Convention on the Protection and Use of Transboundary Watercourses and International Lakes

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Increasing awareness of and accession to the Convention and application of its principles drawing on the benefits of cooperation: Promoting and communicating the benefits of transboundary cooperation, and supporting the development of agreements and the establishment of joint bodies

Draft checklist on the development of agreements or other arrangements for transboundary water cooperation

Note by the secretariat

Summary

At its eighth session, the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992 Water Convention) decided to undertake activities supporting the development of agreements and the establishment of joint bodies, including the preparation of a checklist on developing agreements and good practices.

The preparation of the Checklist on the Development of agreements or other arrangements for Transboundary Water Cooperation ('Checklist') started in 2020, with a preliminary study which provided a basis for the conceptual development of the tool. A draft annotated outline was subsequently developed, in cooperation with several partners, and presented at the Virtual Workshop on Designing Legal Frameworks for Transboundary Water Cooperation (Geneva, 28–29 July 2020). Participants were invited to provide their comments and observations on the draft annotated outline.

The Water Convention secretariat revised the outline based on the inputs received from the Virtual Workshop and presented a draft at the fifteenth meeting of the Working Group on Integrated Water Resources Management (Geneva, 30 September–2 October 2020). The Working Group called upon States and organizations to actively contribute to the development of the Checklist and entrusted the Water Convention Secretariat, in cooperation with the lead Party and a Drafting Group, to develop the text of the Checklist, for consideration by the Working Group at its next meeting. The drafting group developed the checklist

The Working Group on Integrated Water Resources Management and the Working Group on Monitoring and Assessment will be informed about the aim and contents of the checklist, status of its preparation and the next steps in finalising the draft checklist for submission to the ninth Meeting of the

Parties, including the deadline for submitting feedback on the draft checklist (15 May 2021).

The Working Groups are invited to review and comment on the text in the present document. The Working Groups are then invited to entrust the secretariat, in consultation with the lead country Hungary and the Expert Group, with the task of integrating comments received by the deadline, editing and finalizing the draft checklist for adoption at the ninth session of the Meeting of the Parties to the Water Convention (29 September–1 October 2021).

Table of Contents

Part I. Introduction: About the Checklist

A. Objective and scope of the tool

The purpose of the Checklist is to serve as a tool to support countries in the design and drafting of agreements or other arrangements for transboundary waters,[1] including both surface and groundwaters. Where arrangements are already in place, the Checklist could support the review and update of those arrangements where needed and appropriate and agreed by the Parties. The Checklist provides elements that should be considered for inclusion in arrangements for transboundary waters, along with views and examples to help determine when these elements may be appropriate. Contextual issues related to the process for developing or revising arrangements are addressed in the introductory part of this document,[2] but not within the Checklist itself. The Checklist also provides guidance on elements that would strengthen the resiliency and adaptability of arrangements over time to meet changing needs and conditions, including amendment procedures, the possible development of protocols and annexes, and other legal and technical procedures.

B. Target audience

Country representatives, legal and technical experts, policy decision-makers involved in negotiation of agreements or other arrangements for transboundary waters, the staff of river basin organizations, regional organizations, and other stakeholders working on transboundary cooperation and water diplomacy are the target audience of the Checklist.

C. Rationale for the Checklist's design

The structure of the Checklist is designed in a way that captures a wide diversity of practice related to the design and implementation of agreements and other arrangements for transboundary waters and recognises that there is no 'one-size-fits all' approach. Therefore, the Checklist does not aim to be prescriptive, but rather serves as a guide to support countries sharing transboundary waters in their choice of provisions, and efforts to develop arrangements that are tailored to their specific circumstances, while at the same time ensuring their effectiveness, adaptability and longevity.

The checklist has been developed in the framework of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention). It is not legally binging and does not supersede the provisions of the Convention.

D. Structure and how to use the Checklist

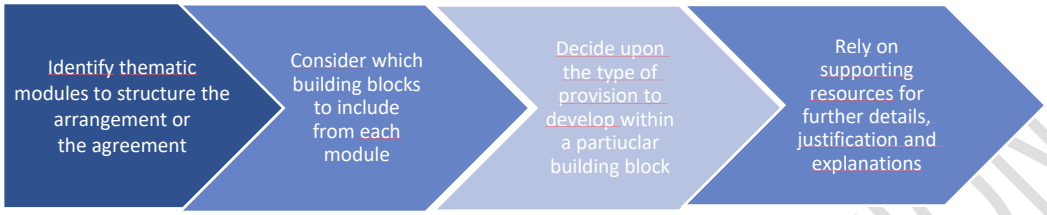
The Checklist is based on:

- Six main **thematic modules**, which help structure the agreement or other arrangement for transboundary waters;
- **Building blocks**, which correspond to possible provisions or issues within the arrangement;
- **Key aspects** of each building block, which suggest its primary content;
- **Introductory text** to each building block setting out its context and rationale;
- **Key considerations**, which explain different approaches that might be taken within the arrangements, and the implications thereof;
- **Examples from treaty practice** that illustrate how to frame a particular provision; and

[1] For a definition of 'agreement or other arrangement for transboundary waters' see UNECE, *Guide to reporting under the Water Convention and as a contribution to SDG indicator 6.5.2*, https://unece.org/sites/default/files/2021-02/ece_mp.wat_60_eng_web.pdf, 13-15.

[2] See Part II – Setting the Context.

- **Supporting resources** to assist countries in developing the content of a particular provision (e.g. specific guidance documents developed by the Water Convention[3] and other relevant materials).



The Checklist is not a set of requirements, but a menu of building blocks for consideration when developing agreements or other arrangements for transboundary waters. Country representatives or other stakeholders using the tool should assess and agree on whether, and which parts of, certain issues or provisions are relevant to their context. That said, each of these building blocks represent important issues for consideration in the development of an agreement or other arrangement as they help ensure its effective implementation. The issues or provisions proposed in the building blocks of the Checklist are reflective of international practice. They are drawn from provisions typically found within agreements or other arrangements for transboundary waters, as well as provisions of the 1992 Water Convention and the 1997 Convention on the Law of Non-navigational Uses of International Watercourses ('1997 Watercourses Convention'). Certain parts of the Checklist also support country efforts to achieve the transboundary element of SDG target 6.5 by ensuring that arrangements are consistent with the "operational" criteria set out in SDG indicator 6.5.2.[4]

The final choice of building blocks will be dependent of the specific country needs, hydrology, and basin/aquifer conditions. In this respect, to reach informed decisions it is helpful for countries discussing arrangements to have a common understanding of the current conditions, challenges, opportunities and benefits from cooperative management of the basin or aquifer.[5]

Many of the building blocks are interdependent and mutually supportive. For example, procedural features, such as the exchange of data and information, are a prerequisite for countries to effectively implement the substantive principle of equitable and reasonable utilization and the obligation to take appropriate measures to prevent significant harm.

[3] See for example, UNECE, *Guide to Implementing the Water Convention*, 2013.
[4] For an arrangement to be 'operational' in accordance with SDG indicator 6.5.2, there should be an established joint body or mechanism, at least annual meetings and exchanges of data and information between countries, and joint or coordinated water management plan(s), or similar instruments must be in place. See Step-by-step monitoring methodology for SDG indicator 6.5.2 (revised version "2020") available, https://www.unwater.org/publications/step-step-methodology-monitoring-transboundary-cooperation-6-5-2/ .
[5] See in this respect Part II. Section II. Key message 1: The development of a legal framework is a process.

Part II. Setting the context

A. Benefits of developing agreements or arrangements for transboundary water cooperation

In 2016, the High-Level Panel on Water, convened by the United Nations and the World Bank Group, noted that, "agreements and institutional arrangements, such as river basin organizations, can offer an important means by which to manage transboundary waters in an equitable and sustainable way, and in turn, support prosperity, and maintain peace and security".[6] When implemented, these arrangements have the potential to help improve water management in the whole basin, which can result in a large number of direct economic, social and environmental benefits for all stakeholders.

These agreements or other arrangements on transboundary waters are also a strong reflection of a State's willingness to work cooperatively to address shared challenges consistent with international norms and standards. The adoption of arrangements can increase access to financial and technical support from international donors for national and regional development projects, such as joint investments to improve power and agricultural production, water-based transport development, regional trade and commerce, expansion of the tourism sector, regional conservation and ecosystem protection, and so on.

An extensive survey of arrangements for transboundary waters conducted by Oregon State University, concluded that States working cooperatively on transboundary waters though arrangements has the potential to reduce political tensions, and that the "establishment of institutional capacity in the form of agreements, treaties or informal working relationships, can help reduce the likelihood of conflict."[7] Furthermore, "these institutional capacities have proven to be mostly resilient over time, even as conflict was being waged over other issues."[8]

As noted in key Message 1 below, negotiations, exchange of information and joint activities that lead to the conclusion of an arrangement can also build capacity, increase trust, and foster shared understandings between countries. However, arrangements must be also be borne out of a legitimate process whereby all the needs and interests of the countries concerned are taken into account and effectively balanced. Otherwise, arrangements may not achieve their primary objective of supporting countries to manage their transboundary waters in an equitable and reasonable manner.

More generally, arrangements provide the foundation upon which the benefits of transboundary water cooperation can be realized and sustained. According to the dedicated Policy Guidance Note on the topic developed under the Water Convention, [9] such benefits might include:

- **Economic benefits** - by providing the specific requirements related to the quality, quantity and timing of water resources to economic activities (agriculture, industry, energy, nature-based tourism, water-based transport) and reducing the impact of water-related hazards;

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[6] High Level Panel on Water, *Making every drop count – an agenda for water cooperation*, 2018; see also Global High-Level Panel on Water and Peace, *A matter of survival*, 2017.

[7] Wolf, A. T., K. Stahl, and M. F. Macomber, *Conflict and cooperation within international river basins: the importance of institutional capacity*, 2003; Yoffe S. et al, Geography of international water conflict and cooperation: Data sets and applications, Water Resources Research, Vol. 40, 2004-

[8] Wolf, A. T., The Transboundary Freshwater Dispute Database Project, Water Int., 1999.

[9] UNECE, Policy Guidance Note on the Benefits of Transboundary Water Cooperation*: Identification, Assessment and Communication*, 2015.

- **Social and environmental benefits** - by improving ecosystems health and providing ecological benefits, as well as social benefits (health impacts from improved water quality, employment and poverty reduction derived from the economic benefits and cultural and recreational benefits);
- **Regional economic cooperation benefits** - creating an enabling environment for broader cooperation beyond the river;
- **Peace and security benefits** - including the strengthening of regional integration and mutual dependencies, the reduction of political tensions, and the development of dispute resolution tools and approaches; and,
- **Governance benefits** – including the establishment of clear rules and procedures for joint management, protections for marginalized stakeholders and the environment, and improving science-based and cooperative decision.

Supporting resources (non-exhaustive)

- UNECE, Policy Guidance Note on the Benefits of Transboundary Water Cooperation, 2015.
- Global High-Level Panel on Water and Peace, A Matter of Survival, 2017.
- High-level Panel on Water, Transboundary Water Governance, 2018.
- UNECE, Frequently Asked Questions on the 1992 Water Convention, 2020.

B. Key messages

Key Message 1: The process of developing an agreement or other arrangement is itself an important outcome

One of the greatest benefits from the development of any arrangement on transboundary waters is derived from the process itself.

The process leading to an arrangement's adoption can play a critical role in establishing the foundation for its implementation. Benefits of the process may include:

- Developing a common set of technical, legal, and process-management skills – e.g., running productive meetings, consensus building, negotiation, and successful dispute resolution;
- Identifying inequalities and inequities and generating a respect and appreciation for differing views and concerns, including providing the time and space for reconciliation of past grievances, and giving voice to those not directly represented;
- Establishing rapport among the parties, ways of working together, and a common understanding of the modes of communications that reflect social and cultural differences;
- Creating successes (joint projects, programs, and arrangements) that develop shared and equal capacities, empower the parties and stakeholders, establish ownership, strengthen political will, and concretely demonstrate the benefits of cooperation; and,
- Appreciating if, when, how, and what kind of third-party support (technical, legal, or process) may be needed or helpful.

Depending on the existing relationship among the parties, this process can take time – from years to decades. In some cases, the development of an arrangement may be among the first efforts at cooperation by the parties. In all cases, rushing or ignoring these process outcomes risks carrying existing conflicts forward and undermining the sustainability and adaptability of the arrangement in the future. When appropriately carried out, this process can set the stage for long-term sustainable success beneficial to all parties concerned.

Often the steps necessary to develop an arrangement – fact-finding, scenario evaluation and development, discussions, negotiations – provide opportunities to advance these outcomes. Joint data collecting, modelling, and analysis is an opportunity to share different perspectives, address knowledge gaps, and build a common understanding of existing and future conditions. Shared visioning exercises are an opportunity to appreciate stakeholder perspectives, identify shared interests, and to establish a common language for describing broad goals and objectives. Study tours, joint trainings, and social activities build rapport and are opportunities to highlight concerns that are unique to specific social and cultural settings – they can humanize the parties during what might be a highly adversarial process and create the space for promoting confidence building and mutual understanding. The negotiation process itself can build listening and communication skills, promote respect, and provide opportunities for team building.

Building these elements into the process of developing any arrangement on transboundary waters is critical to ensuring its long-term success. Agreeing to work together is one thing: actually working together is another – but this is the challenge of managing shared waters. Using the process of developing an arrangement to address concerns, create ownership, and build the core skills needed to work together will create a strong foundation for implementation.

Key Message 2: There is wide diversity in international water law practice

States may choose which is the most appropriate form of agreement or arrangement to govern transboundary waters. Possible options for countries include: framework conventions, bilateral or multilateral treaties, protocols, memoranda of understanding, codes of conduct, exchanges of letters, or the agreed minutes of inter-governmental meetings.[10] This diversity indicates that there is no 'one-size-fits-all' model, but rather different possible formats of arrangement that may be tailored to the particular historical, legal and political context in which they are meant to operate. These arrangements may evolve over time according to the evolving circumstances and exigencies.

A common approach has been for States to enter into bilateral treaties that cover all the waters that are shared between them.[11] Another common approach is to adopt an arrangement that covers a specific river, lake or aquifer system.[12] Where a basin-wide arrangement has been entered into subsequent arrangements might be adopted at both the bilateral and sub-basin level.

In many cases, arrangements for transboundary waters are expressly kept broad to give the parties the necessary flexibility to interpret and implement the arrangement in the most optimal way given changing contextual circumstances. This allows for the implementation of the arrangement to evolve and adapt to the changing needs and capacities of the parties, to changing hydrological conditions, and to changes in the value of water across multiple uses at different points in time. This same flexibility or lack of specificity, however, can lead to differences among the parties on how the arrangement should be implemented, particularly in cases where major staff and/or political changes occur among the parties concerned. Unresolved grievances, a general lack of trust, unrepresented parties, and/or a lack of means to monitor compliance – as well as social, cultural, and language barriers that may impact communications or institutional procedures – can make joint decision-making difficult. In some cases, these

[10] For examples of different types of arrangements, see UNECE and UNESCO, *Progress on Transboundary Water Cooperation – Global Baseline for SDG indicator 6.5.2* , 2018, p. 44.

[11] See for example, 2017 Agreement between Poland and the Czech Republic on Cooperation on Transboundary Rivers in the Field of Water Management.

[12] See for example the 2004 Agreement on the Establishment of the Zambezi Watercourse Commission.

difficulties could prevent the parties from adopting new or innovative approaches that could advance the pursuit of optimal implementation of the arrangement or exacerbate tensions - potentially rendering the arrangement obsolete and unable to manage evolving challenges. The implementation of arrangements is fundamentally a living process that must be nurtured to grow, strengthen, and adapt to the specific circumstances it addresses to achieve optimal benefits across all the stakeholders.

Key Message 3: Considering existing national and international law

Prior to the negotiation and drafting of an arrangement on transboundary waters it is necessary to assess what obligations a country might already have. For example, commitments made under multilateral environmental agreements (MEAs) - such as Convention on Biological Diversity 'Biodiversity Convention', the United Nations Framework Convention on Climate Change 'Climate Change Convention', Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat 'the Ramsar Convention,' and the United Nations Convention to Combat Desertification - may influence the content of an arrangement for transboundary waters. Similarly, States may consider human rights instruments when developing an arrangement on transboundary waters.[13]

When developing an arrangement for transboundary waters, States should also take all necessary implementing legislative measures. It may also be necessary to repeal or amend domestic legislation in conflict - directly or indirectly – with the provisions of the international arrangement in question. Relevant domestic legislation may be in fields outside the water sector e.g., biodiversity or climate change – but many nonetheless impact the implementation of an arrangement.

The processes of identifying existing national and international law to be taken into consideration when developing an arrangement on transboundary waters can initially be done by carrying out a desk study survey of documents to trace the linkages between a State's obligations under MEAs, human rights instruments, and other international law, as well as national law. This will permit States to fully consider the depth and breadth of existing obligations, and address any potentials difficulties created by the new arrangement in relation to the implementation of any existing agreements, ie., by either avoiding any conflict with existing commitments or, where appropriate, amending those existing commitments.[14]

Supporting resources

- Boisson de Chazournes L., Leb C., Tignino, M., "The UNECE Water Convention and Multilateral Environmental Agreements", in Tanzi, A., McIntyre, O., Kolliopoulos, A., Rieu-Clarke, A. and Kinna, R. (eds.), *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes - Its Contribution to International Water Cooperation* (Brill / Nijhoff) 2015, p. 60-72.
- Jasper R. de Vries, Séverine van Bommel, Chris Blackmore and Yoshiko Asano, *Where There Is No History: How to Create Trust and Connection in Learning for Transformation in Water Governance*, 2017.
- Petersen-Perlman, Jacob D. and Aaron T. Wolf. "Getting to the First Handshake: Enhancing Security by Initiating Cooperation in Transboundary River Basins." *Journal of the American Water Resources Association* Paper No. JAWRA-14-0193-P, 2015. pp. 1-20.

[13] See also p. 33 below, key aspect: human rights to safe drinking water and sanitation.
[14] See also p. 19, key aspect: accounting for existing and future arrangements.

- Simon J. A. Mason and Dorothea Blank, *Mediating Water Use Conflicts in Peace Processes*, CSS Mediation Resources, 2013.
- UNECE and UNESCO, *Progress on Transboundary Water Cooperation – Global Baseline for SDG indicator 6.5.2* , 2018.
- UN-Water, Water cooperation in action: approaches, tools, and processes, 2013.
- UN-Water, UN-Water Policy Brief on the United Nations global water conventions: Fostering sustainable development and peace, 2020.

Part III. Tool
Module 1 Preamble

The preamble of an arrangement describes the goals, reasons, and/or factors that led the parties to negotiate an agreement or other arrangement, including the parties' aspirations for future relations. Preambles therefore outline, in broad and general terms, the intention of the parties and may include the context and vision or purpose that triggered the decision to develop an arrangement, as well as the political, economic, social or environmental context and concerns. The vision and purpose that is set out in the preamble may incorporate shared principles, approaches and values.

What to consider when drafting the preamble

- **Significance to the interpretation of an arrangement.**

By laying out the overall vision that the implementation of an arrangement seeks to accomplish, the preamble of an arrangement, as recognized in the article 31(2) of the 1969 Vienna Convention, provides the context for interpreting the operative sections of an arrangement. The parties to an arrangement may therefore benefit from clearly spelling out in the preamble the overall goals and objectives to be achieved from the implementation of the arrangement, and the relationship with other legal instruments and institutions that operate at a global, regional and/or sub-regional level, as this will enable a systemic and dynamic interpretation of the arrangement.

