There is no single natural resource on which the world depends more than freshwater. Unfortunately, the fact that freshwater is rapidly running out while human dependency on it continues to grow suggests that transboundary freshwater disputes\(^1\) are likely to arise with increasing frequency. Therefore, attention must be paid to their peaceful and effective resolution. History suggests that states most often attempt to resolve such disputes by way of bilateral negotiation or non-binding third-party mechanisms such as mediation, conciliation, or good offices. However, such mechanisms do not always deal effectively with the complex issues involved in many transboundary freshwater disputes and may lead to deadlock and stalemate. The protracted dispute between Egypt and Ethiopia in relation to the Nile River, for instance, is a case in point. It involves fundamental issues of socio-economic development, food and energy production, and national security, as well as complicated hydro-political and historical relations between the parties. In light of the complexity of this dispute, attempts to resolve it by way of bilateral negotiations and third-party non-binding involvement have thus far been unsuccessful. At the same time, Egypt and Ethiopia, as well as other states faced with transboundary freshwater disputes, may be reluctant to submit them to purely 'legal' resolution by the International Court of Justice (ICJ). This reluctance is partially due to the unsettled nature of key aspects of international water law,\(^2\) as well as the Court’s limited ability to evaluate the technical and scientific data that plays a crucial role in

\(^1\) For present purposes, a transboundary freshwater dispute is a dispute that 1) occurs between two or more states concerning an international drainage basin; 2) concerns fresh surface water (e.g., rivers, lakes) and groundwater resources (e.g., aquifers) with respect to four main water utilization issues: (a) allocation (e.g., ownership and sovereignty rights); (b) quantity (e.g., dams and diversions); (c) quality (e.g., pollution); and (d) rights of use (e.g., infrastructure, irrigation, and hydropower); and 3) exhibits a sufficiently high level of conflictual interaction between the disputing states.

\(^2\) In particular, the interpretation and application of the two core substantive principles of international water law, "equitable and reasonable utilization" and "no significant harm", remains unsettled.
most freshwater disputes. This limited ability is evidenced in the two decisions that the ICJ has rendered in this context to date, namely the *Gabcikovo-Nagymaros* case and the *Pulp Mills* case. In the former the Court completely failed to evaluate data relating to the amount and quality of water required to maintain a balanced natural environment, while in the latter it ascribed insufficient weight to the expert evidence presented by the parties.

In light of the limitations of both non-binding mechanisms and judicial settlement by the ICJ, this reflection aims to explore the potential for arbitration to be successfully used by states in the resolution of transboundary freshwater disputes. Arbitration constitutes a flexible and less formal quasi-legal mechanism that can effectively resolve such disputes, yet it has been rarely used by states in this context. Its use can arguably be reinforced, however, through the *Optional Rules for Arbitration of Disputes Relating to Natural Resources and/or the Environment* (Rules) of the Permanent Court of Arbitration (PCA). These *Rules* were celebrated as innovative when first adopted in 2001. They have, however, been scarcely employed by states to resolve environmental disputes, and have not been used at all in the context of transboundary freshwater disputes. Indeed, thus far there have only been six cases commenced under the *Rules*; four concerned Emissions Reduction Purchase Agreements and two concerned contractual agreements relating to emission reductions projects. In three of these cases, moreover, both parties were private entities, in one case the respondent was a public limited company, in one case the respondent was a private entity wholly owned by a public limited company, and in one case the respondent was a government agency. At the same time, no other international institution, tribunal, or procedural rules have been created specifically for the resolution of transboundary freshwater disputes. The *Rules* therefore continue to present the greatest potential in this regard, however they should be supplemented or adapted in order to be used effectively in the context of transboundary freshwater disputes.

