather, it is to maintain adequately consistent decision-making. It is to transform unresolvable conflicts into resolvable technical enquiries, at least in the legal realm. This includes technical enquiries like whether states conducted an environmental impact assessment for planned projects (Nicaragua v. Costa Rica, 2011). The gain here is that such enquires avoids ambiguity and present no significant harm norms as standardized. They allow B’s state practices to communicate no significant harm norm compliance, whereas A’s does not. Hence, failure to disclose environmental impact assessment results would contravene no significant harm norms. This is especially true if planned activities or projects could cause transboundary harm (Argentina v. Uruguay Case, 2010, paras 119–121). But this still means that what is not forbidden, such as actual factual harm, is permitted within reason, as afforded by equitable utilization norms (UNWC, 1997, Art. 5). In fact, this is why planning systems can speak of benefit-sharing best practices (Sadoff & Grey, 2002) and ‘fully legally compliant’ hydropower dam projects (Reuters, 2018).

At first view, conformity to best practices may seem lawful under no significant harm norms. However, this does not infer that no significant harm norms are just. In fact, the more planning systems depend on ‘effective compliance’ to justify their actions, the more one doubts their validity. This is especially where vague prior notification rules allow states to determine instead what are ‘best efforts’. The Lancang–Mekong Cooperation’s information sharing platform (Devlaeminck, 2022, p. 372) is a case in point. Under these conditions, where a lack of regulatory confidence persists, cooperation norms offer relief. Cooperation norms implement this by addressing the system problem of trust, as explored next.

Hypothesis 3: Cooperation norms retain learning opportunities to solve the system problem of trust

Trust articulates the system problem of managing risk. In a world where planning systems face risk due to uncertain water security for ‘every person’ (Global Water Partnership, 2000, p. 12), trust is essential. Consider the essential–unattainable water security paradox. The aim of water security is crucial because it enables coordinated learning about social justice viewpoints (Wade, 2018, p. 1027). This is a prerequisite for

trust. However, distrust may also arise from the risk perception that water security is unattainable (Singh, 2017). Distrust impairs planning as it heightens the probability of endless concern over actions and outcomes. This includes the possibility that riparian states may divert water without consent. Trust, on the other hand, allows planning systems to take risks and assume that others will behave in a consistent and predictable manner. That said, trust can only be offered and accepted, not demanded (Jalava, 2003, p. 183). It has to be won actively. It requires the entrustment of decision-making authority to competent institutions. This is where cooperation norms offer aid.

Cooperation norms facilitate ‘mutual commitments’ to create the conditions for trust retention. Cooperation norms attain this by creating an ‘economy of consensus’ (Luhmann, 2004, p. 247) on general problems and rules. Consider the problem of climate change and the rule that all states participate in ‘a spirit of cooperation’ (UNWC, 1997, Art. 6). General problems and rules make it possible for recipients to adapt general commitments to their priorities. Hence, this is why everyone agrees. But this is not necessarily a mistake. Thanks to cooperation norms, one can expect that non-cooperation is not (one’s own) mistaken expectation, but (others’) wrong action. This includes the expectation that one must agree to disagree. That even amid disputes, one must agree on a ‘politics of understanding’ where both sides decide on more substantive matters (Philippopoulos-Mihalopoulos, 2006, p. 141). But what happens if trust is lacking before cooperation?

Specific codes of conduct provide recourse in this context. Consider China’s neighbourhood policy (Xinhua, 2013) to enhance cooperation on hydropower flood management. This appears as China’s flood management purposive formula: To release water into the lower Mekong, to mitigate the effects of drought downstream. Key here is how planning systems cultivate trust by endorsing the positive value that achieving goals is worth more than their costs. China, for instance, may promote the ‘mutual gains’ of hydropower flood management (Xinhua, 2016; Yeophantong, 2016), even though river-side Thai communities may view events differently (Biba, 2018, p. 637; Nijhuis, 2014). Ultimately, only planning systems can decide whether to accept such risks. However, what we can observe is how legal procedures stabilize the future by communicating social expectations.

Consider the function of legal procedures, such as notification, consultation, and negotiations (McIntyre, 2007, pp. 229–239, 367–372). Notifications (UNWC, 1997, Arts 11–17) function to solve communication problems. They enable states the opportunity to accept or reject content offered – a prerequisite for informed decisions. Consultations (Arts 4, 17–19) function to solve governance problems. They suppress overt displays of power and facilitate instead discourses that are more easily managed in accordance with scientific risk minimization standards. Negotiations (Arts 4, 17–19) function to solve legitimacy problems. They facilitate a ‘general readiness to accept, within certain tolerance limits, decisions that are still without content’ (Kang, 2018, p. 322). But what if legal procedures also create conditions for deviance and disorder? For example, what if negotiations act as a delaying strategy (Kang, 2018, p. 326). And what if EIAs spark disputes over the credibility of quantitative models for predicting risk (Rieu-Clarke, 2015)?

