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

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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.

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?
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 portraits international water laws’ function (McCaffrey, 2001; Wouters, 2000). These perspectives are valid but partial. They overlook how deormalization alters laws’ functional purpose. Deormalization 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 hydropower 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 mindmap 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; Kundsen, 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 mindmap 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.
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 entrenchment 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 riverside 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 legitimate 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 under-perform, 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.

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