- **Providing general guidance on emerging issues.**

Generally, the preamble refers to current water issues and priority actions, and their possible evolution in the future. As environmental awareness increases, new challenges may arise, e.g. future impacts of climate change. These emerging issues may be generally referred to in the preamble of an arrangement so as to recognize the arrangement's capacity to respond to changing circumstances and emerging challenges.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Niger Basin Water Charter, 2008

Preamble

State Parties to the present Niger Basin Water Charter (…)

Considering the fundamental right of each individual for access to water;

Considering that water is an ecological, social and economic asset whose preservation is of general interest (…);

Bearing in mind the progress made in the development and consolidation of international water law initiated by the Helsinki Rules of 1966 relating to the use of international river waters;

Based in particular on the conclusions of the United Nations International Conference on the Environment and Development (Rio de Janeiro, 1992), through the Rio Declaration on the Environment and Development and Agenda 21 (Chapter 18) (…)

Referring to the 17th March 1992 Helsinki Convention on the protection and use of transboundary water streams and international lakes and to the Convention on the law of non-navigational uses of international watercourses, adopted in New York on 21 May 1997;

Recalling the bilateral and multilateral agreements governing the use of certain parts of the Niger Basin (…)

Other examples: Guarani Aquifer Agreement, 2010; Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 1995, '1995 Mekong Agreement', preamble.

Supporting resources (non-exhaustive)

- Mbengue, M. M. "The Notion of Preamble" in Wolfrum, R. (ed.) The Max Planck, Encyclopedia of Public International Law (Online Edition) Oxford University Press, 2008.
- Wolfrum R., "Preamble" in B. Simma (ed) *The Charter of the United Nations*, Oxford University Press, 1994, pp. 45–48.

Module 2 – General Provisions
- **Building block: Definitions/ Use of Terms**

Key aspect: identify and define key terms and concepts

Most agreements or other arrangements on transboundary waters include a section on the definition of terms. Definitions seek to establish shared meaning on particular terms and/or abbreviate commonly used terms within the arrangement. The definition of terms in the context of an arrangement must reflect the specific meaning that States seek to place on the words used in, and within the context of, the arrangement. Terms defined may include, the 'basin', 'watercourse', 'Parties', 'water regime', 'Commission', 'water balance', 'sustainable use', 'transboundary impact', 'ecosystem', 'aquatic biological resources', 'pollution', 'emissions', 'best available technology', and 'stakeholder involvement'.

What to consider when drafting a provision related to definitions/ use of terms

- **Provide a definition when there is a risk that a term may be misinterpreted, where its use within the arrangement is different than how it may be defined in other instruments, or when defining that term may be contentious.**

Certain terms may be interpreted differently amongst the Parties negotiating an arrangement. Reaching a common understanding over the definition and use of these terms or concepts can avoid later disputes. However, certain terms may also be left undefined to allow flexibility in in the negotiation and/or implementation of an arrangement. When including definitions within an arrangement it is important to consider whether those terms are defined in other instruments that the Parties are subject to. For example, key terms such as 'transboundary waters', 'transboundary impact', 'hazardous substances' and 'best available technology' are defined in the Water Convention (Art.1). Similarly, the Watercourses Convention provides several definitions throughout its text, including for 'watercourse', 'international watercourse', watercourse State', and 'regional economic integration organization'.

- **There is a wide diversity in practice.**

Different approaches to the inclusion of definitions and use of terms can be seen in treaty practice. Some agreements or arrangements only include a few basic terms, whereas others

may contain an extensive list of terms. Ultimately, it will be up to the countries to decide what terms are important to define.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Framework Agreement on the Sava River Basin, 2002

Article 1: Definitions

For the purposes of this Agreement:

1) "Transboundary Impact" means any adverse effect on the river environment resulting from a change in water regime, caused by human activity and stretching out beyond an area under the jurisdiction of a Party, and which change may affect life and property, safety of facilities, and the aquatic ecosystem concerned.
2) "The Sava River Basin" is the geographical area extended over the territories of the Parties, determined by the watershed limits of the Sava River and its tributaries, which comprises surface and ground waters, flowing into a common terminus.
3) "Water Regime" comprises quantity and quality conditions of the waters of the Sava River Basin in space and time influenced by human activities or natural changes.

Other examples: Convention on the Sustainable Management of Lake Tanganyika, 2003 '2003 Lake Tanganyika Convention', Art. 1; Protocol Amending the Agreement Between Canada and the United States of America on Great Lakes Water Quality, 1978, as Amended on October 16, 1983 and on November 18, 1987 '2012 Great Lakes Water Quality Agreement', Art. 1.

Supporting resources (non-exhaustive)

- Alistair Rieu-Clarke, Ruby Moynihan, and Bjørn-Oliver Magsig, *UN Watercourses Convention User's Guide*, 2012, pp 75- 85 (UN Watercourses Convention User's Guide)
- UNECE, *Guide to Implementing the Water Convention*, 2013, https://unece.org/environment-policy/publications/guide-implementing-water-convention, pp. 105-106.
- Alistair Rieu-Clarke, "Definitions and Use of Terms (Article 2)", in L. Boisson de Chazournes,*M. Tignino, M.M. Mbengue, K. Sangbana (eds.), The UN Convention on the Law of the Non-Navigational Uses of International Watercourses – A Commentary*, Oxford University Press, 2018, p.45.

Module 2 – General Provisions

- **Building block: Objectives**

Key aspect: general and specific objectives of the arrangement

Objectives reflect the aspirations and goals of States negotiating an agreement or other arrangement on transboundary waters. This building block expressly incorporates, defines, and delineates the purpose of an arrangement. Over the last decades, there has been a growing

interest in arrangements on transboundary waters to cover new uses (e.g., social, economic, and environmental), and ensure that arrangements account for ecosystems, and support a holistic management approach to the entire river basin and/or aquifer system.[15] In this context, general objectives can promote aspirations, such as the protection of the environment, the sustainable use of transboundary waters, the strengthening of regional peace and integration, and the improvement of livelihoods.[16] These general objectives can guide the development of more specific objectives that provide the basis for concrete and tangible strategies and actions.

Box X. Agreement between Ecuador and Peru, 2017

An example of a recent arrangement that embraces an integrated approach to transboundary water cooperation is the 2017 Agreement for Establishment of the Binational Commission for the Integrated Water Resources Management (IWRM) of the Transboundary Basins shared between Ecuador and Peru. The Agreement expressly defines and incorporates an IWRM approach to regulate the nine shared basins[17] shared between Ecuador and Peru.

What to consider when drafting a provision related to objectives

- **Use objectives to establish a basis for further cooperation.**

The ability of States to negotiate and adopt general and specific objectives will depend on their level of existing cooperation. Arrangements incorporating only broad and general objectives can be beneficial in rivers, lakes, or aquifers where there are no previous joint management mechanisms. In this case, general objectives serve as an initial framing for future discussions.

- **Use specific objectives to guide effective implementation and interpretation.**

Specific objectives will provide clarity on tangible steps and actions needed to achieve cooperation goals, which can subsequently be monitored. These specific objectives can be reflected in the development of transboundary water management plans, guide the harmonization of national legislation, or assist in the allocation of the financial resources required to implement the arrangement.

- **Arrangements require measurable objectives to determine their effectiveness.**

An arrangement's effectiveness can be assessed by the extent to which its objectives have been accomplished. The incorporation of clear targets and milestones that expressly define timelines and the progressive steps required to fulfill the commitments contained in an arrangement may allow States and any joint bodies to report their progress and adjust specific approaches to transboundary water management, if required. However, a balance must be struck between specificity and the need for an arrangement to adapt to changing circumstances and priorities. Countries may therefore decide to set out more specific time-bound objectives within

[15] McCaffrey, Stephen C. "The progressive development of international water law", in Loures F., Rieu-Clarke A. (eds.),*The UN Watercourses Convention in Force*. Routledge, 2013, pp. 10-11.

[16] For the protection of the environment: 2003 Convention on the Sustainable Management of Lake Tanganyika, 1998 Convention about the cooperation for the protection and sustainable use of the waters of Portuguese-Spanish hydrological basins and additional protocol, 1998 Convention on the protection of the Rhine. For regional peace and integration and the improvement of livelihoods: 2000 Revised Protocol on Shared Watercourses in the Southern African Development Community.

[17] To the Pacific Ocean: Zarumilla, Puyango-Tumbes, Catamayo – Chira. To the Amazon River: Mayo-Chinchipe, Santiago, Morona, Pastaza, Conambo-Tigre and Napo.

supplementary instruments, such as a programme of work adopted by a joint body, rather than in an arrangement itself.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX – Treaty between the Government of the Republic of Moldova and the Cabinet of Ministers of Ukraine on Cooperation in the Field of Protection and Sustainable Development of the Dniester River Basin, 2012

Article 1 – Objective of the Treaty

1. The objective of the present Treaty is to establish legal and institutional foundations for cooperation towards achieving rational and environmentally sound use and protection of water and other natural resources and ecosystems of the Dniester River basin in the interests of population and sustainable development of the States of the Contracting Parties.

2. In particular, the Contracting Parties shall cooperate in implementation of the following tasks:

a) development of sustainable water use based on the principles of rational utilization and protection of water and other natural resources and ecosystems of the Dniester River basin;

b) considerable reduction of pollution of the Dniester River basin and the Black Sea, accordingly;

c) prevention of deterioration and rehabilitation of ecosystems as well as conservation of biodiversity in the Dniester River basin;

d) prevention and mitigation of adverse water impacts caused by natural and anthropogenic factors.

Other examples: Lake Tanganyika Convention, 2003, Art. 2; Convention on the Protection of the Rhine, 1999 '1999 Rhine Convention, Art. 3.

Supporting resources (non-exhaustive)

- UN Water, *Progress on Transboundary Water Cooperation – Global Baseline for SDG indicator 6.5.2*, 2018.
- UNECE, *The Water Convention: responding to global water challenges*, 2018.
- UNECE, *Identifying, assessing and communicating the benefits of transboundary water cooperation*, 2018.

Module 2 – General Provisions

- **Building block: Scope**

Key aspect: geographical and functional parameters of an arrangement

Scope defines the elements - geographical, hydrographical, hydrological, substantive, and limits – covered by an arrangement. In so doing, provisions on scope describe the water, land, and associated resources, uses, and/or activities covered by the arrangement. Countries may decide to initially develop an arrangement on water bodies that form or cross borders between countries, before later extending their cooperation to the whole basin.

What to consider when drafting a provision related to scope

- **Adopting a system-wide or basin approach.**

Arrangements on transboundary waters, may apply to successive and/or contiguous rivers, the main river and/or its tributaries, surface waters and/or groundwater, terrestrial ecosystems and aquatic ecosystems. The practice observed in most contemporary arrangements on transboundary waters is to recognise the physical unity of a transboundary river basin and aquifer systems. Under the Watercourses Convention, for example, the term "watercourse" is used, and defined as "a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus," while an "international watercourse" refers to "a watercourse, parts of which are situated in different States" (Art. 2(a) and (b)).[18] A alternative approach used in treaty practice is to refer to the basin. For example, the 1966 Helsinki Rules, use the term 'international drainage basin' to mean, a 'geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus'.

- **Functional scope.**

The agreement or arrangement on transboundary waters should also set out the types of uses or activities covered by it. In this regard, State practice differs across contexts. Some agreements only focus on navigation or the development of specific hydropower installations, while others have a broader scope including a various array of uses. For example, the Mekong agreement includes in its scope "irrigation, hydro-power, navigation, flood control, fisheries, timber floating, recreation and tourism".[19]

How could a provision on scope be framed? Examples from treaty practice

BOX XX –Water Charter for the Volta River Basin, 2019

Article 2: Sphere of application

1. The Water Charter shall apply to the Volta River and to all surface and groundwater resources and associated ecosystems found within the geographical limits of its catchment area.

2. The present Water Charter shall govern all public and private, ongoing and planned measures and activities in the Basin causing significant transboundary impacts on water resources, in particular those undertaken for:

j) Better knowledge about shared surface and underground water resources and associated ecosystems;
k) Better governance of the Basin's shared water resources;
l) The use and utilization of shared water resources to meet socio-economic and environmental needs likely to affect water resources or the environment; and
m) The protection, preservation and restoration of the ecological condition of water resources and associated ecosystems and the prevention of damage-causing situations.

3. An Appendix to the Water Charter shall establish the Map of the Volta River Basin.

Other examples: 1998 Spain-Portugal Agreement', Arts 1 and 3; Treaty between the United States and Great Britain Relating to Boundary Waters and Questions Arising between the

[18] See also the Water Convention (Art. 1(1)), the 2008 International Law Commission (ILC) Draft Articles on the Law of Transboundary Aquifers (Art. 2(c)).
[19] Art.1.

United States and Canada (1909) '1909 Boundary Water Treaty', Preliminary Article and Art. II; 1995 Mekong Agreement, Arts 1, 5(A) and 5(B).

Supporting Resources (non-exhaustive)

- *UN Watercourses Convention User's Guide,* 2012, pp. 66 – 74.
- UNECE, *Guide to Implementing the Water Convention*, 2013, pp. 13 – 18.
- Arcari, M., "Scope of the Convention (Article 1)" in*, The UN Convention on the Law of the Non-Navigational Uses of International Watercourses – A Commentary*, Oxford University Press, 2018, pp. 31- 44.

Module 2 – General Provisions

- **Building block: States and/or entities that can become Parties to the agreement or other arrangement**

Key aspect: stipulate who can become party to an arrangement

One of the issues which arises during the negotiation of a treaty is who may become a Party.[20] At the basin or sub-basin levels, agreements or other arrangements on transboundary waters are typically negotiated and concluded among the riparian countries of a particular river basin or sub-basin or aquifer system. In some cases, only a group of riparian countries participates in the negotiations and adoption of a transboundary water agreement. In this case, riparians which have initially not participated in the negotiation, may want to join the agreement at a later date. In this regard, Article 4.1 of the UN Watercourses Convention provides that: "Every watercourse State is entitled to participate in the negotiation of and to become a party to any watercourse agreement that applies to the entire international watercourse, as well as to participate in any relevant consultations".

In addition to riparian countries, other entities that may become a Party an arrangement on transboundary waters include:

- Regional integration organizations to which their member States have transferred competence over matters governed by the arrangement, as is the case with the European Union. An example is the 2010 Agreement on the Protection and Sustainable Development of the Prespa Park Area, concluded between the Ministries of Environment of Albania, Greece, North Macedonia and the European Union;
- Sub-national authorities endowed with the competence to conclude such arrangements. An example is provided by the 2007 Convention on the Protection, Utilization, Recharge and Monitoring of Franco-Swiss Genevese Aquifer concluded between the Community of the Annemasse Region, the Community of the Genevese Communes and the Commune of Viry, on the one hand, and the Republic and Canton of Geneva, on the other; and,
- Additional parties that have a substantive role in the implementation or enforcement of the arrangement. An example is the participation of the World Bank in the dispute settlement procedure included in the 1960 Indus Waters Treaty. When an agreement is not reached between the Parties, the World Bank may appoint the Neutral Expert (see Annex F) or the Chairman of the Arbitral Tribunal established in accordance to Annex G.

[20] On the modalities of joining an arrangement see below (entry into force).

- Other stakeholders with an active interest in the preservation and use of the transboundary waters in question. An example is provided by the 2013 Joint Effort Local Agreement on the Protection of the Chiquibul-Mopan-Macal and Belize Watersheds through a Joint Coordination between Belize and Guatemalan Community Leaders which has been signed not only by local authorities but also by NGOs, such as the Friends for Cooperation and Development, involved in the sustainable management and protection of the relevant catchment areas.

What to consider when drafting a provision related to Parties of an agreement or an arrangement

In principle, all parties affected by the arrangement should have the opportunity to be a Party.

Based on the community of interest of a particular river basin / sub-basin or aquifer system, all riparians sharing the relevant part of basin/sub-basin or aquifer system should participate in the negotiation of an arrangement. In the context of their duty to cooperate riparian States are expected to pursue negotiations in good faith with a view to achieving a mutually satisfactory arrangement. [21]

- **Regional or other international organisations, local authorities and NGOs may also participate in the negotiations and/or the implementation of an agreement.**

Regional and international organisations as well as local authorities and NGOs may participate in the negotiation and implementation of a water agreement. Riparians may choose to include these actors in the development of such an agreement.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

Box xx - Lake Tanganyika Convention, 2003
Article 40: Ratification, acceptance, approval or accession

1.This Convention and any protocol shall be open for accession by riparian States and any other State whose territories are part of the Lake Tanganyika Basin, from the date on which this Convention or the protocol has entered into force. The instruments of accession shall be deposited with the Depositary.

Other examples: Treaty between the Government of India and Government of Pakistan Concerning the Most Complete Satisfactory Utilisation of the Waters of the Indus System of Rivers, 1960, '1960 Indus Treaty'; 2013 Joint Effort Local Agreement on the Protection of the Chiquibul-Mopan-Macal and Belize Watersheds; 2001 International Agreement on the Meuse.

Supporting resources (non-exhaustive)

- ILC, *Draft articles on the law of the non-navigational uses of international watercourses and commentaries thereto* (ILC, 1994 Commentary), Art. 5, Yearbook of the International Law Commission, 1994, vol. II, part II, p. 95.
- UNECE, *Guide to Implementing the Water Convention*, 2013, pars. 146-147.

[21] Paragraph 6 of article 2 and paragraph 1 of article 9 of the Water Convention provide for cooperation and conclusion of agreements between the Riparian Parties on the basis of equality and reciprocity, which implies the right, as well the duty, for each Riparian State to cooperate with other Riparian States.

- UNECE, *Principles for Effective Joint Bodies for Transboundary Water Cooperation*, 2018, p.8.

Module 2 – General provisions

- **Building block: Relationship with other agreements, rights and obligations**

Key aspect: accounting for existing and future arrangements

Subject to Article 103 of the UN Charter, [22] States are at liberty to decide on the relationship between successive treaties, and in case nothing is provided in an arrangement on this particular issues, Article 30 of the Vienna Convention governs the matter. The Vienna Convention provides that a subsequent treaty generally prevails over an earlier treaty (Arts 30 (3) and 59 (1)) except when the treaty itself stipulates that it is subject to a previous or subsequent treaty or that it should not be deemed as incompatible with the other treaty (Art. 30(2)). According to this provision, if a treaty provides that it is subject to another treaty, the other treaty has precedence. If not, then the latter treaty has precedence over the former. If some of the Parties to the earlier treaty are not Parties to the latter treaty, or vice-versa, the treaty to which both Parties are party to governs the relationship.

Points to consider when drafting a provision on existing and/or supplementary arrangements

- **Make explicit reference to the relationship between existing or future arrangements.**

When drafting a new arrangement, Parties often introduce a 'saving' or 'compatibility' clause to address rights and obligations emanating from existing treaties or even potential relations with future treaties.[23] For example, Article 3 of the Watercourses Convention points out that, "[i]n the absence of an agreement to the contrary, nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention." The Watercourses Convention goes on to suggest that States may, "where necessary, consider harmonizing such agreements with the basic principles of the present Convention." As for the Water Convention, Article 9, paragraph 2, requires the Parties to adapt existing agreements "where necessary to eliminate the contradictions with the basic principles of this Convention…". The reference to basics principles clearly means that countries do not have to revise existing agreements in their entirety to reflect every single provision of the convention.[24] In terms of future arrangements, the Water Convention requires the parties to enter into agreements that apply to the specific circumstance pertaining to a given watercourse the general obligations of prevention, control and reduction of transboundary impact. [25] Within some contexts, the Parties may decide to

[22] Art 103 reads, "[i]n the event of a conflict between the obligations of the members of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail."