Here, revisiting the legal technique of legal norms reveals potential. From equitable utilization norms’ viewpoint, science functions to safeguard against political expediency

(Elgie, 2008). This intensifies when transnational advocacy networks (Hensengerth, 2015; Yeophantong, 2017, 2020) use science to sway public participation discourses (Berry et al., 2019). That said, equitable utilization norms cannot ensure better adaptation to scientific knowledge. They ensure states' expectation of equal opportunity for equitable utilization based on no significant harm norms (UNWC, 1997, Arts 5, 6). For example, China can expect Vietnam to respect equitable utilization norms on the precondition of no significant harm. Likewise, Vietnam can expect China to maintain this expectation.

From no significant harm norms' viewpoint, the legitimacy of policies often preference dominant interests. This includes policies like enhancing the Mekong River's navigability to facilitate access to markets (Phan, 2017). However, no significant harm norms counteract structural biases in two keyways. First, the no significant harm conditional formula distinguishes between conditions and consequences. If a state breaches no significant harm norms, then it incurs legal consequences, such as compensating for the harm caused (UNWC, 1997, Art. 7). This allows states to determine compliance with legal norms and to calculate the cost-efficiency of decisions. Second, the no significant harm purposive formula distinguishes means from ends. It obliges states to adopt 'all appropriate measures' to ensure compliance with the no significant harm norm (Art. 7). This fosters collective learning, as it requires that decisions must reflect 'best practices' in light of changing circumstances. Crucially, this orientation also makes it more difficult to disregard norms, such as the use of 'best available technologies' (Gupta & Schmeier, 2020). That said, recourse to best practices does not forbid the exploitation of transboundary water resources. It also facilitates states to justify equitable utilization of water resources.

From cooperation norms' perspective, trust is retained by facilitating confidence in institutions. This is not primarily due to the internal workings of institutions, but rather to how cooperation norms use visible controls and representative performance (Möllering, 2005, p. 17). Visible controls stabilize the future by communicating proper conduct rules. Immediate notification to relevant parties in emergency situations exemplifies such rules (UNWC, 1997, Art. 28). If a state fails to notify relevant parties of emergency situations, then, where appropriate, it must 'discuss the question of compensation' (Art. 7). Representative performances, on the other hand, contribute to planning systems' constructions of stability. This is evident when cooperation norms facilitate and legitimize representative performances such as EIAs (Craik, 2020, p. 240). However, since cooperation norms allow states wide discretion to determine an EIAs actual content (Argentina v. Uruguay, 2010, para. 205), such representative performances may not be ideal for assessing risks. Nevertheless, risks can be concealed by representative performances measuring 'progress towards water security' (Escap, 2013). They can enable planning systems to observe themselves as if they were progressing purposefully. They can create the impression of win-win cooperation and thus immunize planning systems from terminal indecision.

Reproblematizing international water law

Observing international water law from a systems theory perspective allows one to see both less and more. Less, because it un-asks immediate questions lawyers face, such as assessing the legality of state practice. More, because systems theory sharpens sight from a distanced observer's perspective (Kurtz, 2007, p. 289). It reformulates the problem facing international water law without pursuing a normative agenda oneself. Focusing on

the Lancang–Mekong context, we reconstruct this systemic account using three hypotheses. These hypotheses draw on a general (transdisciplinary) theory of variation, selection, and retention. Specifically, they link legal norms with the system problems of contingency, confidence, and trust.

Hypothesis 1: Equitable utilization norms incorporate variant possibilities to solve the system problem of contingency.

Hypothesis 2: No significant harm norms select expectations worth protecting to solve the system problem of confidence.

Hypothesis 3: Cooperation norms retain learning opportunities to solve the system problem of trust.

To be clear, testing our hypotheses against the Lancang–Mekong realities is not our aim. No hypotheses can explain the complex world. But their aim is to use the Mekong context to reconstruct how law stabilizes expectations amid uncertain conditions. Of course, any hypothesis formulation has prejudices. It forces social complexity to fit its dimensions. However, what we do gain are two key analytical insights.