**The PCA and the *Rules***

Established in 1899, the PCA is an intergovernmental organization tasked with facilitating arbitration and other modes of dispute resolution between states, state

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6 Two notable cases in which the states successfully resolved their freshwater dispute by arbitration are the Indus River dispute between India and Pakistan and the Lake Lanoux dispute between France and Spain.
8 Judith Levine & Nicola Peart, “Information about the activities of the Permanent Court of Arbitration in disputes relating to the environment and/or natural resources”, (August 2015) prepared by the PCA, with the author.
entities, intergovernmental organizations, and private parties. While it does not operate as a permanent international arbitral body, it does have a permanent institutional basis in the form of the PCA Secretariat. In 2001, the PCA adopted the Rules in an attempt to address “the principal lacunae in environmental dispute resolution”. The Rules are based on the 1976 UNCITRAL Arbitration Rules but were modified to reflect the unique characteristics of disputes relating to natural resources, conservation or environmental protection. They can either be used by consent of the parties when a specific dispute arises or be incorporated in an agreement. Thus far, to the author’s knowledge the Rules have been included in one multilateral instrument that concerns water issues and have yet to be employed in the resolution of transboundary freshwater disputes. Nonetheless, they do offer several advantages in this context.

Advantages of the Rules in the resolution of transboundary freshwater disputes

First, the Rules create a procedural framework that can expedite the arbitral process and prevent deadlock where, for instance, the parties cannot decide on the arbitrators or the procedure for their appointment. For instance, The Rules provide disputing parties with a list of arbitrators who are considered experts in the subject-matter of the dispute, and include specific provisions for multiparty disputes, which can facilitate the participation of multiple states in the resolution of transboundary freshwater disputes. The Rules also include provisions for the resolution of disputes that do not reference an applicable treaty or convention, which is particularly useful in transboundary freshwater disputes where the allocation or use of water is not set out in an agreement. Another advantage of the Rules is that they combine a permanent and well-respected administrative institution with an ad-hoc process. An established body such as the PCA already enjoys the support of most states and the use of its Rules avoids the additional layer of international adjudication associated with the establishment of a new permanent water court or tribunal. In any event, there seems to be little appetite in the international community for such a new forum in the environmental context, and even less so in the context of transboundary freshwater disputes. In addition to these institutional benefits, the PCA and the Rules offer considerable flexibility and freedom to the parties to design their arbitration, which can strengthen their confidence in the process and increase the likelihood of compliance with its outcome. Indeed, much of the

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12 Article 8(3).
14 Ibid, 62.
success of arbitration in environmental disputes has been credited to the ad hoc nature of the process, as opposed to the unilateral invocation of compulsory and rigid procedures before a permanent court or tribunal. The PCA and the Rules therefore provide disputing states with the benefits of a prescribed yet flexible procedure within an established and well-regarded institutional framework, which can be useful in the resolution of transboundary freshwater disputes.

Adapting the Rules to the resolution of transboundary freshwater disputes

Notwithstanding these advantages, the Rules could benefit from some adaptation to the specific context of transboundary freshwater dispute resolution, either by way of supplemental rules or modification by the parties. For instance, the Rules currently presume that arbitral proceedings will be confidential, unless the parties agree otherwise. While some degree of confidentiality could facilitate the resolution of transboundary freshwater disputes since it would protect sensitive information that may impact national security, the strict presumption in favor of confidentiality currently reflected in the Rules should arguably be relaxed in this context. This presumption goes against the prevailing trend in environmental law to open decision-making processes to public scrutiny and participation, and is particularly problematic in the context of transboundary freshwater disputes, where non-legal considerations play a central role and vital human needs are involved. In order to ensure that arbitrators are accountable and that arbitral proceedings are sufficiently transparent, arbitration rules used in the resolution of transboundary freshwater disputes could require, for instance, that awards be made public. Keeping awards confidential “lags behind the practice of public international law”, and particularly in transboundary freshwater disputes that affect broader interests the lack of award publication can leave third parties “disenfranchised”. Moreover, since the established practice of other international courts and tribunals dealing with interstate disputes, such as the International Tribunal for the Law of the Sea, the International Court of Justice, and the judicial bodies operating under the WTO system, is to publish decisions, it is unlikely that states would be deterred from using arbitration rules that include a similar provision.