[23] This is consisted and derived from the 1969 Vienna convention on the Law of Treaties, see in particular article 30 ("Application of successive treaties relating to the same subject matter"), and article 59 ("Termination or suspension of the operation of a treaty implied by the conclusion of a later treaty").

[24] UNECE, Guide to Implementing the Water Convention, 2013, para. 241.

[25] Article 9 para 1, Water Convention.

explicitly state that a new arrangement supersedes existing arrangements, either partially or fully (see 1994 Danube Convention box xx below).

- **A provision on cooperation with existing legal and institutional frameworks can increase the effective implementation of linked arrangements.**

Whenever the rights and duties of the Parties to an arrangement are clear and consistent with other international law obligations of a Party, the potential for a good record of compliance increases. For example, the Sava Framework Agreement explicitly refers to the EU Water Framework Directive and cooperation with joint bodies and other organizations such as the Danube Commission, ICDPR, UNECE and EU institutions (Arts.3 and 5). These arrangements and institutions, while operating at different levels, can be seen as mutually reinforcing in terms of supporting the implementation of the Sava Framework Agreement.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Convention on Cooperation for the Protection and Sustainable Use of the Danube River, 1994

Article 21: Existing and supplementary agreements

The Contracting Parties on the basis of equality and reciprocity shall adapt existing bilateral or multilateral agreements or other arrangements, where necessary to eliminate contradictions with basic principles of this Convention and shall enter into supplementary agreements or other arrangements where appropriate.

Other examples: Treaty Between the Government of India and the Government of Pakistan Concerning the most Complete and Satisfactory Utilization of the Waters of the Indus System of Rivers, 1960, Art. XI; Convention on the Cooperation for the Protection and Sustainable Use of the Waters of the Luso-Spanish River Basins, 1998 '1998 Spain-Portugal Agreement', Art. 27.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012, p. 89-90.
- UNECE, *Guide to Implementing the Water Convention*, 2013, p. 64.
- Attila Tanzi, *The Economic Commission for Europe Water Convention and the United Nations Watercourses Convention – An analysis of the harmonised contribution to international water law,* (UN 2015).

Module 3 – Substantive content of the agreement or other arrangement
- **Building block: General obligations and rights**

Key aspect: Equitable and reasonable utilization

The principle of equitable and reasonable utilization is a fundamental norm of international water law, [26] which reinforces the 'limited territorial sovereignty' doctrine by entitling each

[26] Watercourses Convention Arts 5 & 6; Water Convention, Art, 2; ILA, Berlin Rules on Water Resources, Report of the 71st Conference (2004) Art. 12; 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, Art. 5. See also ILC, 1994 Commentary, Art. 5.11; *Gabčíkovo-Nagymaros Project*

riparian, to an equitable and reasonable share in the use, development, and protection of an international watercourse.[27] As illustrated by the International Law Commission, the equitable and reasonable principle, provides a framework for reconciling competing interests with a view to 'attaining maximum possible benefits for all watercourse States and achieving the greatest possible satisfaction of all their needs, while minimizing the detriment to, or unmet needs of, each.'[28]

In the determination of what is equitable and reasonable, a series of factors should be taken into account, including: '(a) geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; (b) the social and economic needs of the watercourse States concerned; (c) the population dependent on the watercourse in each watercourse State; (d) the effects of the use or uses of the watercourses in one watercourse State on other watercourse States; (e) existing and potential uses of the watercourse; (f) conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; (g) the availability of alternatives, of comparable value, to a particular planned or existing use.'[29] While no use of water has inherent priority, 'vital human needs' and the ecosystems of international watercourses are afforded special attention.[30]

Points to consider when drafting a provision on equitable and reasonable utilization

- **The relationship between this principle and other obligations of the agreement.**

The principle of equitable and reasonable utilization is linked to other obligations such as the duty not to cause a significant harm,[31] the duty to cooperate,[32] and the obligation of notification and consultation on planned measures.[33] For example, notification of planned measures provides an opportunity for potentially affected countries to assess whether those measures are consistent with the principle of equitable and reasonable utilization.

- **Including a provision on equitable and reasonable use emphasizes the obligation to share transboundary waters.**

The inclusion of the principle of equitable and reasonable utilization within an arrangement provides the basis by which States can share the benefits of transboundary waters. This principle also recognizes that watercourse or aquifer States have limited territorial sovereign rights in the utilizations of shared waters. This means that the sovereign rights of all States be they upstream or downstream should be given equal consideration even when it means the ceding of a level of sovereignty.

(Hungary v. Slovakia), Judgment of International Court of Justice, 25 September 1997, paras.85-87; and *Indus Waters Kishenganga Arbitration* (Pakistan v. India), Partial Award of the Permanent Court of Arbitration, 18 February 2013, pp.134 and *ff*.

[27] See ILC,1994 Commentary, Art. 5.2; and *UN Watercourses Convention User's Guide*, 2012, pp.100&106.

[28] ILC, 1994 Commentary, Art. 5.3.

[29] Watercourses Convention, Art.6.

[30] Watercourses Convention, Art.10 and *UN Watercourses Convention User's Guide*, 2012, p.100.

[31] See p. 23 below, duty to take all appropriate measures to prevent significant harm.

[32] See p. 27, general obligation to cooperate.

[33] See p. 61, notification and consultation concerning planned measures.

- **States may provide a list of factors to take into account when determining what is equitable and reasonable or provide a general provision only.**

While some treaty practice simply sets out a general requirement that States utilize a particular river, lake or aquifer in an equitable and reasonable manner, other treaties also list the factors to be considered in determining what is equitable and reasonable. A provision enunciating the criteria to determine equitable and reasonable use allows States to identify some of the most important elements to consider in the sharing of transboundary waters, although the formulation of factors need not be exhaustive so that States may take into account additional criteria as circumstances change.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

Box XX, Water Charter of the Chad Lake Basin, 2012

Article 10: Obligation of equitable and reasonable use of water

The State Parties shall equitably and reasonably utilise the Basin's surface water and aquifers in their respective national jurisdictions to obtain optimal, sustainable benefits that are compatible with the legitimate interests of all the States in the Basin and with the protection of the Lake Chad and the watercourses, aquifers and aquatic ecosystems contained in its hydrographic basin.

Regarding ground water, such equitable and reasonable utilization shall be based on the State Parties' commitment not to exceed the limits specified in Article 11 as the maximum quantities abstracted.

Regarding surface water, such equitable and reasonable utilization shall be based on the State Parties' commitment not to exceed the limits specified in Articles 11 and 12 for the maximum abstraction volumes and the minimum flows during low waters periods and during high waters periods.

The maximum abstractions are determined in Appendix no2 to the present Water Charter and the minimum low water flows and minimum flows during high water periods are determined in Appendix no3 to the present Water Charter.

If the values determined in Appendices no2 and no3 to the Water Charter are modified, or if minimum flows are determined for different places, or maximum volumes withdrawn from specific portions are established, the State Parties undertake to abide by the relevant factors and criteria set forth in Article 13 to determine the equitable and reasonable utilization of the water resources in the Basin.

Other examples: 2000 Zambezi agreement, Art.13; 2002 Sava Framework Agreement, Art. 7.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012, pp 100 – 116.
- UNECE, *Guide to Implementing the Water Convention*, 2013, pp. 22-25.
- Lucius Caflisch, "Equitable and Reasonable Utilization and Factors Relevant to Determining Such Utilization (Articles 5 and 6)", in, *The UN Convention on the Law of the Non-Navigational Uses of International Watercourses. A Commentary*, Oxford, Oxford University Press, 2018, pp. 77-94.

- Owen McIntyre, "The principle of equitable and reasonable utilisation" in Tanzi, A., McIntyre, O., Kolliopoulos, A., Rieu-Clarke, A., and Kinna, R. (eds), *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes - Its Contribution to International Water Cooperation*, Leiden, NL (Brill / Nijhoff) 2015, pp. 146-159.

Module 3 – Substantive content of the agreement or other arrangements

Building block: General obligations and rights

Key aspect: Duty to take all appropriate measures to prevent significant harm

The no significant harm principle requires States to take all appropriate measures to prevent significant harm to other States sharing transboundary waters. This includes harm to human health or safety, impeding the use of the waters for beneficial purposes, and/or harm to the living organisms of the watercourse systems.[34] The principle does not impose an absolute obligation of no harm but rather requires that States *adopt all appropriate measures* to prevent significant harm. Examples of the type of measures that might be adopted are listed in Article 3 of the Water Convention, although what is 'appropriate' must be determined on a case-by-case basis, taking into account the particular circumstances in question.[35]

Points to consider when drafting a provision on significant harm

- **Some arrangements might use the term transboundary impact whereas other arrangements refer to significant harm.**

Some arrangements, in line with the 1997 Watercourses Convention oblige their Parties to take all appropriate measures to prevent the causing of significant harm to any other parties (see for example, Art. 7(3) of the Agreement for the Establishment of the Orange-Senqu Commission (2000) '2000 ORASECOM Agreement') whereas other treaties align more to the 1992 Water Convention, by referring to 'transboundary impact' (see for example the 2009 Agreement between Finland and Sweden Concerning Transboundary Rivers; or 'transboundary adverse impact', see for example the 2003 Lake Tanganyika Convention). The 2002 Sava Agreement even includes a provision on 'transboundary impact' (Art. 8) and one on 'no harm' (Art 9). The Sava Agreement, supports analysis of the relationship between the 1992 Water Convention and the 1997 Watercourse Convention, which suggest that both approaches are complementary.[36]

- **Including a provision on significant harm helps countries to adopt measures to mitigate or eliminate environmental damage**.

The inclusion of a provision on significant harm assists countries in the implementation of obligations of international environmental law which often bind States sharing transboundary waters, and also provides a bridge between substantive and procedural obligations. For

[34] UN Watercourses Convention User's Guide, 2012, p.117.
[35] UN Watercourses Convention User's Guide, 2012, p.119.
[36] Attila Tanzi, *The Economic Commission for Europe Water Convention and the United Nations Watercourses Convention – An analysis of the harmonised contribution to international water law,* (UN 2015), pp 28-31.

instance, the adoption of measures and tools, such as the Environmental Impact Assessment, may be seen as appropriate measures to prevent significant harm.[37]

- **No harm versus no significant harm**

A distinction can be made between "no harm" and "significant harm". While the first would forbid all alterations of waters, the second is limited to serious injuries to the territory and environment of another State. The International Law Commission in its work on the UN Watercourses Convention embraced the following definition of "significant harm": "the harm must be capable of being established by objective evidence. There must be a real impairment of use, i.e. detrimental impact of some consequence upon, for example, public health, industry, property, agriculture, or the environment in the affected State".[38] While the UN Watercourses Convention provides an obligation not to cause a significant harm, this duty has generally been interpreted as requiring a due diligence standard. According to the International Court of Justice in the Pulp Mills on the Uruguay River, the duty to due diligence "entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators, to safeguard the rights of the other party" (par.197).

- **Defining upstream and downstream harms**

Upstream countries may not only cause harm to downstream countries. Upstream countries can also be affected by the potential foreclosure of future uses of water caused by the prior use and the claiming of rights to such water by downstream riparians. Obligations such as the duty to notify planned measures applies and protects the rights of both downstream and upstream countries and contribute to the prevention of transboundary impacts in both directions, i.e. upstream and downstream.[39] In this context, it should be noted that both the UN Watercourses Convention and the Water Convention do not make any distinction between the rights and obligations between upstream and downstream countries. There are also some treaties which explicitly addresses the concept of foreclosure of future uses. Article 4 of the Senegal Water Charter, for example, makes explicit referent to, "the obligation of each riparian state to inform other riparian states before engaging in any activity or project likely to have an impact on … the possibility to implement future projects". This provision clearly protects all riparians, both downstream and upstream.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

Box XX. Guarani Aquifer Agreement, 2010

Article 6

Parties that perform activities or work for utilizing the water resources of the Guarani Aquifer System, in their respective territories, shall adopt all the necessary measures to avoid causing significant harm to the other Parties or the environment.

Article 7

[37] See p. 65 below, environmental and social impact assessment.
[38] ILC, Report of the ILC on the work of the its fortieth session, 9 May-29 July 1988, p. 36.
[39] See p. 61, notification and consultation concerning planned measures.

When causing significant harm to one or more Parties or the environment, the Party who caused the significant harm shall adopt all the necessary measures to eliminate or mitigate such harm.

Other examples: Dniester Treaty, 2012, Art. 12; Statute of the River Uruguay, 1975, Chapter IX.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012, pp. 117 – 121.
- UNECE, *Guide to Implementing the Water Convention*, 2013, pp. 19 – 21.
- Attila Tanzi, *The Economic Commission for Europe Water Convention and the United Nations Watercourses Convention – An analysis of the harmonised contribution to international water law,* (UN 2015), pp. 28-31.

Module 3 – Substantive content of the agreement or other arrangements

Building block: General obligations and rights

Key aspect: General obligation to protect ecosystems

An ecosystem consists of living and non-living components that are interdependent and function as a community.[40] The 1997 UN Watercourse Convention provides that '(W)atercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses' (Art. 20).[41] This requirement to protect ecosystems which is the bedrock of environmental protection can be seen as an extension of the general principle of equitable and reasonable utilization.[42] In addition, the duty to take appropriate measures prevent, control and reduce any transboundary impact includes the protection of ecosystems through, for example, pollution prevention or the avoidance of introduction of alien or new species that may have detrimental effects on the ecosystem. The obligation to protect ecosystems requires States sharing transboundary waters to take various measures to conserve water resources, including regulating the flow and controlling floods, pollution, erosion, drought, and saline intrusion.[43] The duty to protect ecosystems of transboundary waters may help countries to implement their obligations under MEAs, and support progress towards SDGs, such as those on aquatic and terrestrial ecosystems (SDGs 14 and 15) and climate change (SDG 13).

Points to consider when drafting a provision on ecosystem protection

- **The inclusion of a provision on ecosystem protection may be expressed in both general and/or specific terms.**

States sharing transboundary waters may specify the provisions on ecosystem protection through specific guidelines and standards on the discharges of wastes and polluting substances.

[40] ILC Commentary 1994, p. 119.
[41] See also Arts. 21-26.
[42] See ILC Commentary 1994, 119.
[43] ILC Commentary 1994, 119.

Such standards help to ensure the good status of transboundary waters and the services ecosystems provide. [44]

- **States sharing transboundary waters may choose to operationalize their duty to protect ecosystem by identifying specific species or areas for protection.**

The inclusion of the duty to protect ecosystems may assist countries to better protect important species in those ecosystems and to contribute to biodiversity promotion and conservation while strengthening ecosystem resiliency. This may assist countries in implementing their obligations under the Biodiversity Convention or the Ramsar Convention on Wetlands of International Importance.

- **States may include an e-flow requirement as a specific measure to protect ecosystems.**

The inclusion of provisions on e-flow or environmental flow of transboundary waters is a practical tool to implement the water-energy-food nexus. It helps to allocate water among its multiples uses, i.e. agriculture, industry, energy and ecosystems within the limits of available supply and under a changing climate. The adoption of environmental flows requires negotiations to reach a consensus on flow allocation among stakeholders.

Some arrangements set out specific requirements, such as that to 'take all reasonable measures to ensure stream flows adequate to protect the biological chemical and physical integrity of international watercourse, including their estuarine zones.'[45] Article 16(3) of the 1998 Spain-Portugal Agreement, for example, obliges its Parties to determine the flow regime of transboundary waters necessary to ensure their good status.[46] Similarly, Art. 9(3) of the 2002 Inco-Maputo Agreement, commits its Parties to a flow regime, and sets out the criteria for establishing such a regime, based on, 'the need to ensure water of sufficient quantity and acceptable quality to sustain the watercourse and their associated ecosystems'.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

Box XX. Agreement on Co-operation on the Development, Management and Sustainable Utilization of the Water Resources of the Buzi Watercourse, 2019 '2019 Buzi Agreement'

Article 9(1). Protection, Preservation and Conservation of the Environment

'The Parties shall individually and where appropriate, jointly, protect, preserve and conserve the ecosystem and the aquatic environment of the Buzi Watercourse, taking into account generally accepted international rules and standards.'

Other examples: Art. 1, Niger Basin Water Charter, 2008; Art. 11, 2002 Sava Agreement.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012, pp.164-172.
- UNECE, *Guide to Implementing the Water Convention*, 2013, pp 26-27.
- McIntyre, O. Environmental Protection of International Watercourses under International Law, Ashgate 2007.

[44] See for example the criteria for good water status, as set out in EU Directive 2000/60/EC establishing a framework for the Community action in the field of water policy, 23 October 2000 (EU Water Framework Directive).
[45] Water Resources Committee, (2000) 69 International Law Association Reports of Conferences 833.
[46] Art. 16(1).

- Brels, S., Coates, D., and Loures, F. Transboundary Water Resources Management: the role of international watercourse agreements in implementation of CBD, CBD 2008.
- Stephen McCaffrey, *The Law of International Watercourses*, 3rd ed, OUP, 2019.
- IUCN, Environmental flows, https://www.iucn.org/theme/water/our-work/past-projects/environmental-flows

Module 3 – Substantive content of the agreement or other arrangements

4.1.Building block: General obligations and rights

Key aspect: General obligation to cooperate

The obligation to cooperate in agreements or other arrangements on transboundary waters derives from the UN Charter (Art.1.3) and the *Declaration on principles of international law friendly relations and cooperation among States in accordance with the Charter of the United Nations* of 1970. The ILC points out that this obligation not only provides the basis for the equitable use of transboundary waters and their protection, but also helps to implement procedural norms such as the notification of planned measures (ILC Commentary 1994, p.105).[47] For transboundary waters, cooperation may be bi-lateral or regional. Cooperation is foundational to international water law and diplomacy.

A general obligation to cooperate is often included in arrangements on transboundary waters. Article 8 of the 1997 Watercourses Convention for example, provides that: "[w]atercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse." The obligation to cooperate may form the basis for the establishment of joint bodies or the adoption of arrangements on transboundary waters. The Water Convention, for example, requires its parties to cooperate through, 'bilateral or multilateral agreements or other arrangements and associated joint bodies with States sharing transboundary waters. (Art.9).[48]

Points to consider when drafting a provision on the duty to cooperate

- **The duty to cooperate may be expressed in both general and/or specific terms.**

The duty to cooperate has both substantive and procedural elements. It is key to operationalizing the principle of equitable and reasonable utilization and the obligation to take appropriate measures to prevent significant harm, and it is the basis for several specific procedural requirements, such as the duty to exchange data and information between States sharing transboundary waters,[49] to enter into consultations and joint activities in specific areas, or to establish a joint body.[50] The duty to cooperate may also be expressed in terms of subjects of cooperation between riparian States, including irrigation, hydro-power, navigation, flood control, fisheries, timber floating, recreation and tourism.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

[47] See Art. 3.5 of the SADC Water Protocol stating that "States Parties undertake to pursue and establish close cooperation with regard to the study and execution of all projects likely to have an effect on the regime of the shared watercourse".
[48] UNECE Implementation Guide, 2012, p.63.
[49] See p. 59 below, Regular exchange of data and information.
[50] See p. 78 below, Implementation at transboundary level, including establishment of joint bodies.