First, we gain a macro mind-map for conceptualizing the system-level problems that international water law norms address. This is useful because it helps legal practitioners to make sense of their approach to a particular issue. Specifically, it can shed light on the underlying forces that enable legal practitioners to consider legal problems. Hypothesis 1 illuminates how equitable utilization norms incorporate *variant* contingences to cope with complexities. However, Hypothesis 2 also explains why *selecting* facts is never completely open. It depends on how no significant harm norms processes facts to keep law distinct from politics. This is crucial to maintain legal confidence and avoid direct conflicts that could cause deadlock. However, strict legal rationality can also make law irrelevant. Therefore, cooperation norms are required to *retain* the plurality of viewpoints, which is a prerequisite of trust (Hypothesis 3).

Second, we gain a pragmatic rather than idealistic understanding of international water law's functional purpose. Traditional disciplines often link international water law's function to values like equitable water allocation. While this is valid and useful from an aspirational viewpoint, it also creates disillusionment. It is susceptible to criticisms of scientific complexities (Meyer, 2016), capitalist exploitation (Mattei & Russi, 2012), and political power dynamics (Soutullo, 2019). However, if we comprehend system-level problems as a result of international water law's function of stabilizing expectations, we arrive at a pragmatic understanding of law's functional purpose. Specifically, we gain an account of the reoccurring patterns of law's argumentative practices. We achieve this by shifting from social problems to system-level problems by elucidating three paradoxes.

Hypothesis 1: The paradox of equitable utilization norms justifying temporary inequalities

Hypothesis 1 reveals the paradox of equitable utilization norms. These norms imbue aspirational goals but function by justifying temporary inequalities. They use the optimistic language of equitable utilization to elude impressions of discrimination. However,

in operational terms, equitable utilization norms produce considerable inequalities. This stems not from the endorsement of unequal treaty regimes that permit unequal water allocations. Rather, to accommodate for contingencies such as droughts and flooding, 'equitable' implies only guaranteeing the expectation that equal opportunity is given for temporary inequality justifications. Flexible treaty escape clauses validating the non-fulfilment of normally expected water allocations offer examples. Although these involve an element of arbitrariness, equitable utilization norms recruit reason as relief. However, reason does not resolve conflicts, especially when one requires specifics. Indeed, reason may also aggravate conflicts. Nevertheless, reason afforded by equitable utilization norms can offer a starting point on which questions to ask. This does not mean equitable utilization norms can ensure the reciprocal benefit-sharing of water uses. But equitable utilization norms can ensure the expectation that equal chance is given to justify temporary inequalities in points of time and attainment for the sake of benefit-sharing aspirations.

Hypothesis 2: The paradox of no significant harm norms' structural disposition

Hypothesis 2 elucidates how no significant harm norms confer specific stabilities to uphold confidence. This stability stems not from prioritizing environmental protection for all. Law always directs protection towards specific environments. Instead, stability stems from the 'adequate complexity of consistent decision-making' (Luhmann, 2004, p. 219). No significant harm norms incorporate adequate complexity to adapt to changing circumstances. This typically appears under the guise of 'best effort' norms (UNWC, 1997, Arts 7, 9, 26), which empower law to justify and criticize current practice. But adaptation to change must also be underpinned by adequately consistent legal norms. Specifically, legal norms that can transform undecidable issues into decidable issues, at least within the realm of law. This structural disposition is not ideal. The consistency requirements of no significant harm norms ignore facts lacking a legal conflictual frame. However, Hypothesis 2 elucidates why this systemic limitation is crucial. It shows that facts must be legally constituted to safeguard legal certainty; otherwise, law would no longer be presumed capable of resolving disputes that come before it. Only in this way can no significant harm norms (Hypothesis 2) create the conditions for equitable utilization norms to absorb contingencies (Hypothesis 1) and cooperation norms pacify conflicts, even despite the essential/unattainable water security paradox (Hypothesis 3).

Hypothesis 3: The paradox of cooperation norms' water security aspirations

Hypothesis 3 diagnoses the paradoxical deception of cooperation norms. It reveals that water security goals are essential as they provide a source of creativity for cooperation. However, they are also elusive because risk-free water management is impossible. Hypothesis 3 shows how cooperation norms enable planning systems to endure, even when such paradoxes cannot be resolved or confronted directly. This is not primarily because cooperation norms reaffirm shared values, but because they manage risk in two keyways. First, where planning systems underperform, cooperation norms use joint commissions (UNWC, 1997, Art. 8) to enhance learning opportunities. This empowers planning systems to identify relevant questions and, thus, learn from and act on specific types of knowledge.