In terms of composition and powers of arbitral tribunals, the PCA already provides parties with a list of specialized environmental arbitrators. However, the Rules allow for scientific or technical matters to be decided upon by arbitrators who may have no relevant expertise, assisted by non-technical explanatory documents submitted by the parties or experts who do not have decision-making authority and whose use would

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15 Ibid, 34.
16 The Rules in fact envision the latter option, See Rules, Introduction.
17 Articles 25(4), 32(6)).
19 Ibid, 319.
21 Article 24(4).
22 Article 27(5).
inevitably increase the cost of the proceedings. In light of the complex nature of transboundary freshwater disputes, arbitration rules used in this context should rather provide that arbitral tribunals shall by default include at least one relevant expert, unless the parties agree otherwise. Such rules should also expressly authorize arbitral tribunals to take into account all relevant circumstances, including non-legal considerations, in their decision-making while maintaining “respect for” international law. This is important since non-legal considerations such as political and cultural factors tend to play a central role in transboundary freshwater disputes. Explicitly authorizing arbitral tribunal to take into account all relevant circumstances would also serve to formally acknowledge that “the job of arbitrators…should be to arrive at politically viable compromises rather than simply ‘legally correct’ decisions”.

Finally, the Rules currently allow for disputes involving parties other than states, including international organizations and private parties, but they do not explicitly address the issue of participation of such non-state actors as amicus curiae in arbitration proceedings. Since resolving transboundary freshwater disputes requires “assessing the full range of issues, needs, interests, and demands of the relevant stakeholders…[and] incorporat[ing] those parties most affected by the outcome”, arbitration rules used in this context should explicitly allow for, and regulate, the participation of third parties in the process. Relevant NGOs, for instance, may bring forward legal arguments and factual information that does not serve the interests of the parties and that would otherwise remain unknown, and thereby prevent disputing parties from acting “as gatekeepers of specialized knowledge”. Therefore, arbitration rules used in the resolution of transboundary freshwater disputes should specifically authorize arbitral tribunals to grant leave to relevant NGOs and other third parties to make submissions, stipulate the qualifications of participants, and allow for the limitation of participation to particular facts or issues. In addition, even if documents submitted by the parties in arbitral proceedings remain inaccessible to the general public these

23 Such a provision can be found in some interstate water treaties such as the Indus Waters Treaty between India and Pakistan, which provides that one member of the arbitral tribunal shall be a “highly qualified engineer”.
24 As provided in the 1899 and 1907 Hague Conventions.
27 Rules, Introduction.
28 The introduction to the Rules does provide, however, that “[m]odifications to these Rules…as to jurisdiction ratione personae may be especially necessary to allow for the participation of non-State actors”.
32 Ibid, 417.
could be made available to relevant third parties. Such third parties could be selected through an accreditation system that would filter the organizations that are allowed to contribute to and participated in arbitral proceedings, and set out rules governing their access. In the context of transboundary freshwater disputes, participation of diverse actors would also ensure that local customs and practices of water use and sharing are taken into account in the arbitral decision-making. This is important since it contributes to the creation of a flexible dispute resolution system that is capable of adapting to the particular circumstances of a given dispute and that reflects realities on the ground.

**Conclusion**

Transboundary freshwater disputes will likely continue to arise around the world, and may lead to violent conflict. Neither judicial settlement by a permanent court nor non-binding mechanisms, however, have proven entirely adequate to resolve them. It is precisely in this context, therefore, that arbitration can serve as an effective dispute resolution alternative, and it has the greatest potential for doing so by way of the PCA and its Rules. Nonetheless, the Rules should be supplemented or adapted to the particular nature of transboundary freshwater disputes in order to successfully resolve the complex legal, political, and scientific issues that underlie them.

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34 Such rules were developed, for instance, by the WTO Appellate Body in the Asbestos case, *Ibid*, 224-225.