Box XX: Mekong Agreement, 1995, Art. 1

Article 1. Areas of Cooperation

To cooperate in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong River Basin including, but not limited to irrigation, hydro-power, navigation, flood control, fisheries, timber floating, recreation and tourism, in a manner to optimize the multiple-use and mutual benefits of all riparians and to minimize the harmful effects that might result from natural occurrences and man-made activities.

Other examples: Water Charter for the Volta River Basin, 2019, Art. 5; Framework Agreement on the Sava River Basin, 2002, Art.3; Convention on Co-operation for the Protection and Sustainable Use of the Danube River, 1994, Art. 2.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention : User's Guide* (2012), pp. 123-125.
- *Guide to Implementing the Water Convention* (2013), pp. 32-39.
- Christina Leb, General Obligation to cooperate and Regular Exchange of Data and Information (Article 8 and 9), in *The UN Convention on the Law of the Non-Navigational Uses of International Watercourses – A Commentary*, Oxford University Press, 2018, pp. 123-140.

Module 3 – Substantive content of the agreement or other arrangements

- **Building block: Principles and other rights and obligations**

Key aspect: Precautionary principle

The precautionary principle imposes both substantive and procedural obligations upon States.[51] In essence, the principle requires that States take action to anticipate, prevent or minimise the possibility of serious or irreversible harm to transboundary waters even when scientific knowledge is incomplete or inconclusive.[52] Thus, the trigger for taking precautionary measures is the existence of a concern that probable damage may be caused, despite lack of scientific certainty. There is therefore no need for confirmation of incontrovertible scientific evidence

[51] See e.g., Articles 2, Art 9(j), and 16 of the 1992 UNECE Water Convention; and Articles 7, 12, and 20-23 of the 1997 UN Watercourses Convention; and *Pulp Mills on the River Uruguay (Argentina* v. *Uruguay),* 20 April 2010*,* paras.203-205.

[52] The 1992 UNECE Water Convention, Article 2 (5) (a). See e.g., Declaration on Environment and Development, (Rio Declaration) UN Doc. A/CONF.151/5/Rev.1, 14 June 1992, Principle 15 (it uses 'precautionary *approach*' rather than 'principle' or 'measures'); and the ILC Draft Articles on Transboundary Aquifers 2008, annex to the law of transboundary aquifers, Resolution A/RES/63/124, 2009, Article 12.

before taking action.[53] Numerous international authoritative instruments make reference to the precautionary principle.[54]

Points to consider when including a provision on the precautionary principle

- **The inclusion of a provision on the precautionary principle helps to ensure countries prevent significant harm to transboundary waters**

The precautionary principle underpins other principles, including the principle of prevention.[55] Climate change adaptation measures may ~~also~~ find their basis in the precautionary principle. The application of the precautionary principle may involve a diminution of economic benefits and opportunity costs. However, its inclusion in arrangements on transboundary waters can be an important tool for the adoption of sound policies and laws. This is particularly true in the context of environmental changes including a reduction of available water resources combined with population growth and increasing energy needs.

- **States sharing transboundary waters may choose to operationalize the principle of precaution through the adoption of specific environmental standards**.

The explicit inclusion of the precautionary principle within an arrangement on transboundary waters helps to ensure that environmental obligations contained in the arrangement are interpreted by the Parties within the context of scientific uncertainty, such as, future scenarios concerning the impacts of climate change.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

Box XX: Great Lakes Water Quality Agreement, 2012

Article 2(4) Principles and Approaches

The Parties shall be guided by the following principles and approaches in order to achieve the purpose of this Agreement …

…

(i) precaution - incorporating the precautionary approach, as set forth in the *Rio Declaration on Environment and Development*, the Parties intend that, "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation";

Other examples: Water Charter of the Lake Chad Basin, 2012, Art. 7; Convention on the Protection of the Rhine, 1999, Art.4.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012.

[53] *UN Watercourses Convention User's Guide*, p.166; and Nicolas De Sadeleer and Mehdy Abbas Khayli, 'The Role of the Precautionary Principle in the Convention on the Protection and Use of Transboundary Watercourses and International Lakes,' in Tanzi, A., McIntyre, O., Kolliopoulos, A., Rieu-Clarke, A., and Kinna, R. (eds.), *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes - Its Contribution to International Water Cooperation*,. (Brill / Nijhoff) 2015, p.175. See also Convention on the Protection of the Marine Environment of the Baltic Sea Area, 9 April 1992, Article 3(2).

[54] See Art.2.4 of the Convention on Cooperation for the Protection and Sustainable Use of the Danube; Art. 4 of the 1999 Convention on the Protection of the Rhine; Art. 2(5) (a) of the 1992 UNECE Water Convention; and Art. 3 of the 1992 United Nations Framework Convention on Climate Change (UNFCCC).

[55] See Pulp Mills on the River Uruguay (Argentina v. Uruguay), 20 April 2010, para.164.

- Nicolas De Sadeleer and Mehdy Abbas Khayli, 'The Role of the Precautionary Principle in the Convention on the Protection and Use of Transboundary Watercourses and International Lakes,' in Attila Tanzi and al., *The UNECE Convention on the Protection and Use of Transboundary Watercourses and international Lakes: its contribution to international water cooperation*, Brill 2015, pp.160-175.
- Arie Trouwborst, 'Prevention, Precaution, Logic And Law: The Relationship Between the Precautionary Principle and the Preventative Principle in International Law and Associated Questions,' *Erasmus Law Review,* 2009.

Module 3 – Substantive content of the agreement or other arrangements

Building block: Principles and other rights and obligations

Key aspect: Sustainability

'Sustainability', as defined in Art. 4(m) of the 2012 Great Lakes Agreements, calls for, 'considering social, economic and environmental factors and incorporating a multi-generational standard of care to address current needs, while enhancing the ability of future generations to meet their needs.' Sustainability has been a key priority of the international community, as evidenced by the 2030 Agenda for Sustainable Development by the UN in 2015, which *inter alia* recognizes the importance of realizing the sustainable use of water resources (Goal 6). The sustainability principle, interpreted in line with the concept of sustainable development, also pervades the 1992 Water Convention and the 1997 Watercourses Convention.[56]

Points to consider then including a provision on the sustainability principle

- **The inclusion of a provision on the sustainability principle promotes the inclusion of the different dimensions of water, i.e. environmental, social and economic functions**.

The inclusion of the principle of sustainability within an arrangement for transboundary waters assists countries to consider environmental and social requirements in developing economic projects. It helps to balance the environmental, social and economic interests in the management and uses of transboundary waters.

- **The inclusion of a provision on the sustainability principle helps to take into account the collective and inter-generational dimension of water resources management**.

The principle of sustainability may help States sharing transboundary waters to adopt collective actions to address the risks of environmental degradation. It also guides States to consider the rights of present and future generations in accordance with the principle of intra and inter-generational equity.

[56] See Article 1 (1), 2 (2), 2 (5) (c) and 3 (1) (i) of the 1992 Water Convention; and Articles 5, 20 and 24 of the 1997 Watercourses Convention. See also *Gabčíkovo-Nagymaros Project* case (Hungary v. Slovakia), 25 September 1997, para.140. An array of binding and non-binding instruments also include the principle of sustainability, including the UN Conference on Human Environment (1972), the 1992 Rio Declaration on Environment and Development, and the 2002 World Summit on Sustainable Development, the 2002 New Delhi Declaration of Principles of International Law Relating to Sustainable Development, the 2012 UN Conference on Sustainable Development, and the 2017 International Union for Conservation of Nature (IUCN) Draft Covenant on Environment and Development (Art.1).

How could provisions be framed? Examples from treaty practice (non-exhaustive)

Box XX: Agreement Between Canada and the United States of America on Great Lakes Water Quality, 2012
Article 2 : Purpose, principles and approaches
(m) sustainability – considering social, economic and environmental factors and incorporating a multi-generational standard of care to address current needs, while enhancing the ability of future generations to meet their needs;
Other examples: Water Charter of the Lake Chad Basin, 2012, Art.7; Convention on the Protection of the Rhine, 1999, Art. 4(g).

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012.
- Alistair Rieu-Clarke, 'The Sustainability Principle' in Attila Tanzi and al., *The UNECE Convention on the Protection and Use of Transboundary Watercourses and international Lakes: its contribution to international water cooperation*, Brill 2015, pp.195-210.

Module 3 – Substantive content of the agreement or other arrangements

Building block: Principles and other rights and obligations

Key aspect: Polluter/user pays principle (PPP)

The 'polluter-pays principle' (PPP) stipulates that the 'costs of pollution prevention, control and reduction measures shall be borne by the polluter.'[57] It has a primarily domestic nature i.e. it regulates relationships within the territory of a Party rather than between Parties. The PPP is one of the principles that should guide States when trying to prevent significant adverse transboundary effects. It has both preventive (cost of *pollution prevention)* and curative (*liability principle* - the costs of 'depuration'*)* dimensions.[58] The PPP is one of the core principles of the 1992 Rio Declaration on Environment and Development (Principle 16). PPP is distinguished from 'compensation' in the sense that even if damages have already been paid, it does not relieve the polluter from the obligation of preventing pollution and of paying the cost thereof.[59] Even though guidance as to the actual implementation of this principle remains very limited, in relation to situations where identifying the cause-effect relationship cannot be established and/or the polluter identified, the possibility of establishing special funds is recommended.[60]

Points to consider when including a provision on the Polluter-Pays-Principle

- **The inclusion of a provision on PPP helps to allocate responsibilities in the case of a damage to transboundary resources**

By assigning responsibility for damages caused to the water system, PPP encourages countries to prevent damage to transboundary waters by incentivising users to use water resources

[57] See Art. 4(2)(d) of the 2012 Dniester Treaty. See also Art. 2(5), Water Convention.
[58] See UNECE, 'Code of Conduct on Accidental Pollution of Transboundary Inland Waters', ECE/ENVWA/16, December 1990, Section XV, para.3; and ILC, 'Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities (with Commentaries)' UN Doc. A/63/10, 2006, Principle 3, para.12.
[59] UNECE, *Guide to Implementing the Water Convention*, 2013, para. 133(c).
[60] See UNECE, 'Recommendation to ECE Governments on the Protection of Soil and Aquifers Against Non-Point Source Pollution', Doc. ECE/CEP/10, March 1988, recommendation 29.

rationally and avoid the introduction of potential pollutants. The principle encourages private actors to use cleaner products or technologies.

- **The inclusion of a PPP provision encourages riparian States to put in place domestic measures to allocate financial responsibility for significant harm and prevention**

The PPP has a primarily national focus. The inclusion of such a principle in a an agreement or other arrangement on transboundary waters encourages States to adopt and/or maintain the necessary measures to support its implement at the national level, such as the allocation of financial responsibility at the national level, by ensuring that financial cost of polluting operational activities and accidental pollution activities are supported by the private actors who undertake polluting activity. Its inclusion in an arrangement on transboundary waters may also facilitate the harmonization of relevant laws between State parties.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX X. Agreement on the Protection of the River Scheldt, 1994

Article 3: Principles of cooperation

(2) The Contracting Parties shall be guided by the following principles in their action:

[…]

(d) The polluter pays principle according to which the costs of pollution prevention, control and reduction of measures, shall be borne by the polluter.

Other example: 1994 Convention on Co-operation for the Protection and Sustainable Use of the Danube River, Art. 2(4); Addendum to the Agreement establishing a uniform river regime and creating CICOS, 2007, Art.4.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012. pp 28-31.
- UNECE, *Guide to Implementing the Water Convention,* 2013, pp. 28-31.
- Leslie-Anne Duvic-Paoli and Pierre-Marie Dupuy, 'The Polluter-Pays Principle in the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes,' in Attila Tanzi and al., *The UNECE Convention on the Protection and Use of Transboundary Watercourses and international Lakes: its contribution to international water cooperation*, Brill 2015, pp.176- 194.

Module 3 - Substantive content of the agreement or other arrangement

Building block: Principles and other rights and obligations

Key aspect: Human rights to safe drinking water and sanitation

The UN General Assembly and Human Rights Council have recognized the rights to water and sanitation in 2010.[61] Even before then, several international conventions and instruments explicitly referenced the rights to water and sanitation.[62] Both rights are derived from the right

[61] General Assembly resolution 64/292; Human Rights Council Resolution 25/9.

[62] See for instance: Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) (1979), Art..14; Convention on the Rights of the Child (1989), Art. 24; Convention on the Rights of Persons with Disabilities (2007), Art. 28; African Charter on the Rights and Welfare of the Child (1990), Art.14; Protocol on the Rights of Women in Africa (2003), Art .15; Arab Charter on Human Rights (2004), Art. 39.

to an adequate standard of living. Indeed, while water is strictly linked to human survival, the lack of adequate sanitation affects the potability of water, thus affecting human health, and can have a profound impact on an individual's living conditions, as well as affecting personal security and dignity. Furthermore, the rights are inextricably related to the right to the highest attainable standard of health, which is usually interpreted broadly to cover not only the provision of health care but also the promotion of those elements and conditions that allow individuals to be healthy.[63]

The UN General Assembly and Human Rights Council have recognized that these two rights should not be viewed by States as having impacts on the law of transboundary water resources.[64] Moreover, according to the definition given by the UN, the right to water only covers personal and domestic uses. However, some instruments pertaining to the field of transboundary waters include the rights to water and sanitation.[65] There is also an emerging international practice calling for the inclusion of this right. For example, the Guidelines on the Human Right to Water in Africa adopted by the African Commission on Human and Peoples' Rights in 2020 encourage States to "explicitly recognise the right to water in transboundary water agreements" and considers the right to water as "as one of the relevant factors that determine whether the use of the resource is equitable and reasonable". [66]

The rights to water and sanitation are also closely related to ensuring non-discrimination against women.[67] Amongst other things, adequate water and sanitation facilities (with appropriate equipment for menstrual hygiene management) in educational institutions, as well as public places, are key to guarantee the right to education for all girls and the effective involvement of women in public affairs. This steers a State towards achieving the SDGs.

Box X – Human Rights Council Resolution 45/8

In 2020, the Human Rights Council reaffirmed that:

- The human right to safe drinking water entitles everyone, without discrimination, to have sustained access to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use.
- The human right to sanitation entitles everyone, without discrimination, to have physical and affordable access to sanitation, in all spheres of life, that is safe, hygienic, secure, socially and culturally acceptable, and provides privacy and ensures dignity.

Points to consider when drafting a provision on water and sanitation?

[63] See General Comment 14 by the CESCR, on Art 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR).

[64] See General Assembly resolution 64/292; Human Rights Council Resolution 45/8. The General Comment N° 15 adopted by the CESCR explicitly called for international cooperation: " To comply with their international obligations in relation to the right to water, States parties have to respect the enjoyment of the right in other countries. International cooperation requires States parties to refrain from actions that interfere, directly or indirectly, with the enjoyment of the right to water in other countries" (para. 31).

[65] See for instance the Senegal River Water Charter (2002), Art.4. Also, the Treaty between the Government of the Republic of Moldova and the Cabinet of Ministers of Ukraine on Cooperation in the Field of Protection and Sustainable Development of the Dniester River Basin 'the 2012 Dniester Treaty' directs States to consider the provision of safe water as a vital human need.

[66] African Commission on Human and Peoples' Rights. Guidelines on the Right to Water in Africa, 2020, par. 35.2, https://www.achpr.org/legalinstruments/detail?id=71

[67] See in particular Article 14 of the CEDAW.

- **The two rights can complement and influence the substantive content of the arrangement**

In particular, the rights to water and sanitation can influence provisions related to water uses and water allocation and/or inform their interpretation or application. This is also the case for the principle of equitable and reasonable utilization, the rights to water and sanitation should be considered within the factors to be weighed in order to determine the "equitable" and "reasonable", character of a given uses of transboundary waters.[68]

States may therefore make reference to aspects of the rights to water and sanitation within a provision on equitable and reasonable utilisation. Article 10 of the Watercourses convention, for example, notes that 'special regard' should be given to 'vital human needs', when determining what is an equitable and reasonable utilisation.

- **Implementing the rights to water and sanitation supports the rules on the protection of water quality and on the prevention, reduction and control of water-related diseases.**

Lack of adequate water supply and of effective systems for sanitation can cause pollution, disrupt the functioning of ecosystems and give rise to water-borne diseases, such as diarrhoea, cholera amongst others.

- **The two rights in question help reinforce procedural features, ownership and sustainability of an arrangement on transboundary waters**

The human rights to water and sanitation entitle individuals to have access to water and sanitation-related information, to be effectively involved in decision-making and to be able to resort to redress mechanisms when their rights have been violated. In turn, this helps reinforce public participation, ownership by communities and sustainability of the legal framework. The two rights in question can also complement provisions on social and environmental impact assessment, which can include human rights impact assessment when planned measures could potentially affect communities and individuals living in a transboundary basin. In this way environmental justice consideration are achieved.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX – Senegal River Water Charter, 2002

TITRE 3. – Principles and Modalities of Water distribution between uses

Article 4

The use of the waters of the River is open to each riparian State, as well as to the persons being on its territory in accordance with the principles and modalities defined by the present Charter.
The distribution of the waters between the uses is based in particular on the following general principles:
(…)
The guiding principles of any distribution of the waters of the River aimed at ensuring the full enjoyment of the resource by the populations of the riparian States, while respecting

[68] For a formulation of the principle of equitable and reasonable utilization, as well as factors relevant to equitable and reasonable utilization, see for instance Articles 4 and 5 of the UN Watercourses Convention.

the safety of persons and works, as well as the fundamental human right to safe water, in the perspective of sustainable development.

Other examples: Dniester Treaty, 2012, Art. 4(2)(c).

Supporting resources (non-exhaustive)

- CESCR, General Comment 15, 2003.
- OHCHR, Handbook on the realization of the rights to water and sanitation, 2004.
- OHCHR, Thematic reports by the Special Rapporteurs on the human rights to safe drinking water and sanitation.
- Attila Tanzi, "Reducing the Gap Between International Water Law and Human Rights Law: The UNECE Protocol on Water and Health", in *International Community Law Review*, 2010, pp. 267-285.
- African Commission on Human and Peoples. Rights, Guidelines on the Right to Water in Africa, 2019.
- EU, Human Rights Guidelines on Safe Drinking Water and Sanitation, 2019.

Module 3 – Content of the agreement or arrangement

- **Building block: Water management and protection issues**

Key aspect: Water allocation and flow regulation

Water allocation determines who can use shared water resources, for which purposes, in what quantity and quality, where and in what point in time. Handling the growing water demands of several sectors, managing water shortages and climate change require shared, concerted and equitable management of water allocations and flows, particularly in a transboundary context. Allocation models make it possible for States sharing transboundary waters to simulate development scenarios in the short, medium and long terms. This kind of tool makes it possible to optimize investments and improve the division of benefits among countries. Assessing benefits is related to planning investments in the basin, and a useful and practical tool of transboundary cooperation in the area of water, which makes it possible to identify potential inequalities and promote cooperation efforts.

BOX XX – Coordinated management of dams in the Niger Basin

The Niger Basin represents major potential for regional development, particularly where irrigation and hydroelectricity are concerned. A major challenge for the Niger Basin Authority (NBA) and its nine Member States is attaining overall coherence in developing and managing the basin. Large structuring dams currently in place are the Sélingué in Mali, Kandadji in Niger (under construction), Kinji, Jebba, Shiroro, Dadin Kowa in Nigeria and Lagdo in Cameroon. The projects underway are the Fomi and Taoussa in Guinea and Mali.