Second, cooperation norms can legitimize decision plans, or else permit ignorance of specific side-effects. This allows planning systems to focus on the relevant aspects of a situation and ignore irrelevant ones. Hypothesis 3 illuminates this by reconstructing how cooperation norms coordinate the blending of knowledge (Hypothesis 1) and ignorance (Hypothesis 2) to make the trust-building exercises of planning systems possible.

Summary: a lateral perspective

In sum, illuminating paradoxes from a systems theory perspective stimulates problem reformulation. It both facilitates and complicates criticism of international water law. Systems theory exposes some of the contradictions of equitable utilization norms, unconsidered limitations of no significant harm norms, and self-deceptions of cooperation norms. It thus challenges the view that no significant harm norms coexist harmoniously with equitable utilization norms (Tanzi, 2020). However, criticism of international water law norms is also complicated by systems theory. It illuminates that law stabilizes expectations not primarily on a logical level via consistent doctrine. Instead, this can only be conceptualized laterally. That is, by observing how the routine operations of planning systems deal with paradoxes. Hypothesis 1 illuminates how equitable utilizations' norms of equity absorb paradoxes. Equity protects the equal opportunity to justify the non-fulfilment of normally expected water allocations. Hypothesis 2 illuminates how no significant harm norms of procedure displace paradoxes. Procedure apportions facts about harm in a rhythm that is neither too fast for informed decisions, nor too slow for criticism and consultation. Hypothesis 3 illuminates how cooperation norms of tacit consensus conceal paradoxes. Tacit consensus cultivates trust – crucial, as a constant insistence on uncertainty would make work more difficult for others.

Acknowledgements

I wish to thank Zaki Shubber who provided helpful comments on earlier versions of this manuscript. I also thank Majida Ismael and George Lamb for their editorial assistance. Finally, I acknowledge the ongoing support of the Centre for the Study of Law in Theory and Practice at Liverpool John Moores University and the International Water Law Academy for the supportive research environment they provide.

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Kenneth Kang  <http://orcid.org/0000-0002-2256-0805>

References

- Ambrus, M., Arts, K., Hey, E., & Raulus, H. (2014). *The role of 'experts' in international and European decision-making processes: Advisors, decision makers or irrelevant actors?* (M. Ambrus, K. Arts, E. Hey, & H. Raulus, Eds.). Cambridge University Press. <https://doi.org/10.1017/CBO9781139871365>
- Berry, L. H., Koski, J., Verkuijl, C., Strambo, C., & Piggot, G. (2019). *Making space: How public participation shapes environmental decision-making*. JSTOR.
- Biba, S. (2018). China's 'old' and 'new' Mekong river politics: The Lancang–Mekong cooperation from a comparative benefit-sharing perspective. *Water International*, 43(5), 622–641. <https://doi.org/10.1080/02508060.2018.1474610>
- Bostian, I. (1998). Flushing the Danube: The world court's decision concerning the Gabčíkovo dam. *Colorado Journal of International Environmental Law and Policy*, 9(2), 401–427.
- Buitendag, N. (2022). *States of exclusion : A critical systems theory reading of international law*. AOSIS Books.
- Cascão, A. E., and Zeitoun, M. (2013). Power, hegemony and critical hydropolitics. In *Transboundary Water Management* (pp. 40–55). Routledge.
- Chen, H., Rieu-Clarke, A., & Wouters, P. (2013). Exploring China's transboundary water treaty practice through the prism of the UN watercourses convention. *Water International*, 38(2), 217–230. <https://doi.org/10.1080/02508060.2013.782134>
- Craik, N. (2020). The duty to cooperate in the customary law of environmental impact assessment. *International & Comparative Law Quarterly*, 69(1), 239–259. <https://doi.org/10.1017/S0020589319000459>
- Daza-Clark, A. M. (2020). Enforcing transboundary water obligations through investment treaty arbitration: China, Laos and the Mekong river. *Review of European, Comparative & International Environmental Law*, 29(3), 442–453. <https://doi.org/10.1111/reel.12365>
- Deleuze, G. (2004). *Logic of sense* (M. Lester & C. Stivale, Trans.). Continuum.
- Devlaeminck, D. (2020). *Reciprocity and China's transboundary waters: The law of international watercourses*. Routledge.
- Devlaeminck, D. (2021). River basin organizations. In *Elgar Encyclopedia of Environmental Law* (pp. 177–189). Edward Elgar Publishing.
- Devlaeminck, D. (2022). Softness in the law of international watercourses: The (E)merging Normativities of China's Lancang–Mekong cooperation. *Transnational Environmental Law*, 11(2), 357–380. <https://doi.org/10.1017/S2047102522000097>
- Dugan, P. J., Barlow, C., Agostinho, A. A., Baran, E., Cada, G. F., Chen, D., Cowx, I. G., Ferguson, J. W., Jutagate, T., & Mallen-Cooper, M. (2010). Fish migration, dams, and loss of ecosystem services in the Mekong basin. *Ambio*, 39(4), 344–348. <https://doi.org/10.1007/s13280-010-0036-1>
- Duvic-Paoli, L.-A. (2023). International law: A discipline of ambition. *Leiden Journal of International Law*, 1–17. <https://doi.org/10.1017/S0922156522000711>
- Elgie, S. (2008). Statutory structure and species survival: How constraints on cabinet discretion affect endangered species listing outcomes. *Journal of Environmental Law and Practice*, 19(1), 1.
- Escap, U. N. (2013). *Water security & the global water agenda: A UN-water analytical brief*. United Nations University (UNU).
- Geheb, K., & Pukinskis, I. (2012). The impacts of dams on the fisheries of the Mekong (Thai Language). *State of Knowledge Series*. <https://cgspace.cgiar.org/handle/10568/34382>
- Giovannini, G. (2018). Power and geopolitics along the Mekong: The Laos–Vietnam negotiation on the Xayaburi dam. *Journal of Current Southeast Asian Affairs*, 37(2), 63–93. <https://doi.org/10.1177/186810341803700203>
- Global Water Partnership. (2000). *Towards water security: A framework for action*. Global Water Partnership Secretariat.
- Global Water Partnership. (2021). *International Water Law*. GWP Toolbox IWRM action hub. Retrieved August 20, 2022 from <https://www.gwptoolbox.org/fr/node/54>

- Grünwald, R. (2021). *Lancang–Mekong cooperation: Overcoming the trust deficit on the Mekong* (No. 2335-6677). ISEAS – Yusof Ishak Institute. <https://fulcrum.sg/lancang-mekong-cooperation-overcoming-the-trust-deficit-on-the-mekong/>
- Gupta, J., & Schmeier, S. (2020). Future proofing the principle of no significant harm. *International Environmental Agreements: Politics, Law and Economics*, 20(4), 731–747. <https://doi.org/10.1007/s10784-020-09515-2>
- Han, X. (2015). Approaches to investment in Chinese transboundary waters. *Water International*, 40(1), 71–86. <https://doi.org/10.1080/02508060.2014.978970>
- Hansson, S., , Hellberg, S., & , and Öjendal, J. (2011). Politics and development in a transboundary watershed: The case of the Lower Mekong Basin. In *Politics and development in a transboundary watershed: The case of the lower Mekong basin* (pp. 1–18). Springer.
- Hensengerth, O. (2015). Where is the power? Transnational networks, authority and the dispute over the Xayaburi dam on the lower Mekong mainstream. *Water International*, 40(5–6), 911–928. <https://doi.org/10.1080/02508060.2015.1088334>
- Hofstadter, D. (2007). *I Am a strange loop*. Basic Books.
- Holmes, P. (2011). The rhetoric of ‘legal fragmentation’ and its discontents Evolutionary dilemmas in the constitutional semantics of global law. *Utrecht Law Review*, 7(2), 113. <https://doi.org/10.18352/ulr.165>
- Jalava, J. (2003). From norms to trust: The Luhmannian connections between trust and system. *European Journal of Social Theory*, 6(2), 173–190. <https://doi.org/10.1177/1368431003006002002>
- Kang, K. (2018). Making paradoxes invisible: International law as an autopoietic system. *International Journal of Law in Context*, 14(3), 315–334. <https://doi.org/10.1017/S174455231700026X>
- Kang, K. (2019). On the problem of the justification of river rights. *Water International*, 44(6–7), 667–683. <https://doi.org/10.1080/02508060.2019.1643523>
- Kinna, R., & Rieu-Clarke, A. (2017). *The governance regime of the Mekong river basin: Can the global water conventions strengthen the 1995 Mekong agreement?* Brill.
- Kittikhoun, A., & , and Staubli, D. M. (2020). The Mekong River Commission as a water diplomat. In *River Basin Organizations in Water Diplomacy* (pp. 242–257). Routledge.
- Koskenniemi, M. (1996). The place of law in collective security. *Michigan Journal of International Law*, 17. https://heinonline.org/HOL/Page?handle=hein.journals/mjil17&div=20&g_sent=1&casa_token=q_79M6FNLcIAAAAA:Ot3Kf8w4hc3vIXM2iUyJUUA4isA43p3c-E0zI2CIBqjfvDvDdGvefiddmOQjXzbyse4N3Ft_kg&collection=journals
- Koskenniemi, M. (2007). The fate of public international law: Between technique and politics. *The Modern Law Review*, 70(1), 1–30. <https://doi.org/10.1111/j.1468-2230.2006.00624.x>
- Kotzé, L. J. (2019). Earth system law for the Anthropocene. *Sustainability*, 11(23), 6796. <https://doi.org/10.3390/su11236796>
- Kotzé, L. J. (2021). Neubauer et al. versus Germany: Planetary climate litigation for the Anthropocene? *German Law Journal*, 22(8), 1423–1444. <https://doi.org/10.1017/glj.2021.87>
- Kundsen, M. (2010). Surprised by method – Functional method and systems theory. *Forum: Qualitative Social Research*, 11(3). https://www.jstor.org/stable/41151260?casa_token=Ij2jFweNjHIAAAAA%3At-4_tGgBgVzrilDKfzv-QRj2vAlWzysuWEISLKROTzTCiH3-heVUG9eP5mKPCL0RK5er9MoHV6OvtUASjrJdKng6PE-lB2j1GEOIF-WXDDnznfNAV5aJ
- Kurtz, T. (2007). Sociological theory and sociological practice. *Acta Sociologica*, 50(3), 283–294. <https://doi.org/10.1177/0001699307080933>
- Leb, C. (2013). *Cooperation in the law of transboundary water resources* (Vol. 102). Cambridge University Press.
- Lee, J. (2013). The preservation of freshwater ecosystems of international watercourses and the integration of rules – An interpretative mechanism. *Water International*, 38(2), 156–165. <https://doi.org/10.1080/02508060.2013.780517>
- Lee, S. (2015). Benefit sharing in the Mekong river basin. *Water International*, 40(1), 139–152. <https://doi.org/10.1080/02508060.2014.978974>
- Lee, S. (2023). China’s hydro-politics in the Mekong – Conflict and cooperation in light of securitization theory. *Water International*, 1–3. <https://doi.org/10.1080/02508060.2023.2192456>