Annex 2 of the Niger Basin Water Charter relating to the Water Regulations for the coordinated Management of the Structuring Dams was drafted and then approved in late 2019 by the NBA Council of Ministers. Its implementation is based on an updated allocation model and a tactical management tool. In addition to collecting data and operationalizing expectations, potential improvements to the joint management of dams in the Niger Basin

are particularly focused on the implementation of the Permanent Technical Committee, which is responsible for enforcing the Coordinated Management Regulation.

Points to consider when drafting a provision on water allocation and flow regulation

- **The inclusion of provisions on water allocation makes it possible to choose a shared development scenario and ensure consensual management of transboundary waters.**

Allocation tools are based on use models that make it possible to simulate hydrological operations and allocation between sectors (irrigation, industries, drinking water, hydropower, ecosystem needs, etc.) based on use, seasons and States. Some tools are also able to model water quality. States can use quantitative models to simulate various scenarios, in particular hydrometeorological scenarios. These scenarios might also focus on various development options, particularly new, transboundary facilities and combining them within the basin. The scenarios studied must be drafted and approved consensually by States sharing transboundary waters.

- **The inclusion of provisions on flow regulation relies on development of facilities which make possible to regulate flows. These facilities can be managed based on shared methods and built in a joint and coordinated way.**

Flows are regulated through the management of hydraulic facilities and infrastructures. States sharing transboundary waters often face the challenge of achieving general coherence in developing and managing basin waters, selecting the most relevant projects and coordinating them. Joint water regulation aims to define the principles, general rules, methods and limits of the joint management of current and future facilities in the basin, while taking the general interest into consideration. The rules and principles of joint management of infrastructure may be drafted at the "strategic" level, based on hydrological and hydraulic objectives to be attained, and at the "tactical" level for operational management.

- **Arrangements on transboundary waters should be adaptable.**

Arrangements should be adaptable in the medium and longer terms to changing hydrological, climatic and other related factors. Allocations by percentages instead of absolute amounts, periodic review and using objective thresholds to address the need for exceptional deviations are approaches that can embed adaptability into provisions.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Convention on the Cooperation for the Protection and Sustainable Use of the Waters of the Luso-Spanish River Basins, 1998

Article 16 – River Flows

1. The Parties within the Commission shall determine, for each river basin, using appropriate methods according to its specificity, the flow regime required to ensure good water status, its present and foreseeable uses, and the compliance with the legal regime of the Agreements of 1964 and 1968.

2. The flow regime, for each river basin, shall be proposed by the Commission and approved by the Conference.

3. Each Party shall ensure, in its territory, the management of the hydraulic infrastructures so as to guarantee the compliance with the established flow regime.

4. Any abstraction of water, regardless of its use and geographical destination, shall comply with the flow regime and with any other provisions set out in the present Convention.

Other examples: 2019 Buzi Agreement, Art. 19 and Annex 2; 2008 Niger Basin Water Charter, Annex 2.

Supporting resources (non-exhaustive)

- UNECE, *Identifying, assessing and communicating the benefits of transboundary water cooperation. Lessons learned and recommendations*, (2018).
- INBO, *The handbook for integrated water resources management in transboundary basins of rivers, lakes and aquifers*, (2012).

Module 3 – Content of the agreement or other arrangement

Topic: Issues related to water resources protection and management

Key aspect: Hydraulic facilities and infrastructures

Hydraulic facilities and infrastructures are built for various existing and planned water uses and may have a transboundary impact. When these facilities and infrastructures are located on transboundary waters, several countries may benefit from them. The idea of various States "sharing" the same basin does not directly refer to the water resources itself, but rather the benefits associated with it. Given the links between water-food-energy-ecosystems, it is worth considering the intersectoral impacts beyond water management. Opportunities for cooperation among countries may bring advantages at the basin level by reducing impacts and creating major synergy, particularly when it comes to financing.

Some States sharing transboundary waters have conceived large dams as joint ownership. In this case, two or more States sharing transboundary waters have decided, by a legal act, that the "common dam" is their indivisible property. Sometimes a dam is built on the border between two countries, which requires them to cooperate. When a major project is located in the most downstream country of a transboundary basin, it can also become a stumbling block for the countries, as future projects in countries further upstream can damage its water supply. It therefore becomes important that there is a clear benefit sharing regime to regulate and govern the uses of the shared water course.

BOX XX. Joint works in the Senegal Basin

In addition to the Conventions on the creation of the OMVS and on the legal status of the Senegal River, a Convention on the Legal Status of Common Works was signed in 1978 by the Heads of State and Government of Mali, Mauritania and Senegal, which were later joined by Guinea. The Convention on the Financing of Common Works was signed on 12 May 1982 in Bamako.

The Diama and Manantali Dams were built respectively in 1988 and 1990, and today have been completed by the Félou and Gouina run-of-river hydroelectric projects. Management

and operation companies shared by the four countries are responsible for their operation and maintenance.

Points to consider when drafting a provision on hydraulic facilities and infrastructure

- **States sharing transboundary waters may decide to include a provision on the development of a joint hydraulic infrastructure.**

The decision to implement a joint facility on a transboundary watercourse may be a sensitive issue of cooperation between States. Obtaining consensus on a joint project is a major asset for international cooperation and political-economic integration. Joint hydraulic infrastructure may provide significant economic and social benefits, in particular when it comes to energy and irrigated agriculture. The development of a joint infrastructure may prevent the risks of negative impacts on downstream States, caused by withdrawals and changes to the flow system. Joint infrastructure may contribute to prevent tensions between States sharing same transboundary waters. They may become a major factor of integration when they are designed and managed consensually. While providing for the possibility of joint project in an arrangement, the details of such an arrangement may be set out in future Annexes or protocols.

- **States may consider including provisions related to the security of water infrastructure.**

Large projects should respect security standards, including the enforcement of international rules on dam security and the implementation of monitoring mechanisms and the harmonization of practices. It is important to develop contingency plans to prevent the risks of a dam break. Emergency preparedness plans should be key features of such projects. The objective to ensure the security of dams may also be served through the reference to the principles and rules of International Humanitarian Law (which also applies to international and non-international armed conflicts). [69] In terms of security, States can consider including provisions for the protection of shared resources and infrastructure in times of armed conflict thereby respecting international law in accordance with the 1992 Rio Declaration (Principle 24).

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX – Protection of water installations

SADC Revised Protocol on Shared Watercourses in the SADC

Article 4: Specific provisions

3) c) iii) Shared watercourses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in in international and non-international armed conflict and shall not be used in violation of those principles and rules.

[69] See Arts 54 and 56 of the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977 and Art.14 and 15 the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II), 8 June 1977.

Other examples: 1978 OMVS Convention on the Legal Status of Common Works; 2012 Dniester Treaty, Art. 10.

Supporting resources (non-exhaustive)

- UNECE, *Nexus solutions and investments in transboundary basins: draft report – the scope, approach and the analytical framework*, 2020,
- Geneva Water Hub, *Global High-Level Panel on Water and Peace. A Matter of Survival*, 2017
- Geneva Water Hub, *Geneva List of Principles on the Protection of Water Infrastructure*, 2020.
- INBO, *The handbook for integrated water resources management in transboundary basins of rivers, lakes and aquifers*, 2012.
- World Commission on *Dams and development, a new framework for decision-making. The report of the World commission on dams*, 2000.

Module 3 - Substantive content of the agreement or other arrangement

Building block: Water management and protection issues

Key aspect: Prevention, reduction and control of pollution, hazardous activities, including prevention of accidental water pollution

Water pollution, both regular and accidental, is happening in many transboundary basins, significantly impacting water resources, aquatic ecosystems, as well as water supplies for human needs and economic sectors. Water pollution increases competition for available water resources to satisfy various needs.

Accidental water pollution can happen due to inadequate management of industrial facilities, technological disasters, ageing or abandoned facilities, errors in site selection or design, unsatisfactory foundations, leakages, natural hazards such as flooding, erosion and earthquakes, and poor risk analysis and risk management. Accidental pollution can be transmitted via transboundary rivers and groundwaters into neighbouring countries. Even small amounts of hazardous substances released into waters can cause significant environmental damage with far-reaching and long-term effects.[70]

For these reasons, prevention, reduction and control of water pollution, including accidental one, are the key topic of cooperation in many basins. Furthermore, these issues often are at the heart of public interest and involvement in transboundary water cooperation.

Box X –Pollution prevention within the global Water Conventions

Both global water Conventions explicitly mention the obligation to take all appropriate measures to prevent, control and reduce pollution of waters causing or likely to cause transboundary impact (Article 2.2 (a) of the Water Convention; Article 21.2 of the Watercourses Convention).

Measures against water pollution include: setting up water quality objectives and criteria; prior licensing of wastewater discharges; monitoring and control of the authorized

[70] UNECE, Joint Expert Group on Water and Industrial Accidents: Addressing the risk of accidental transboundary water pollution, 2019.

discharges; application of best available technology in the permitting process; implementing best environmental practices for the reduction of pollution from diffuse sources; application of environmental impact assessment and other means of assessment; taking specific measures to prevent the pollution of groundwaters.

With regard to minimizing the risk of accidental pollution, most relevant obligations are the obligation to develop contingency planning and obligation to notify without delay of any emergency/critical situation.

Points to consider when including a provision on the prevention, reduction and control of water pollution

- **The inclusion of provisions on the prevention, reduction and control of water pollution can improve water quality, therefore contributing to better human health and healthy ecosystems.**

States sharing transboundary waters may operationalize provisions on water pollution through the undertaking of joint monitoring and assessment[71] of the status of transboundary waters, setting of joint water quality objectives and criteria and implementing dedicated programs to reduce point and diffuse pollution.

- **Provisions on the prevention of accidental pollution of transboundary waters increases preparedness and contributes to effective response and recovery.**

Rules on industrial accidents allow States sharing transboundary waters to increase preparedness for accidental water pollution by taking measures such as identifying hazardous industrial facilities. Countries may also set up and operate coordinated warning and alarm systems as well as organizing international response exercises which simulate industrial accidents or shipping accidents along transboundary watercourses, see e.g. the joint exercise by the International Commission for the protection of the Oder in 2017.[72] They may also agree in advance upon procedures for mutual assistance. Such measures not only increase preparedness, save lives and economize the costs of recovery from accidental pollution but also enhance trust among States sharing transboundary waters.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Agreement between the Government of the Russian Federation and the Government of the Republic of Kazakhstan on the Conservation of the Ecosystem of the Transboundary Ural River Basin, 2016

Article 3.

The Parties have agreed to cooperate in the following fields:

(a) Joint actions and plans for the improvement of the basin ecosystem and prevention of transboundary pollution of Ural River;

[71] See p. 68 below, Joint monitoring and assessment.
[72] For more information see: http://mkoo.pl/index.php?mid=6&aid=805&lang=DE

(b) Promotion of new technologies for conservation of the ecosystem of the transboundary Ural River;

[…]

(d) Developing proposals for the conservation of fauna in the transboundary Ural River basin, including ungulates, waterfowl and fishes;

(e) Developing proposals for combating illegal logging, forest pests and diseases, and forest fires in the floodplain of the transboundary Ural River;

[…]

(i) Facilitating measures to reduce the pollution load on the ecosystem of the transboundary Ural River from both point sources and diffuse sources;

(j) Exchange of information on the (s)tate of the ecosystem of the transboundary Ural River basin and the creation by the Parties of a mechanism for taking joint measures to eliminate and reduce transboundary impact in the transboundary Ural River basin in case of emergency;

[…].

Other examples: Framework Agreement between the Government of Montenegro and the Council of Ministers of the Republic of Albania on mutual relations in the field of management of transboundary water, 2018; Protocol for Sustainable Development of Lake Victoria Basin, 2003, '2003 Lake Victoria Protocol', Arts19 and 20.

Supporting resources (non-exhaustive)

- UNECE, Joint Expert Group on Water and Industrial Accidents, 2019.
- UNECE, Safety guidelines and good practices for the management and retention of firefighting water, 2019.
- UNECE, Checklist for contingency planning for accidents affecting transboundary waters, 2016.
- UNECE, Safety guidelines and good industry practices for oil terminals, 2015.
- UNECE, Safety guidelines and good practices for pipelines, 2015.

Module 3 - Substantive content of the agreement or other arrangement

Building block: Water management and protection issues

Key aspect: Emergency/critical situations, including floods and droughts

The term "emergency" or "critical situations" refers to all situations that may have a transboundary impact, irrespective of their origins, whether due to natural phenomena (e.g. floods, droughts, ice drifts, storms, other extreme weather conditions, earthquakes) or human conduct (e.g. industrial and other accidents, man-made floods, sabotage on installations). The term encompasses situations caused by sudden events or by the cumulative effect of circumstances extending over a period of time and reaches, that at some point, pose a threat of

causing transboundary impact.[73] Emergency/critical situations often trigger bilateral and basin-wide cooperation on transboundary waters or give an impetus to strengthening such cooperation.

Building on the traditional cooperation in joint flood or drought risk management or cooperation over specific hazardous facilities, countries are gradually moving towards cooperation on disaster risk reduction in transboundary basins in line with the Sendai Framework for Disaster Risk Reduction 2015-2030.

Box X. Emergency situations within the global Water Conventions

The following obligations of States sharing transboundary waters may be derived from the two global Water Conventions:

- Obligation to take all appropriate measures to prevent emergency/critical situations from arising (stemming out of Arts 2.1, and Art. 3.1 (j) and (l) of the Water Convention and Art. 27 of the Watercourses Convention);
- Obligation to develop contingency planning (provided for in Art. 3.1(j), of the Water Convention and Art. 28.4 of the Watercourses Convention);
- Obligation to notify without delay of any emergency/critical situation (provided for in Art. 14 of the Water Convention and Art. 28.2 of the Watercourses Convention);
- Obligation to take all appropriate measures to reduce transboundary impact upon occurrence of emergency/critical situation (stemming out of Art. 2.1, of the Water Convention and provided for in Article 28.3 of the Watercourses Convention).

In addition, the Water Convention requires States sharing transboundary waters to set up coordinated or joint warning and alarm systems with the aim of transmitting information on the emergency/critical situations (Art. 14). It also requires Riparian Parties to provide mutual assistance in critical situations upon request and agree in advance upon the procedures for mutual assistance (Art. 15).

Both instruments emphasize the role of joint institutions created by States sharing transboundary waters. They can be entrusted to establish warning and alarm procedures (Art. 9.2 of the Water Convention) or can assist in developing contingency plans (Art. 28.4 of the Watercourses Convention).

Points to consider when drafting a provision on emergency/critical situations within legal frameworks for transboundary waters

- **Emergency/critical situations may result in serious consequences for States sharing transboundary waters.**

Emergency/critical situations may result in loss of life or injury, property damage, social and economic disruption or environmental degradation. Through cooperation to reduce the risk factors and develop contingency planning and by taking other structural and non-structural measures, States sharing transboundary waters may prevent and mitigate emergency/critical situations, therefore saving lives and preventing or reducing economic and environmental damage. Basin-wide cooperation in climate change adaptation and disaster risk reduction can avoid mal-adaptation and lead to increased effectiveness by sharing data and warnings, locating

[73] Guide to Implementing the Water Convention, para. 207, 299-300.

measures where they have the optimum effect and potentially even sharing costs between States sharing transboundary waters.

- **Emergency/critical situations may intensify with the growing impacts of climate change**

Building resilience becomes a major issue as climate change affects water quantity and quality, water temperature, water-related ecosystems and the magnitude and occurrence of extreme weather events such as floods and droughts. Many transboundary basins are particularly vulnerable to these changes. Resilient and adaptive legal frameworks for transboundary water cooperation can provide an adequate framework to respond to the growing impacts of climate change, including the rising number and intensity of extreme weather events.

- **Prevention, preparedness, response and restoration/remediation require engagement of many authorities beyond the water management sector**

Cooperation over emergency/critical situations requires the involvement of a large number of governmental authorities, including ministries of climate changes and disaster risk direction, interior, energy, agriculture, transport, finance, emergency authorities, fire brigades, inspectorates and police, depending on the situation. Inclusion of provisions on emergency/critical situations in the bilateral or basin-wide transboundary water agreements can be helpful to secure the engagement of these various actors in cooperation on the prevention, preparedness and response. A lot of countries have bilateral treaties on helping each other in case of such situations, not only related to water issues.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Agreement between the Government of the Russian Federation and the Government of the People's Republic of China on the rational use and protection of transboundary waters, 2008

Article 4. Implementation mechanisms

[…] 3. Main tasks of the Joint Commission include:

4) Studying the methods of analysis and assessment of significant transboundary impact arising from an emergency situation, and on this basis, the development of measures to provide assistance to the State affected by transboundary impact;

5) Development of prevention, response and mitigation plans for emergency situations at transboundary waters; […]

Article 6. Emergency situations

1. Parties shall establish the systems of warning and exchange of necessary information for the prevention of emergency situations on transboundary waters and ensure their effective functioning.

2. In the event of an emergency situation, the Parties shall immediately notify each other and exchange relevant information, as well as take the required reasonable measures to eliminate or mitigate the consequences of an emergency situation on the basis of this Agreement and the Agreement between the Government of the Russian Federation and the Government of the People's Republic of China on cooperation in the prevention of and response to emergency situations dated 21 March 2006.

Other examples: 1998 Spain-Portugal Agreement, Art. 18; 2019 Buzi Agreement, Art. 18.

Supporting resources (non-exhaustive)

- UNECE Model Provisions on Transboundary Flood Management, 2006.
- UNECE, Transboundary Flood Risk Management: Experiences from the UNECE region, 2009.
- UNECE, Guidance on Water and Adaptation to Climate Change, 2009.
- UNECE, Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices, 2015.
- UNDR and UNECE, Words into Action Guidelines: Implementation Guide for Addressing Water-Related Disasters and Transboundary Cooperation, 2018.

Module 3 – Content of the agreement or other type of arrangement

Topic: Issues related to managing and protecting water resources

Key aspect: Drafting water/basin/aquifer management plans

Countries may establish a transboundary strategy for the long term through a management plan confirmed by all States sharing transboundary waters, based on shared priorities and objectives. A joint body may perform the task of developing the management plan for a particular basin or aquifer. The development process leading to the adoption of a management plan may also study various planning scenarios, before countries choose and implement a consensual scenario. The plan may also consider costs and benefit sharing among the countries sharing transboundary waters, and account for other regional and sectoral planning process, particularly water-food-energy-ecosystem linkages.

Planning activities on a transboundary basin may take on many forms and titles and include both long and short-term components. Identifying stakeholders, consulting institutional capacity studies, governance and investments are essential parts of the process. The adoption of the water/basin/aquifer resources management plan at a national level, may strengthen the implementation of the plan.

One of the criteria for determining if an arrangement is "operational" pursuant to SDG indicator 6.5.2 is the existence of joint or co-ordinated management plan(s), or joint objectives.

Points to consider when drafting a provision on management plans

- **Basin and aquifer management plans should include transboundary diagnostics.**

The first step for a water/basin/aquifer resources management plan is to carry out a situational analysis and identify problems and assets, for example, through an initial transboundary diagnostic involving States sharing transboundary waters.[74.] The situational analysis in order to identify problems is focused not only on the quantity and quality of water resources and ecosystems, but also on the socio-economic activities and areas with a direct or indirect impact, whether immediate or future, on water resources, such as soil use, demographic data, etc.

The diagnostic provides a foundation which makes it possible to draft the plan, and is part of a process of involving stakeholders, from the initial stages through the implementation of

74 For example, through GEF methodology for Transboundary Diagnostic Analysis https://iwlearn.net/manuals/tda-sap-methodology

solutions. National priorities should be reflected at the basin scale: once this phase is completed, reaching a consensus between countries is possible and important.