- LMC. (2020). *Lancang–Mekong water resources cooperation information sharing platform*. http://www.lmcwater.org.cn/water_information/hydrological_data/
- Louka, E. (2006). *International environmental law: Fairness, effectiveness, and world order*. Cambridge University Press.
- Loures, F. R. (2015). The dragon as part of transboundary basin ‘villages’: Community of interests and international law in China. *The Journal of Water Law*, 24(5–6). https://www.researchgate.net/profile/Flavia-Loures/publication/290972703_The_dragon_as_part_of_transboundary_basin_'villages'_Community_of_interests_and_international_law_in_China/links/59f0cf3e458515bfd07fb064/The-dragon-as-part-of-transboundary-basin-villages-Community-of-interests-and-international-law-in-China.pdf
- Luhmann, N. (1990). *Political theory in the welfare state*. (J. Bednarz, Trans.). Walter de Gruyter.
- Luhmann, N. (2004). *Law as a social system*. Oxford University Press.
- Luhmann, N. (2017). *Trust and power*. (H. David, J. Raffan, & K. Rooney Trans.; Vols. 1–2). John Wiley and Sons.
- Magsig, B.-O. (2015). *International water law and the quest for common security*. Routledge.
- Mahbub, N. T. (2020). The role of proportionality in the law of transboundary waters. *Review of European, Comparative & International Environmental Law*, 29(3), 349–360. <https://doi.org/10.1111/reel.12381>
- Mattei, U., & Russi, L. (2012). The evil technology hypothesis: A deep ecological reading of international law. *Cardozo Law Review*, 33, 263–277. https://repository.uclawsf.edu/cgi/viewcontent.cgi?article=2379&context=faculty_scholarship
- McCaffrey, S. C. (2001). International water law for the 21st century: The contribution of the UN convention. 118 *Water Resources Update* 11. Scholarly Commons. <https://scholarlycommons.pacific.edu/facultyarticles/196/>
- McCaffrey, S. C. (2003). The need for flexibility in freshwater treaty regimes. *Natural Resources Forum*, 27(2), 156–162. <https://doi.org/10.1111/1477-8947.00050>
- McIntyre, O. (2007). *Environmental protection of international watercourses under international law*. Ashgate.
- McIntyre, O. (2013). Utilization of shared international freshwater resources – The meaning and role of “equity” in international water law. *Water International*, 38(2), 112–129. <https://doi.org/10.1080/02508060.2013.779199>
- Mekong River Commission. (1995). *Agreement on the cooperation for the sustainable development of the Mekong River Basin*. <https://www.mrcmekong.org/assets/Publications/policies/agreement-Apr95.pdf>
- Mekong River Commission. (2011). *Procedures for notification, prior consultation and agreement form for reply to prior consultation*. <https://www.mrcmekong.org/assets/Consultations/2010-Xayaburi/Viet-Nam-Reply-Form.pdf>
- Meyer, T. (2016). Shifting sands: Power, uncertainty and the form of international legal cooperation. *European Journal of International Law*, 27(1), 161–185. <https://doi.org/10.1093/ejil/chw005>
- Middleton, C. (2022). The political ecology of large hydropower dams in the Mekong basin: A comprehensive review. *Water Alternatives*, 15(2), 251–289. <https://www.water-alternatives.org/index.php/alldoc/articles/vol15/v15issue2/668-a15-2-10/file>
- Möllering, G. (2005). Understanding trust from the perspective of sociological neoinstitutionalism: The interplay of institutions and agency. *MPIfG Discussion Paper*, 5(13). https://www.ssoar.info/ssoar/bitstream/handle/document/37397/ssoar-2005-mollering-Understanding_trust_from_the_perspective.pdf?sequence=1&isAllowed=y&lnkname=ssoar-2005-mollering-Understanding_trust_from_the_perspective.pdf
- Nicaragua v. Costa Rica Case. (2011). Application instituting proceedings, construction of a road in Costa Rica along the San Juan River (International Court of Justice 2011). ICJ, filed in the registry of the court on 22 December 2011. <https://www.icj-cij.org/en/case/15>
- Nijhuis, M. (2014). *Dam projects ignite a legal battle over Mekong river's future*. National Geographic. <https://news.nationalgeographic.com/news/special-features/2014/07/140711-mekong-river-laos-thailand-dams-environment/>