- **States sharing transboundary waters should consider drafting a transboundary roadmap.**

Once the diagnostic is completed, States sharing transboundary waters should identify activities to be carried out. In addition to institutional projects or capacity building, of the activities most likely to promote the integration of several countries, such as hydroelectric production, irrigation, navigation, preserving ecosystems, fighting against natural disasters and combating pollution.

Sharing the costs and benefits of these activities can be established consensually by the various States sharing transboundary waters, based on the results of economic simulations and in line with a cooperation and negotiation process. In addition to the shared benefits of various developments and facilities, the benefits and impacts on ecosystems should also be studied.

- **States sharing transboundary waters should develop a common River basin management plan**

The River basin management plan is a unique document drafted at the transboundary basin level, and national plans for the portions of the basins must be coherent with it. Its budget is drafted realistically and adapted to the type of activity programme and investments divided as equitably as possible among the States sharing transboundary waters. The basin organization drafts the strategy and financing methods, which may vary based on the type of activities. Cost-sharing among countries reflects the sharing of benefits from the activities to be carried out.

The implementation process is iterative, and the transboundary plan should be reviewed within a few years for the implementation of the next programme, integrating new data and considering new results and predictable changes on the horizon.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Protocol for sustainable development of Lake Victoria Basin, 2003

Article 27: Management Plans

1. Each Partner State shall:

a) develop national strategies, plans or programmes for conservation and sustainable use of the resources of the Basin or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Protocol; including the development of infrastructure, commerce and trade, tourism, research and development; and

b) integrate, as far as possible and as appropriate, the conservation and sustainable use of the resources of the Basin into relevant sectoral or cross-sectoral plans, programmes and policies.

2. The Commission shall develop a management plan for the conservation and the sustainable utilization of the resources of the Basin. The management plan shall be harmonised with National Plans developed under paragraph 1 of this Article and approved by the Council.

Other examples: Arts 6 and 27, 2012 Dniester Treaty, 2012; Art. 12, Sava Agreement, 2002.

Supporting resources (non-exhaustive)

- INBO, *The handbook for integrated water resources management in transboundary basins of rivers, lakes and aquifers*, 2012.
- *UN Watercourses Convention User's Guide*, 2012, pp. 191 – 195.
- GEF IW:LEARN, Manual on Transboundary Diagnostic Analysis/Strategic Action Programme https://iwlearn.net/manuals/tda-sap-methodology

Module 3 - Substantive content of the agreement or other arrangement

Building block: Water management and protection issues

Key aspect: Groundwater

Groundwaters which mark, cross or are located on boundaries between two or more States, whether related or unrelated with surface waters, as well as groundwaters located exclusively within the territory of one State but interacting with transboundary rivers or international lakes (e.g. surface waters located in the discharge zone of the said groundwaters) should be subject to transboundary cooperation on the basis of the general principles of international water law. The relevant agreements or arrangements should encompass not only the groundwater body but also, following the catchment area approach which applies to surface waters and groundwaters alike, the geological formation allowing the flow of groundwater, as part of the recharge area of the latter.

The increasing awareness of the prospects of water scarcity in relation to the growing demands for clean water worldwide has focused the attention on groundwater and more recent arrangements on transboundary waters contain provisions on groundwater, while few arrangements are specifically dedicated to a given groundwater body.[75] Arrangements on transboundary waters that refer to groundwater often provide that their scope of application includes groundwaters interacting with transboundary surface waters,[76] or flowing with them into a common terminus such as the sea or a lake.[77] Some arrangements refer specifically to

The International Law Commission provides, in its 2008 Draft Articles on the Law of Transboundary Aquifers, a consolidation of the general principles of international water law applicable in this area, such as the equitable and reasonable utilization principle, the no-harm rule and the obligation to cooperate. Building on this instrument, the Meeting of the Parties to the Water Convention adopted, in 2012, the Model Provisions on Groundwater, to assist states willing either to conclude a Protocol additional to an existing water agreement lacking specific reference to groundwater, or to include provisions addressing groundwater and transboundary cooperation thereto in the main body of agreements or arrangements on transboundary waters.

[75] Such as the 2010 Guarani Aquifer Agreement.
[76] See Art. 2 of the 1999 Convention on the Protection of the Rhine.
[77] See Art. 1 of the 2002 Tripartite Interim Agreement for Co-operation on the Protection and Sustainable Utilization of the Water Resources of the Incomati and Maputo Watercourses as well as Art. 1 of the 2003 Convention on the Sustainable Development of Lake Tanganyika.

the prevention of pollution of groundwater,[78] while others contain provisions on specific issues such as the integrated management of surface and groundwater resources,[79] or the enumeration of groundwater resources and of relevant protection zones[80].

Points to consider when drafting a provision on groundwater

- **States sharing transboundary waters should include regulatory guidance on groundwater because of its vulnerability.**

Groundwater is usually characterized by more relative purity than surface water thanks to the capacity of many subsoil profiles in recharge areas to mitigate the impact of water pollutants. However, such characteristics may render groundwater more vulnerable with respect to overexploitation, and therefore, to depletion. At the same time, pollution may be more serious a problem with groundwater than with surface water, since contamination may reside in groundwater for longer. In this context, drafters of arrangements must account for the interactions between surface and groundwater, since the pollution of groundwater may also derive from releases into surface water.

- **States sharing transboundary waters should consider the specificities of groundwater use.**

Given that groundwater is less renewable than surface water or sometimes even non-renewable, the sustainable and equitable use thereof should take into account the imperatives of conservation, environmental protection and future availability of groundwater, and not just consider the optimal utilization of the waters. States should thus aim to strike a balance between abstraction and replenishment of groundwaters or at least, in case of non-recharging at all groundwater bodies, to maintain groundwater resources at the maximum extent reasonably possible.

While the conclusion of an additional protocol on groundwater to an arrangement on transboundary waters is an option, more often provisions on groundwater are found in arrangements dealing with transboundary river basins. Such arrangements should at a minim um contain a provision making clear that their scope of application covers groundwater hydrologically related to surface waters. It is then up to the Parties to such an arrangement to explicitly address specific issues related to groundwater according to their needs and the particular characteristics of each case. In addition, countries may task their joint bodies with groundwater issues through ,for example, the creation of a dedicated groundwater working group. The SDG indicator 6.5.2 also requires countries to cooperate on share groundwaters.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Framework Agreement on the Sava River Basin, 2002

Article 1: Definitions

2.The Sava River Basin (...) comprises surface and ground water, flowing into a common terminus.

Article 11: Sustainable water management

[78] See article 4 of the 2002 Tripartite Interim Agreement for Co-operation on the Protection and Sustainable Utilization of the Water Resources of the Incomati and Maputo Watercourses

[79] Such as article 11 of the 2002 Framework Agreement on the Sava River Basin.

[80] See article 6 of the Convention on Cooperation for the Protection and sustainable Use of the River Danube.

The parties agree to cooperate in management of the waters of the Sava River Basin, in a sustainable manner which includes integrated management of surface and groundwater resources (...).

Other example: Water Charter of the Lake Chad Basin, 2012, Art.10; 2019 Buzi Agreement, Arts. 4 and 5.

Supporting resources (non-exhaustive)

- UNECE, Guidelines on Monitoring and Assessment of Transboundary Groundwaters, 2000.
- UNECE, Model Provisions on Transboundary Groundwaters, 2014.
- UNESCO-IHP & IGRAC, Global Groundwater Framework for Action – Groundwater Governance, 2015.
- Raya Stephan (Ed.), Transboundary Aquifers Managing a Vital Resource −The UNILC Draft Articles on the Law of Transboundary Aquifers, UNESCO, 2009
- Gabriel Eckstein, *The International Law of Transboundary Groundwater Resources*, Routledge, 2017
- Francesco Sindico, *International Law and Transboundary Aquifers*, Edward Elgar, 2020.

Module 3 – Content of the agreement or other arrangement

Topic: Sectoral and intersectoral issues

Key aspect: Protection of marine environment

Marine and coastal resources are important assets for sustainable development. They are also connected to rivers, lakes, groundwater, which means that activities within a river basin may directly impact marine and coastal ecosystems. This system of interconnecting components is referred to as the source-to-sea system. The source-to-sea system is defined as the 'biophysical continuum of the land area that is drained by a river system, its lakes and tributaries (the river basin), connected aquifers and downstream recipients including deltas and estuaries, coastlines and nearshore waters, the adjoining sea and continental shelf as well as the open ocean.'[81]

Transboundary rivers basins can play a significant role in the protection of the marine environment. For example, via transboundary river basins, approximately 8 million tons of plastic enter the ocean every year from land-based sources. It is also important to recognize impact of marine environment to freshwater, as the degradation of the marine environment could potentially affect freshwater resources, such as fish migration.

Reducing impacts from freshwater to the marine ecosystem requires States to take into account provisions on the protection of marine environment within arrangements for transboundary waters.

Points to consider when drafting a provision on the protection of the marine environment

[81] Mathews, R. E., Tengberg, A., Sjödin, J., & Liss-Lymer, B. (2019). Implementing the source-to-sea approach: A guide for practitioners. SIWI, Stockholm.

- **Referring to specific keys flows to ensure a proper consideration of marine protection issues.**

Arrangements might include provisions referring to specific key flows, including water flow, sediment flow, biota flow, pollutant flow, materials flow and ecosystem services within the source-to-sea system that are key concerns for the specific water body.

Setting an environmental flow of the freshwater to ensure sustainable marine environment is another way to manage the impact of freshwater uses on the marine environment. See for example the collaboration between the Orange-Senqu river commission and the Bay of Benguela Commission.

- **States sharing transboundary waters may consider two models on how provisions on marine environment could be framed.**

One model may be a protocol signed by States sharing a common sea or ocean, specifically addressing minimization of pollution and impacts from land-based sources. Examples of such agreements include the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities,[82] and the Protocol concerning Pollution from Land-Based Sources and Activities (LBS Protocol), under the Cartagena Convention[83] signed by the Caribbean States.

Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities, 1980 (amended in 1996).

This is one of the protocols under the Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention). The protocol requires countries to develop national and regional action plans that contain measures and timetables on minimizing pollution from various land-based activities. It also requires countries to collaborate on monitoring of pollutants and scientific and technical research cooperation regarding pollutants. Article 11 of the protocol specifically requires the Party which is the riparian of a transboundary river flowing into the Mediterranean Sea, to cooperate with upstream riparian States on pollution reduction, even when the upstream riparian States are not a party to the protocol.

Another model is provided by the adoption of an agreement between joint bodies and marine institutions. An example is the MoU between the International Commission for the Protection of the Black Sea (ICPBS) and the International Commission for the Protection of the Danube River (ICPDR) for a common strategic goal to protect the Black Sea environment.[84] Engaging marine actors with river basin organizations would be an effective way to ensure the linkages and coordination. This could be done through joint activities such as monitoring, or to have marine actors as observers to meetings of the river basin organizations.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

[82] Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources and Activities. Adopted on 17 May 1980, entered into force on 17 June 1983. Amended on 7 March 1996, amended protocol entered into force on 11 May 2006.

[84] Memorandum of Understanding between the International Commission for the Protection of the Black Sea (ICPBS) and the International Commission for the Protection of the Danube River (ICPDR) on common strategic goals, 2001.

BOX XX, Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based sources, 1980

Article 11

If discharges from a watercourse which flows through the territories of two or more Parties or forms a boundary between them are likely to cause pollution of the marine environment of the Protocol area, the Parties in question, respecting the provisions of this Protocol in so far as each of them is concerned, are called upon to co-operate with a view to ensuring its full application.

Other examples: Art. 80, Treaty between Uruguay and Argentina concerning the Rio de la Plata and the Corresponding Maritime Boundary, 1973; MoU between the International Commission for the Protection of the Black Sea (ICPBS) and the International Commission for the Protection of the Danube River (ICPDR) for a common strategic goal to protect the Black Sea environment

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide* (2012), pp. 185-188
- Stockholm International Water Institute (SIWI), Transboundary waters: cooperation from source to sea, SIWI Policy brief, 2018.
- Mathews, R. E., Tengberg, A., Sjödin, J., & Liss-Lymer, B., Implementing the source-to-sea approach: A guide for practitioners, SIWI, 2019, https://www.siwi.org/wp-content/uploads/2019/07/Source-to-sea-guide_webb.pdf

Module 3 - Substantive content of the agreement or other arrangement

- **Building block: Sectoral and intersectoral issues**

Key aspect: Agriculture

The conditions of transboundary waters are highly dependent on the other sectoral activities practiced within catchment areas. Agriculture, including irrigation, is one of the most important water related and dependent economic sectors using large amounts of water to supply a growing population with food and food-products. Water and agricultural policies should be designed and harmonised in a way that implementation of measures to protect water bodies do not cause income losses for the farmers. Both sectors have to consider a win-win solution with equal benefits.

Weather conditions, droughts, climate change might cause economic losses the farmers, which can be balanced by sufficient quantity and quality of water for its production. Approximately 60 % of the freshwater use is consumed by agriculture for irrigation and nutrient and chemicals diffuse pollution also mainly originated from that sector. Therefore, agriculture may cause deterioration of water resources by over-abstraction and pollution. Finding the way towards win-win strategies is both beneficial for the farmers through sustainable use of fertilisers and plant protecting chemicals – reducing losses and costs – and also for the water environment through reducing impacts on water resources.

Points to consider when drafting provisions related to agriculture and water

- **States sharing transboundary waters may consider including provisions on water and agriculture amongst the tasks of their joint bodies.**

Joint bodies can help to design these policies in a harmonised way. For example, the International Commission for the Protection of the Danube River has taken a lead to start intersectoral negotiation on the Danube basin including agriculture.

However, it is important that the implementation of measures to protect water bodies do not disproportionally threaten the livelihoods of farmers – although nutrient pressure from agricultural diffuse sources could increase and affect the status of transboundary surface waters, groundwater and finally the marine environment. Climate change forecasts predict increased drought events, and extreme weather conditions could trigger serious water scarcity issues, which may have a transboundary dimension for agriculture. Good status of all water bodies is one of the basic conditions for sustainable practices in agriculture.

- **When drafting agreements or other arrangements on transboundary waters, countries should take into account the implications for agriculture.**

Agriculture may cause deterioration of transboundary water resources by over-abstraction and pollution. This may justify the inclusion of agriculture-related measures within arrangements on transboundary waters. For instance, a commitment to adopt agro-environmental policies at the domestic level can improve the status of both national and transboundary water bodies. Similarly, a requirement to implement "good environmental agriculture practice" at the farm level and ensure that environmental measures have to be applied (natural water retention, erosion mitigation, reduction of use of chemicals and fertilizers), and help ensure good quality of water resources.

How could the intersectoral cooperation be successful on a transboundary basin? Examples from treaty practice (non-exhaustive)

BOX XX - Guidance Document on Sustainable Agriculture in the Danube River Basin

The International Commission for the Protection of the Danube River (ICPDR) as the coordinating body for transboundary water management in the Danube River Basin has achieved significant progress in intersectoral cooperation such as inland navigation, sustainable hydropower, climate change adaptation and agriculture through elaborating strategic documents. The ICPDR is also tasked to assist Danube countries with challenges associated with nutrient and chemical pollution from agriculture and drought management.
The Danube Declaration adopted at the ICPDR Ministerial Meeting in February 2016 asks the ICPDR (under paragraph 31) "to organize in close cooperation with the agricultural sector and all relevant stakeholders a broad discussion process with the aim of developing an ICPDR Guidance document on agricultural practices towards the reduction of water pollution caused or induced by nutrients from agricultural sources and the prevention of such pollution in the Danube River Basin. The document could i.e. provide with a sound knowledge base on the agricultural sector and its impacts on water quality in the Danube River Basin, highlight the existing European legislative framework and financial mechanisms, summarize cross-compliance as well as supplementary measures related to the EU Common Agricultural Policy and other financial programs as well as recommend good agricultural practices and potential policy tools and cost-effective measures supported by case studies. This ICPDR Guidance would aim at the effective protection and use of water bodies as well as a sustainable and balanced agricultural production in the Danube countries."

Supporting resources (non-exhaustive)

- ICDPR, Guidance Document on Sustainable Agriculture in the Danube River Basin, 2021.
- UNECE, Methodology for assessing the water-food-energy-ecosytem nexus in transboundary basins and experiences from its application: synthesis, 2018
- De Strasser et al, "A Methodology to Access the Water Energy Food Ecosystems Nexus in Transboundary River Basins", *Water*, vol. 8(2), 2016.

Module 3 – Content of the agreement or other arrangement

Topic: Sectoral and intersectoral issues

Key aspect: Energy

The status of transboundary water bodies is highly contingent on the other sectoral activities within the catchment areas. Energy is one of the most important water related and dependent economic sectors using large water amounts. Therefore, countries should take into account these demands in water allocation and planning. The energy sector is one of the major drivers for developing flow regulation infrastructure or using cooling water from rivers for powerplants. Countries trade electricity across borders through regional grids. For all these reasons, it is important to consider how the relevant energy sector actors can be involved in water management.

What to consider when drafting provisions related to energy and water

- **States sharing transboundary waters may consider adopting arrangements involving the water and energy sectors.**

Sectoral and national policies on water and energy should become more coherent in order to remove contradictions and reduce inconsistencies and increase synergies when it comes to energy and water resources management, while reconciling multiple uses. Energy production (hydroelectricity, cooling) has an influence on ecosystems linked to water. A flow regulation/regime might be heavily influenced by hydropower generation, although meeting other sectors' and ecosystems' needs also has to be ensured.

The adoption of arrangements between States sharing transboundary waters including energy issues would ensure a better predictability and an adequate legal basis for liability, water uses and compensation measures (for example to reduce impacts of hydropower dams) if appropriate. They may also ensure coordination at the level of, and between, international basin organizations and regional power pools[85].

In a transboundary context, greater confidence among States sharing transboundary waters is essential in order to reduce political risks for investors in the water and energy sectors. Countries may use arrangements on transboundary waters for discussing planned developments and evaluating impacts, for agreeing about common principles and directions of development. These instruments can thus reduce the risks of potential conflicts.

- **States sharing transboundary waters could consider establishing consultation and coordination mechanisms to ensure better accounting of water for energy sector's plans.**

[85] Some examples are the Southern African, West African, or Central African Power Pools.

River basin management planning processes may include and provide for communication with energy sector actors. However, informing energy policies' and strategies' development at an earlier stage can have more impact (e.g. Strategic Environment Assessment (SEA) of a strategy/policy). Early communication and engagement with the energy sector can inform and potentially influence the basin planning. at the policy and strategic level

Moreover, coordination and joint plans in investments can help States sharing transboundary waters to have efficient infrastructure in place that provides for multiple uses and avoids duplication of constructions (e.g. building counter-regulator dams) when not necessary.

The water-food-energy-ecosystems nexus approach, as refined under the Water Convention, provides for identification of opportunities of synergy and mutual interest between sectors, e.g. energy and water management.[86] Discussing possible transboundary impact of planned energy developments can help to reduce impacts or facilitates reaching an agreement between the States sharing transboundary waters. Guidance can also be developed at the level of a transboundary basin, for example *The Guiding Principles: Sustainable Hydropower Development in the Danube River Basin* were developed to help find the right balance between economic and environmental needs and an agreement on how to address problems of existing hydropower, and where and how to develop it in the future.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. 2012 Dniester Treaty

In 2012, a Treaty between the Moldova and Ukraine was signed on cooperation in the field of protection and sustainable development of the Dniester river basin. The Dniester Commission, which includes representation from the hydropower sector, is as of April 2021 finalising the operation rules of the Dniester Hydropower Hub to establish schemes for water allocation under different water availability conditions. The Commission serves also as a platform to study disputes arising from the use and protection of water and other natural resources and ecosystems of the basin and seek a settlement.

Other examples of joint investments: Doosti Dam of Iran and Turkmenistan, Itaipu Binacional of Brazil and Paraguay; the Russian-Finnish commission includes the power companies on both sides of the border.

Supporting resources (non-exhaustive)

- UNECE, Methodology for assessing the water-food-energy-ecosystems nexus in transboundary basins and experiences from its application: synthesis, 2018.
- INBO, *The handbook for management and restoration of aquatic ecosystems in river and lake basins*, 2015.
- UNECE, Towards sustainable renewable energy investment and deployment: Trade-offs and opportunities with water resources and the environment, 2020.
- WWAP, The United Nations World Water Development Report 2014: Water and Energy. UNESCO, 2014.

Module 3 – Content of the agreement or other arrangement

[86] See UNECE, Méthode d'évaluation des interactions entre l'eau, l'alimentation, l'énergie et les écosystèmes dans les bassins transfrontières et enseignements tirés de son application : synthèse, 2018.

Topic: Sectoral and intersectoral matters

Key aspect: River navigation

Inland waterway transport has supported the development of robust economies for centuries while building numerous ties between nations. It is a safe and potentially ecologically viable form of transportation, which is a key part of sustainable economic development. This mode of transporting both goods and people can drive the development of regional economies and bring landlocked countries closer to the sea.

Of all modes of transport, inland navigation has the smallest effect on climate change and the least environmental impact of all transport modes. It develops intermodally, along with complementary roadway and rail services, including those that are transboundary. Navigation is low in energy and consumes less fuel per ton of goods transported. When road freight is transferred via inland and coastal waterways, traffic jams become less common, even in more urban areas. Planning for transboundary navigation is therefore an important development consideration.

What to consider when drafting provisions related to river navigation?

- **Water resources are often essential components of commercial transport.**

Waters that cross boundaries between States are often essential axes of communication for the international trade of food and other products. Greater knowledge and improved professional capacities in designing, managing and using river navigation show that it is now possible to use and develop inland waterways in a much less environmentally intrusive manner than for other modes of transport.

- **Ensure environmentally friendly navigation**.

Inland navigation can have a significant influence on river ecosystems, particularly through hydromorphological changes and other impact on the aquatic environment, such as pollution, which can affect the ecological integrity of river basins. Countries should consider preserving waterways as part of the environment when it comes to navigation. Ecological regulations can reflect this aim, and include monitoring to ensure that navigation activities do not harm the waterway and its ecosystem *(Case concerning the dispute regarding navigational and related rights (Costa Rica v. Nicaragua), ICJ Reports 2009, § 104, § 109, § 118, § 126)*.

BOX XX – Joint Statement on Inland Navigation and Environmental Sustainability in the Danube River Basin, 2007

ICPDR launched the Joint Statement initiative in 2007 in cooperation with the Danube Commission and the International Sava Commission. It aims to provide guidance to decision makers dealing with inland waterway transport and environmental sustainability as well as to water managers preparing relevant riverine environmental and navigation plans, programmes and projects. Its overall objective is to support sustainable and environmentally friendly development and improvement of navigation. It addresses, first of all, structural interventions and measures on rivers serving Inland Water Transport; countries will also have to adopt non-structural measures to successfully upgrade and sustain International Water Transport economically.

A process of intensive, cross-sectoral consensus building between stakeholders with responsibility and interest in navigation, river ecological integrity and water management in the Danube river basin underpinned the development of the joint statement.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX – Framework Agreement on the Sava River Basin, 2002

Article 10

Regime of Navigation

1) Navigation on the Sava River from Sisak to the mouth of the Danube River and on all navigable parts of the Sava tributaries shall be open to merchant vessels of any (S)tate.

2) The provision in Paragraph 1 of this Article shall not apply to transport between ports within the territory of one Party (…)

4) The Parties shall undertake measures to maintain the waterways within their territories in navigable condition, as well as to undertake measures to improve the conditions of navigation and not to prevent or obstruct navigation (…)

Other examples: Agreement establishing a uniform river system and creating the International Commission of the Congo-Ubangi-Sangha Basin (CICOS), 1999; Art. 12, Convention on the sustainable management of Lake Tanganyika, 2003.

Supporting resources (non-exhaustive)

- INBO, *The handbook for integrated water resources management in transboundary basins of rivers, lakes and aquifers*, (2012)
- Laurence Boisson de Chazournes, *Fresh Water in International Law*, Oxford University Press, Oxford, 2013, pp. 54-64.

Module 3 – Content of the agreement or other arrangement

Topic: Sectoral and intersectoral issues

Key aspect: Climate change

Most impacts from climate change are reflected in changes to the hydrological cycle. Phenomena of extreme precipitation will likely become more intense or more frequent in many regions. At the same time, droughts and periods of low water will become more frequent and severe. In addition, climate change can affect water quality,

Many transboundary basins suffer from high flow variability that is partly caused by climate change, while some basins are going through "transformations", as hydrological changes accumulate and cause significant changes. Not all of these impacts are negative, but many of them complicate the decision-making process.

Points to consider when drafting provisions related to climate change?

- **Adaptation to climate change in transboundary basins**.

Despite some uncertainty, climate change is producing significant impact in many regions of the world, and some adverse effects are already being felt. Transboundary cooperation is vital in order to prevent the negative impacts of unilateral activities, support the coordination of adaptation measures at the basin or aquifer level and jointly develop more cost-effective solutions. Adaptation plans should be integrated in multi-year basin management plans. In order to create a strong foundation for an adaptation plan, all stakeholders must participate, moving beyond physical, political and institutional borders, and working alongside domains other than water, particularly the water-food-energy-ecosystem nexus.

- **Transboundary cooperation for adaptation.**

Transboundary cooperation for adaptation makes it possible to identify measures such as infrastructure for protection against flooding within the basin, where it can have an optimal effect including for other States sharing transboundary waters. Transboundary cooperation makes it possible to share adaptation costs and benefits and increase the overall efficacy of adaptation within a basin.

Transboundary cooperation can expand the base of knowledge and scope of adaptation measures, whether to mitigate progressive changes, prevent disasters, or increase resilience to them. The need to cooperate in order to adapt to climate change can also become an impetus for greater cooperation in transboundary basins.

- **Water scarcity.**

Situations involving water scarcity are those in which water resources are temporarily or structurally insufficient in order to satisfy growing demands of water from in rivers, lakes and reservoirs and aquifers, including transboundary basins. This involves highlighting sectors where breakdowns might lead to critical gaps between needs and resources, including the allocation of resources between countries. The impacts are economic, social and environmental, and are particularly notable in agriculture and major urban areas.

BOX XX – Fighting climate change through technical innovation and hydro-agricultural and agriculture development in the North Western Sahara Aquifer System

The North Western Sahara Aquifer System (NWSAS), which is shared by Algeria, Libya and Tunisia, covers a surface area of over one million square kilometers and includes two large aquifers: the Continental Intercalaire and the Complex Terminal. The NWSAS basin is located in an arid and semi-arid zone and is threatened by climate change with a likely rise in temperatures, an expected drop in precipitation, as well as an increase in the frequency of extreme events.

The Sahara and Sahel Observatory (OSS) helps the three States better understand and manage the NWSAS's groundwater resources. Innovations are based on best agriculture practices and research adapted to local agricultural systems and local populations. Pilot projects have made it possible to define adaptation measures "without regrets", which can be incorporated in the strategic adaptation documents drafted by the States that share the NWSAS.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Buzi Water Sharing Agreement between Mozambique and Zimbabwe, 2019

Article 16 – Climate Change

The Parties shall undertake studies to identify, adopt and implement measures to adapt and mitigate against the impacts of Climate Change in the Buzi Watercourse.

Other examples: 1998 Spain-Portugal Agreement, Arts. 18 and 19.

Supporting resources (non-exhaustive)

- United Nations, *Water cooperation in action: approaches, tools and processes*, Report from the Annual UN-Water Conference in Zaragoza, Spain, 8-10 January 2013.
- IPCC, Fifth evaluation report from the Inter-Governmental Panel on Climate Change, 2014.
- UNECE/INBO, *Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices*, 2015.
- UNECE, Guidance on water and adaptation to climate change, 2009

Module 3 – Content of the agreement or other arrangement

Topic: Sectoral and intersectoral issues

Key aspect: Spiritual aspect of water

For much of world outside of Europe and North America -especially amongst religious, local, and/or indigenous communities,- rationality and spirituality are considered as one unified whole, perpetually intertwined and ideally in balance (think of the *Taijitu*, the traditional Taoist symbol for *yin* and *yang*, for example),. In the water world, decision-makers tend to ignore the spiritual components both at the resource management level and in the dispute settlement process. However, in some parts the world the failure to integrate traditional rulers in water governance, or to ignore rules about spirituality of water that are deeply entrenched in local communities, often results in challenges with implementation of water laws at the local level. Hence the need to consider, in some cases, the inclusion of a provision to that effect in the relevant agreement or arrangement.

What to consider when drafting provisions on the spiritual dimensions of water

- **Including spiritual aspects of water in arrangements can ensure that local communities have a voice in water management.**

While treaties do not explicitly refer to spirituality, except for occasional vague language alluding to "cultural heritage," some River Basin Organizations are more explicit. For example, three African joint bodies – ZAMCOM (Zambezi), the Lake Tanganyika Authority (Congo River basin), and the Volta Basin Authority all in one strategic organizational planning document or another make statements about how the organization will operate with a central focus on respect for traditional values and local leaders, considering the waters they manage a source of cultural or religious heritage for the local people and future generations. Such statements give indigenous people the sense that their views and beliefs systems on the very spiritual nature of water has been fully appreciated, respected and considered.

- **Negotiations over shared waters often requires connecting across disparate worldviews, especially those that separate or integrate the worlds of rationality and spirituality.**

Even though there is little record of inclusion of spiritual aspects of water being incorporated explicitly in water agreements, a domestic legal approach which has been particularly successful is the one affording some form of "legal personhood" to rivers. The Whanganui River in New Zealand has legal personhood and must be treated as living entity. The legal settlement appointed two guardians to represent the river, one from the Whanganui Iwi (Maori) trust and one from the crown. The Ganges and Yamuna (a Ganges tributary) Rivers in India also received personhood with three guradinas, citing the New Zealand precedent. It is not clear what the legal implications of this ruling are, especially noting the transboundary nature of the Ganges.

How could provisions be framed?

BOX XX - New Zealand National Policy Statement for Freshwater Management, 2014

Some advances have been made in integrating spiritual concepts in water management, notably at the national, regional, and local levels. The New Zealand National Water Policy was developed in 2014 with close participation of the Maori community, resulting in explicit language referring to the spirituality of water:

"Addressing *tāngata whenua* values and interests across all of the well-beings, and including the involvement of i*wi* and h*apū i*n the overall management of fresh water, are key to meeting obligations under the Treaty of Waitangi (1840)."

"All things in the natural world have *mauri* (life force) and *wairua* (a spiritual dimension). Respect for the spiritual integrity of the environment and the *atua* (God) that created it will ensure that the *taonga* (treasure) can be protected and passed on to succeeding generations."

Supporting resources (non-exhaustive)

- SIWI, *People and Planet: Faith in the 2030 Agenda*, 2020.
  UNEP, *Faith action on the UN Sustainable Development Goals: Progress and Outlook*, 2020.
- Wolf, A. *The Spirit of Dialogue: Lessons from Faith Communities in Transforming Conflict.* Washington, DC: Island Press, 2017.

Module 4 - Procedural features

- **Building block: Regular exchange of data and information**

Key Aspects:

- General exchange of information and/or forecasts (hydrological meteorological, hydrogeological and ecological)

- Information concerning planned measures

- Possible exceptions and grounds for not disclosing information

In a transboundary context, States sharing transboundary waters need to agree upon common data and information that should be shared, which may include water quantity (flooding, scarcity), water quality (physico-chemical, chemical, biological and/or micro-biological parameters), geology, planned measures, early warning, water uses, sources of pollution (e.g. industrial, municipal and agricultural), land uses, recharge and discharge zones of transboundary aquifers, and emergency/critical situations. Exchanging sufficient data and information allows States sharing transboundary waters to assess the state of the watercourse and related ecosystems in an integrated and harmonised manner, based on the same criteria, using the same rules and standards (monitoring programmes, measurement systems and devices, analytical techniques, data processing and evaluation procedures). At the national level, Parties may need to harmonize the collection of the relevant data and information in a composite form, as this task is often carried out by different agencies and institutions. States may need to address any gaps in data, or ensure that data is capable of being harmonised.

Data and information exchange must be in accordance with international regulations related to industrial and commercial secrecy or intellectual property and the national legal systems of the Parties, especially concerning national security.

One of the criteria for determining if an arrangement is "operational" pursuant to SDG indicator 6.5.2 is the requirement for states sharing transboundary rivers, lakes and aquifers to exchange data and/or information at least annually.

What to consider when drafting provisions on exchange of data and information

- **Exchange of data and information is the first step for integrated water management at a transboundary level.**

After the general screening of available information and, if needed some simple field surveys, States sharing transboundary waters can agree on a harmonized monitoring programme and a stepwise approach to develop further cooperation. An evaluation after each step can assess the relevance of the information obtained and the needs to broaden the selection of parameters, the sampling frequencies or the measuring points for further monitoring programmes. This programme might add additional topics, such as hydrological forecasting, protected areas, flood and drought forecasting or warning system for accidental pollution. The cooperation can then lead step by step to joint measurements, the establishment of joint bodies, shared database, concerted action programmes or co-funding of activities.

- **A clear provision on exchange of data and information in a transboundary agreement allows effective systems for monitoring and assessing situations.**

The ultimate goal of exchanging data is to provide the adequate information for the protection and use of transboundary waters. As a first step, arrangements may include provisions concerning the availability and distribution of data, with the definition of terms used, may

facilitate the exchange of data and information. These arrangements could also contain general provisions on the mandate of the Parties or a joint body (conditions and principles), but all the details (norms and standards, sampling and measurement conditions…) would more likely be within an appendix or a protocol. A protocol tends to include the operational steps in the process and offers more flexibility and can be more easily adapted or updated without requiring the Parties to adopt another arrangement.

- **Institutions or agencies in charge of national monitoring programmes should be involved.**

Institutions or agencies in charge of national monitoring programmes should be involved in the development of arrangements for transboundary waters, in order that they can propose appropriate parameters and/or indicators, criteria of assessment, relevant margins for each parameter, deadlines and reliability of the information.

- **Arrangements may include a commitment to develop joint information systems.**

Countries may consider a commitment to develop a joint information system or database to share information related to issues such as water uses and their impacts, and qualitative and quantitative aspects of a transboundary waters common to all States sharing transboundary waters.

How could the exchange of data and information be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Agreement for the exchange of data and flood forecasts within the Meuse IRBD, 2017

The States and Regions of the IMC (International Commission for the Meuse River), within the framework of the implementation of the first flood risk management plan for the Meuse IRBD (International River Basin District) under the Floods Directive (Directive 2007/60/EC on the assessment and management of flood risks), have drawn up this multilateral agreement for the exchange of hydrological data and forecasts (heights, flows) based on the following conditions and principles:

- Maintaining the current organisation for flood warning and forecasting;
- The present agreement does not imply any obligation to modify the technical constraints (e.g. equipment including limnimeters and rainfall stations, teleinformatics, transmission channels, calculation of forecasts);
- The exchanges are free of charge and there are no additional costs;
- Reciprocity of exchanges;
- Non-dissemination of raw information to third parties without agreement of the Contracting Parties concerned;
- Non-use for commercial purposes by the recipient.

Other examples: Agreement on the Establishment of Cuvelai Watercourse Commission, 2014, Art. 11(4); Agreement between Canada and the United States on the Development and Operation of the Dams in the Upper Columbia River Basin for Power and Flood Control benefits in both countries (1961) '1961 Columbia Treaty', Annex A, para 2.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide,* 2012*,* pp. 126-128.
- UNECE, *Guide to Implementing the Water Convention,* 2013, pp. 82-84.

- UNECE Task Force on Monitoring and Assessment, *Guidelines on Monitoring and Assessment of Transboundary Rivers, 2000.*
- UNECE Task Force on Monitoring and Assessment, *Guidelines on Monitoring and Assessment of Transboundary Groundwaters*, 2000.

Module 4 – Procedural features

- **Building block: Notification and consultation**

Key aspect: notification and consultation concerning planned measures

The requirement that States notify each other of activities that may have a significant adverse effect on another State is well established under international law.[87] The 1992 Water Convention provides general provisions related to notification and consultation (Art. 9(2)(h)). Exchanges of data and information, as well as consultations, are supposed to take place within joint bodies (see Art. 9(2)).[88] The 1997 Watercourses Convention, Arts 11-19 provides relatively detailed provisions concerning notification and consultation on planned measures. Third-party investors may also have their own procedures that States must follow when developing planned measures, such as the World Bank's environmental and social framework.[89]

What to consider when drafting provisions on notification and consultation

- **Joint bodies can play an important role in notification and consultation.**

Where joint bodies have been established by Parties to an arrangement, they often play a key role in both notification and consultation. For example, under the Agreement on the Establishment of the Zambezi Watercourse Commission (2004) `2004 Zambezi Agreement`, a Party is obliged to submit a notification letter and accompanying data and information to the Secretariat of the Zambezi Commission. The Secretariat is then responsible for determining whether the information received is adequate and complete, before transmitting such information to other Parties (Art.16). The Commission may also play a role during any consultation process, by making recommendations to the Parties concerned, undertaking technical investigations, or providing a neutral forum for Parties to resolve their differences.[90]

- **Balancing interests of the Party planning a measure, and the Party or Parties potentially affected.**

Notification and consultation procedures seek to strike a balance between a Party or Parties wishing to develop water resources and their beneficial uses, and a Party or Parties that may be concerned about any potential impact of such developments. In the 1995 Mekong Agreement, notification and consultation, is described as, 'neither a right to veto the use nor unilateral right to use water by any riparian without taking into account other riparians' rights' (Chapter II). Notification and consultation should therefore offer the right of potentially affected States to be informed of a planned project and have sufficient data and information available to evaluate

[87] See for example, International Court of Justice, *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, 20 April 2010, https://www.icj-cij.org/en/case/135/judgments (Pulp Mills Case).

[88] The 1991 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) includes more detailed requirements. See p. 71 below, Implementation at transboundary level, including establishment of joint bodies.

[89] Salman M.A. Salman, *The World Bank Policy for Projects on International Waterways – An Historical and Legal Analysis* (World Bank 2009).

[90] ZAMCOM Procedures for Notification of Planned Measures, 2017.

its potential impacts, and raise any likely concerns or potential mitigation measures; whilst at the same time providing the planning State the right to utilize an international watercourse, if after undertaking that notification and consultation process they are satisfied that it is consistent with the principle of equitable and reasonable utilization and the no-harm rule.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Convention on the Cooperation for the Protection and Sustainable Use of the Waters of the Luso-Spanish River Basins, 1998

Article 8

1. Whenever a Party considers that a project or an activity to be undertaken in its territory (…) causes or may cause a transboundary impact, it shall notify the other Party thereof and provide it with the relevant information.