- Ogden, S. (2022). The impact of China's dams on the Mekong river basin: Governance, sustainable development, and the energy–water nexus. *Journal of Contemporary China*, 32(139), 152–169. <https://doi.org/10.1080/10670564.2022.2052445>
- Paetau, M. (2014). Niklas Luhmann and cybernetics. *Journal of Sociocybernetics*, 11(1/2). https://doi.org/10.26754/ojs_jos/jos.20131/2790
- Phan, P. T. (2017). *Improving navigation channels while protecting the environment*. Mekong River Commission. <https://www.mrcmekong.org/news-and-events/op-ed/oped-improving-navigation-channels-while-protecting-the-environment/>
- Philippopoulos-Mihalopoulos, A. (2006). *Absent environments theorising environmental law and the city*. Routledge-Cavendish.
- Phonevilay, L. (2022). Mekong countries urged to take action as river experiences three years of low flows. *The Laotian Times*. <https://laotiantimes.com/2022/01/14/mekong-countries-urged-to-take-action-as-river-experiences-three-years-of-low-flows/>
- Reuters. (2018). *China's Yunnan defends dam building as activists head to court*. <https://www.reuters.com/article/china-parliament-hydropower/chinas-yunnan-defends-dam-building-as-activists-head-to-court-idUSL4N1QP3U1>
- Rieu-Clarke, A. (2005). *International law and sustainable development*. IWA Publishing.
- Rieu-Clarke, A. (2015). Notification and consultation procedures under the Mekong agreement: Insights from the Xayaburi controversy. *Asian Journal of International Law*, 5(1), 143–175. <https://doi.org/10.1017/S2044251314000022>
- Rocha Loures, F. T. D. (2021). Community-of-interests across source-to-sea systems: An international law perspective. *Water International*, 46(2), 224–263. <https://doi.org/10.1080/02508060.2021.1896234>
- Sadoff, C. W., & Grey, D. (2002). Beyond the river: The benefits of cooperation on international rivers. *Water Policy*, 4(5), 389–403. [https://doi.org/10.1016/S1366-7017\(02\)00035-1](https://doi.org/10.1016/S1366-7017(02)00035-1)
- Salman, S. M. A. (2021). Equitable and Reasonable Utilization and the obligation against causing significant Harm – Are they reconcilable? *AJIL Unbound*, 115, 183–188. <https://doi.org/10.1017/aju.2021.22>
- Schmeier, S. (2020). Prior notification of planned measures: A response to the no-harm dilemma? *International Environmental Agreements: Politics, Law and Economics*, 20(4), 683–698. <https://doi.org/10.1007/s10784-020-09505-4>
- Schmeier, S. (2021). International water law principles in negotiations and water diplomacy. *AJIL Unbound*, 115, 173–177. <https://doi.org/10.1017/aju.2021.21>
- Simonovic, S. P. (2021). Systems approach and performance-based water resources management. *Water International*, 46(7–8), 1224–1235. <https://doi.org/10.1080/02508060.2021.1995257>
- Singh, V. P. (2017). Challenges in meeting water security and resilience. *Water International*, 42(4), 349–359. <https://doi.org/10.1080/02508060.2017.1327234>
- Soutullo, J. (2019). *The Mekong river: Geopolitics over development, hydropower and the environment: Study*. European Parliament.
- Spijkers, O., & Devlaeminck, D. (2022). Layers of regulation in transboundary water governance: Exploring the role of third states in the Lancang–Mekong. *Water International*, 47(1), 132–151. <https://doi.org/10.1080/02508060.2021.1960100>
- Su, Y. (2020). Evolving normativity in contemporary international water law: A communicative approach to the growing role of non-state actors. *Review of European, Comparative & International Environmental Law*, 29(3), 372–384. <https://doi.org/10.1111/reel.12374>
- Tanzi, A. M. (2020). The inter-relationship between no harm, equitable and reasonable utilisation and cooperation under international water law. *International Environmental Agreements: Politics, Law and Economics*, 20(4), 619–629. <https://doi.org/10.1007/s10784-020-09502-7>
- Thornhill, C. (2016). On norms as social facts: A view from historical political science. In » *Tragic Choices* «. *Luhmann on law and states of exception* (pp. 47–67). De Gruyter Oldenbourg.
- UNWC. (1997). *Convention on the Law of the Non-navigational uses of international water-courses* 1997.

- Vasani, H. (2023). International water law and hydropolitics: An enquiry into the water conflict between India and Nepal. *Water International*, 48(2), 259–281. <https://doi.org/10.1080/02508060.2023.2176595>
- Vienna convention on the law of treaties. (1969). https://legal.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf
- Wade, S. (2018). Is water security just? Concepts, tools and missing links. *Water International*, 43(8), 1026–1039. <https://doi.org/10.1080/02508060.2018.1543750>
- Wolf, A. T. (1997). International water conflict resolution: Lessons from comparative analysis. *International Journal of Water Resources Development*, 13(3), 333–366. <https://doi.org/10.1080/07900629749728>
- Wouters, P. (2000). The relevance and role of water law in the sustainable development of freshwater. *Water International*, 25(2), 202–207. <https://doi.org/10.1080/02508060008686819>
- Wouters, P. (2013). Dynamic cooperation in international law and the shadow of state sovereignty in the context of transboundary waters. *Environmental Liability*, 3, 88–97. <http://www.lawtext.com/pdfs/sampleArticles/Wouters51-65WL23-2.pdf>
- Wouters, P., & Tarlock, A. D. (2013). The third wave of normativity in global water law: The duty to cooperate in the peaceful management of the world's water resources: An emerging obligation *erga omnes*? *Journal of Water Law*, 23, 51.
- Xinhua. (2013). Xi Jinping: China to further friendly relations with neighboring countries. China Daily USA. http://usa.chinadaily.com.cn/china/2013-10/26/content_17060905.htm
- Xinhua. (2016, April 18). China water release benefits people along lower Mekong river: Cambodian official. *China Daily*. http://www.chinadaily.com.cn/world/2016-04/18/content_24628861.htm
- Yeophantong, P. (2017). River activism, policy entrepreneurship and transboundary water disputes in Asia. *Water International*, 42(2), 163–186. <https://doi.org/10.1080/02508060.2017.1279041>
- Yeophantong, P. (2020). China and the accountability politics of hydropower development. *Contemporary Southeast Asia*, 42(1), 85–117. <https://doi.org/10.1355/cs42-1d>
- Yeophantong, P. (2016). China's hydropower expansion and influence over environmental governance in mainland Southeast Asia. In E. Goh (Ed.), *Rising China's influence in developing Asia* (pp. 174–192). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198758518.003.0008>
- Zeitoun, M., & Mirumachi, N. (2008). Transboundary water interaction I: Reconsidering conflict and cooperation. *International Environmental Agreements: Politics, Law and Economics*, 8(4), 297. <https://doi.org/10.1007/s10784-008-9083-5>
- Zeitoun, M., & Warner, J. (2006). Hydro-hegemony – A framework for analysis of trans-boundary water conflicts. *Water Policy*, 8(5), 435–460. <https://doi.org/10.2166/wp.2006.054>