2. If a Party considers that a project or an activity (…) causes or may cause a transboundary impact and has not been notified thereof, it shall request the necessary information from the other Party, stating the grounds for such request.

3. As a result of the above-mentioned notification, the Parties shall enter into consultations whenever there is sufficient evidence that a project or activity (…) causes or may cause a transboundary impact.

4. These consultations shall be conducted within the Commission during a period of six months which may be extended by mutual agreement for an equal period, with the aim of providing a solution to prevent, eliminate, mitigate or control the impacts, and, when appropriate, to establish the forms of responsibility in accordance with the applicable International and Community Laws. In such an event, the abovementioned period may be extended twice.

5. The provisions of Article 26 of this Convention shall apply whenever the Parties fail to reach an agreement within the Commission during the period defined in the previous paragraph.

6. If in the course of the above-mentioned consultations, the Parties ascertain the existence of transboundary impact, they shall suspend the execution of the project, wholly or in part, for a mutually acceptable period, unless a different agreement is reached within a period of two months. Furthermore, in the event of ongoing activities, the Parties shall not undertake any further measures which may exacerbate the situation.

7. In the event of the suspension of the project or the failure to carry out the measures referred to in previous paragraph, involving irreparable harm to the protection of public health or safety, or of any other relevant public interest, the Party concerned may carry on with the execution of the project or proceed with the activity, without prejudice to its possible responsibility.

Other examples: 1997 Watercourses Convention, Arts 11-19; Niger Basin Water Charter, 2008, Arts. 19- 24; 2000 ORASECOM Agreement, Art. 7.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012, pp. 139-151, 224-227.
- *Guide to Implementing the Water Convention*, 2013, pp 82-84.

- Ministry of the Environment, Finland; Ministry of the Environment, Sweden; and Ministry of Housing, Spatial Planning and the Environment, the Netherlands, *Guidance on the Practical Application of the Espoo Convention*, Finnish Environment Institute (SYKE), 2003.
- Salman M.A. Salman, *The World Bank Policy for Projects on International Waterways – An Historical and Legal Analysis* (World Bank 2009).

Module 4 - Procedural features

- **Building block: Public participation and stakeholder involvement**

Key Aspects:

- **Access to information for the public**
- **Public participation in decision-making processes**
- **Public participation in implementation**
- **Non-discrimination in access to judicial and other remedies for natural or juridical persons affected by transboundary harm**
- **Local and indigenous communities, recognizing Traditional Ecological Knowledge and different ways of knowing**

The involvement of stakeholders or the public is increasingly recognised as an important aspect of transboundary water management.[91] Participation helps to raise awareness of issues that may affect the public. Participation can also ensure that decision-makers are cognisant of the needs and concerns of those potentially affected by any of their decisions. In turn, this may lead to more responsive and more creative decision making. Additionally, effective stakeholder participation can lead to greater acceptance of any decisions made. Participation can also contribute to social learning, by assisting stakeholders in collectively learning how to manage complex systems, such as transboundary waters. Conversely, foreign office representatives may feel impeded by the necessity to include local interests in the international arena, or that transparency can weigh down negotiating strategies.

What to consider when drafting provisions related to public participation

- **Provisions should consider the three key pillars of public participation set out in the 1998 Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters ('Aarhus Convention').**

The Aarhus Convention, sets out the three key pillars of public participation, namely access to information, participation in decision-making and access to justice. The Water Convention includes the right of public to information, wherein, 'riparian Parties shall ensure that information on the conditions of transboundary waters, measures taken or planned to be taken to prevent, control and reduce transboundary impact, and the effectiveness of those measures, is made available to the public' (Art.16). No similar provision is provided for in the Watercourses Convention, although it could be argued that public participation is an important means by which States sharing transboundary waters fulfil their commitment under the Convention to take 'all appropriate measures' to prevent significant harm (Art.7). About 35% of treaties (274/765) and River Basin Organizations (42/119) mention public participation explicitly, but only few arrangements for transboundary water cooperation also provide an

[91] See Mara Tignino and Komlan Sangbana (eds), *Public Participation and Water Resources Management: Where do we stand in international law?*, UNESCO, 2015.

explicit right of participation. The 2012 Dniester Treaty, for instance, stipulates that 'each Contracting Party shall (…) ensure public access to information on the status of the Dniester River Basin and public participation in decision-making related to protection and sustainable development of the Dniester basin, as well as projects likely to have significant impact on the status of water and other natural resources and ecosystems.'(Art.21).

- **A provision may include access to justice and the right of non-discrimination within a transboundary context.**

In relation to access to justice, the Watercourses Convention includes a provision that stipulates that any legal or natural person who has suffered harm as a result of activities on an international watercourse, or basin thereto will be entitled to seek legal redress for that harm in the State where those activities were carried out (Art.32). States sharing transboundary waters cannot therefore discriminate on the basis of nationality when natural and legal persons seek compensation or other relief for any significant transboundary harm. However, in practice significant financial, administrative and political barriers may preclude individuals, legal persons or communities in one watercourse State seeking redress for harm caused by activities in another State.

- **Where relevant, an arrangement may refer to the rights of indigenous communities.**

The legal right of indigenous peoples to participate in decision-making is enshrined in the 2007 UN Declaration on the Rights of Indigenous Peoples, which requires States to consult and cooperate in good faith with indigenous peoples to obtain, 'free, prior and informed consent', before adopting and implementing activities that may affect them. As noted in the section on spiritual considerations, indigenous communities often have both a long and deep understanding of watershed systems that can extend well beyond what is measured through 'modern' science. In recent years, national and international water managers have been learning how to consult with this 'traditional ecological knowledge' in collaboration with those who have been engaging with their watersheds often for millennia.

- **Provisions included in an arrangement on transboundary waters could recognize the value of local knowledge.**

Many joint bodies, such as the Mekong River Commission, include an explicit path for participation of stakeholders, including local and faith communities, and thus can incorporate far-reaching expertise in areas such as flood adaptation and ecological systems into transboundary water management.

How could provisions related to public participation be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Treaty on cooperation in the field of protection and sustainable development of the Dniester River Basin (2012)

Article 21

1. Each Contracting Party shall, in accordance with the national legislation of its (S)tate, ensure public access to information on the status of the Dniester River basin and public participation in decision-making related to protection and sustainable development of the Dniester basin, as well as to projects likely to have significant impact on the status of water and other natural resources and ecosystems. Such access includes informing the public and providing information on its request.

2. Public participation in decision-making related to protection and sustainable development of the Dniester River basin shall imply informing the public concerned in an adequate, timely and effective manner of the proposed activity at the earliest stage of the decision-making procedure, providing opportunities to submit comments, information, analysis or opinions on the proposed activity and ensuring due account of the outcome of public participation in the relevant decision-making process.

3. The Contracting Parties shall facilitate public participation in activities related to implementation of the present Treaty, including activities of the Commission.

Other examples: Convention for Shared Waters in Central Africa, 2017, Art. 1; Agreement on Great Lakes Water Quality, 2012.

Supporting resources (non-exhaustive)

- UNECE, *Guide to implementing the Water Convention*, 2013, p.93-97.
- Sabine Schulze, Public Participation in the Governance of Transboundary Water Resources – Mechanisms Provided by the River Basin Organisation, Centre international de formation européenne, 2012.
- Komlan Sangbana, "The Role of Non-State actors in the development and implementation of International Water Law", in A. Rieu-Clarke, A. Allan and S. Hendry, *Routledge Handbook of Water Law and Policy*, Routledge, 2017, pp. 287-296.
- Macpherson, Elizabeth --- "Beyond Recognition: Lessons from Chile for Allocating Indigenous Water Rights in Australia" (2017) 40(2) UNSW Law Journal 1130.

Module 4 – Procedural features

- **Building block: Social and environmental impact assessment**

Key aspects:

- **Relevant Procedures;**
- **Possible involvement of third Parties (e.g. joint body)**

Environmental impact assessment (EIA) and strategic environmental assessment (SEA) are both forms of environmental assessment. They are procedural instruments of preventive environmental policy and as such both have similar goals and a lot of similar features, in particular as far as the procedural elements are concerned. EIA and SEA differ however significantly with regard to the type of the activities covered by the assessment and the scope of the assessment.[92]

EIA of planned activities is an important tool for an integrated approach to the protection of the environment, which requires a comprehensive assessment of the environmental impacts of an activity.[93] Principle 17 of the *Rio Declaration* provides that EIA, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact

[92] UNECE, Practical guidance on reforming legal and institutional structures with regard to the application of the Protocol on Strategic Environmental Assessment, 2017.

[93] ECE, *Current Policies, Strategies and Aspects of Environmental Impact Assessment in a Transboundary Context* (United Nations publication, Sales No. E.96.II.E.11), 1996, p. vii.

on the environment and are subject to evaluation by a competent national authority.[94] The ICJ in the *Pulp Mills* case held that "it is for each State to determine in its domestic legislation or in the authorization process for the project, the specific content of the environmental impact assessment required in each case, having regard to the nature and magnitude of the proposed development and its likely adverse impact on the environment as well as to the need to exercise due diligence in conducting such an assessment."(para.205). The Court further considered that "an environmental impact assessment must be conducted prior to the implementation of a project. Moreover, once operations have started and, where necessary, throughout the life of the project, continuous monitoring of its effects on the environment shall be undertaken." (para.205).

EIA has been included in the national legislation of a large number of countries and there is much experience with its implementation. The requirement of assessment of adverse effects of activities and provision of mitigation measures has been incorporated in various forms in many international instruments.[95] Having specific regard to transboundary impact, reference should be made to article 7 of the 2001 ILC draft Articles on Prevention of Transboundary Harm from Hazardous Activities,[96] principle 12 of the 1987 UNEP Goals and Principles of Environmental Impact Assessment[97] and, the most notably, Articles 3.1 (h) and 9.2 (j) of the Water Convention, Article 12 of the 1997 UN Watercourses Convention and the 1991 UNECE Convention on Environmental Impact Assessment in a Transboundary Context.

Compared to EIAs for individual projects, SEA intervenes much earlier in the decision-making process and targets government plans, programs, policies and legislation.[98] The assessment under EIA procedure focuses on the physical impact of the project on the environment while the assessment in SEA, bearing in mind the larger scale and less precise data, focuses rather on the achievement of relevant environmental objectives.[99] SEA is also able to capture cumulative effects of individual projects at a very early planning stage.[100] A River basin management plan would be a good example of a strategic document subject to SEA.

Points to consider when drafting provisions related to EIA and SEA

- **EIA is applied at the project level.**

Any provision related to EIA should recognize that EIAs take place at a project level. In so doing the EIAs should aim to identify and assess the likely environmental impacts of the

[94] Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992 (United Nations publication, Sales No. E.93.I.8 and corrigenda), vol. I: Resolutions adopted by the Conference, resolution 1, annex I.

[95] See, for instance, *Transboundary EIA provisions and initiatives in selected Regional and Multilateral Environmental Agreements*, 2006.

[96] "Any decision in respect of the authorization of an activity within the scope of the present articles shall, in particular, be based on an assessment of the possible transboundary harm caused by that activity, including any environmental impact assessment" (*Yearbook of the International Law Commission*, 2001, Vol. II, Part Two).

[97] "When information provided as part of an EIA indicates that the environment within another State is likely to be significantly affected by a proposed activity, the State in which the activity is being planned should, to the extent possible:

a) notify the potentially affected State of the proposed activity;

b) transmit to the potentially affected State any relevant information from the EIA, the transmission of which is not prohibited by national laws or regulations; and

c) when it is agreed between the States concerned, enter into timely consultations." (UNEP/ WG.152/4 Annex (1987)

[98] UNECE, Protocol on Strategic Environmental Assessment: Facts and Benefits, 2016.

[99] UNECE, Practical guidance on reforming legal and institutional structures with regard to the application of the Protocol on Strategic Environmental Assessment, 2017.

[100] UNECE, Protocol on Strategic Environmental Assessment: Facts and Benefits, 2016.

project; report on those impacts and on measures to be taken to prevent, reduce or mitigate them; allow the public and other stakeholders to comment on the project and the EIA report; provide this information – the EIA report and the comments of the public and other stakeholders – to the decision-maker.[101]

- **SEA is applied at the level of plans, programs, policies and legislation.**

Any provision related to SEA should recognize that SEAs take place at a level of strategic decisions. SEA supports the consideration of environmental and social aspects on a par with economic aspects. In so doing the SEAs shall comprise the determination of the scope of the SEA report and its preparation, the carrying out of public participation and consultations on the draft strategic document and the SEA report, and the taking into account of the SEA report and the results of the public participation and consultations in a plan, program, policy or a piece of legislation in point.

- **Joint bodies may play a role in conducting joint EIAs and SEAs.**

States may consider providing any joint body established under an arrangement with the task of facilitating notification, exchange of information and consultations under transboundary EIA and SEA procedures. For instance, Article 9(2)(j) of the Water Convention expressly provides that a task of a joint body should be, 'to participate in the implementation of environmental impact assessments relating to transboundary waters, in accordance with appropriate international regulations.'

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Convention on the Cooperation for the Protection and Sustainable Use of the Waters of the Luso-Spanish River Basins, 1998

Article 9 – Transboundary Impact Assessment

1. The Parties shall adopt the necessary measures to ensure that those projects and activities governed by this Convention, which due to their nature, dimension and location, must be submitted to a transborder impact assessment, be so submitted prior to their approval. The Parties shall also adopt adequate measures to apply the principles of transboundary impact assessment to plans and programmes that affect the activities provided for in Article 3.2, of this Agreement.

2. The Parties within the Commission shall identify those projects and activities which, due to their nature, dimension and location, shall be submitted to a transboundary impact assessment, as well as the procedures required to carry out this assessment.

Other examples: Arts. 14,15,17,19 – 22 and Annex I, 2003 Convention on the Sustainable Management of Lake Tanganyika; 2003 Procedures for Notification, Prior Consultation and Agreement (PNPCA) under the 1995 Mekong Agreement.

Supporting resources (non-exhaustive)

- UNECE, *Guide to Implementing the Water Convention*, 2013, pp. 53 – 54.
- Mekong River Commission, Procedures for Notification, Prior Consultation and Agreement (PNPCA) Brochure, 2016.
- Mekong River Commission, Guidelines for Transboundary Environmental Impact Assessment in the Lower Mekong Basin, 2018.

[101] UNECE, Benefits and costs of transboundary EIA, 2007.

- The Permanent Okavango River Basin Water Commission's (OKACOM) Notification, Consultation and Negotiation (NCN) Guidelines, 2018.
- UNEP, Assessing Environmental Impacts- A Global Review of Legislation, 2018.
- UNDP, Social and Environmental Standards (SES) Guidance Note on Social and Environmental Assessment and Management, 2020.

Module 4 – Procedural features

- **Building block: Joint monitoring and assessment**

Key aspects:

- **Coordinated and harmonized data gathering and processing methods;**
- **Joint databases, digitalization of data.**

Water quantity and quality monitoring is an essential part of most water management activity especially in transboundary basins. Knowledge for a decision maker on the status of the water bodies depends on reliable information collected through monitoring systems. For the comparability of the gathered information, it is necessary to harmonize the existing monitoring networks based on national standards, and requirements laid down in national legislation. Downstream States have a keen interest to receive information from upstream States related to hydrology (for flood forecasting) or qualitative status (for pollution prevention) of the incoming waters. Upstream countries are interested to get data from downstream countries e.g. with regard to fish migration to increase biodiversity in the basin. Also monitoring data is an important indicator of the status of the shared transboundary aquifers. Joint bodies usually aim to coordinate monitoring and assessment between States sharing transboundary waters. Joint evaluation gives information on the availability of the "free water resources" which can be used, without deteriorating the water sources.

What to consider when drafting provisions on joint monitoring and assessment

- **Basic requirements for joint monitoring and assessment.**

Basic requirements for joint monitoring and assessment that might be set out in a provision of an arrangement, annex or subsequent protocol include, coordinated/harmonized data gathering and processing methods, databases, digitalization of data, providing access to the information via Internet; compatibility of laboratories taking part in the monitoring; joint research and studies, exchange of knowledge, use of models; monitoring arrangements (regulations); and coordinated/harmonized monitoring and assessment programs.

- **Monitoring network usually operate at a national level.**

Monitoring networks usually operate at a national level, although some do operate at a transboundary level through a basin arrangement. Without methodical harmonization of information obtained from national systems, especially related to water quality, river, lakes and aquifers cannot be evaluated jointly. Joint evaluation is the basis of joint measures.

BOX XX. Joint Danube Survey (JDS)

JDS is one of the most comprehensive examples of surface-water quality monitoring ever done on a major river. The objective of the Joint Danube Surveys (JDS) is to gather additional data of selected elements of water quality beyond the information provided by the Transnational Monitoring Network (TNMN) on the entire length of the Danube River and its major tributaries in a way that results are readily comparable. The project harmonizes

water monitoring practices across the Danube countries, through use of unified methods and sampling practices for the participating laboratories. Special components (micropollutants, microplastic, etc.) are centralized, and basic parameters are analyzed by national experts. Three JDSs have been previously conducted - in 2001, 2007, and 2013 - and the fourth of its kind, JDS4, took place throughout 2019 at 51 sampling sites in 13 countries across the Danube River Basin.
The JDS implementation is also an important tool to raise awareness of the Danube's water quality and ongoing protection efforts.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Treaty on cooperation in the field of Protection and Sustainable Development of the Dniester River Basin, 2012

Article 16: Monitoring and environmental performance review

1. In order to obtain regular information on the status of the Dniester River basin, the Contracting Parties shall carry out monitoring on coordinated programs. The monitoring data shall be made freely accessible to the Contracting Parties, which shall exchange it according to the coordinated procedure.
2. The Contracting Parties shall, at regular intervals, carry out individual and, where appropriate, joint assessments of the conditions of water and other natural resources and ecosystems of the Dniester River basin, as well as the effectiveness of measures taken for the prevention, control and reduction of transboundary impact. The results of these assessments shall be made available to the public in a timely manner.
3. Each Contracting Party shall, on the basis of reciprocity, ensure access of specially authorized persons to the coordinated joint water sampling stations.

Other examples: Agreement between Estonia and Russia on Cooperation in Protection and Sustainable Use of Transboundary Waters, 1997, Art. 7; 1998 Rhine Convention, 1998, Art. 5(2).

Supporting resources (non-exhaustive)

- UNECE, Strategies for Monitoring and assessment of transboundary rivers. Lakes and Groundwater, 2006.
- UNECE, Guide to Implementing the Water Convention, 2013, pp. 80-81.
- Lipponen, A., & Kauppi, L. "Monitoring and Assessment and the duty of cooperation under the Water Convention: Exchange of Information Among the Riparian Parties". *in* Tanzi and al. (eds.). *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes - Its Contribution to International Water Cooperation*. Leiden, Brill/Nijhoff, 2015, pp- 249-267.

Module 5 - Implementation, institutional framework and dispute settlement
- **Building block: Implementation at national level**

Key aspects:

- **Designation of relevant national authorities**
- **Implementing measures**

- **Implementation of decisions/recommendations of joint bodies (if applicable)**

National implementation measures are the fulcrum for the fulfilment of obligations for the functioning of a joint body. National implementation requires the presence of the regulatory and institutional framework for implementation, compliance and enforcement. Thus, it is important to include operational provisions into the decisions/recommendations of the joint bodies to detail how the Parties should implement them at national level.

For most States, especially developing States. a key issue to be considered is human resources as the requisite skilled personnel is an important element to the carrying out of duties. The national implementation plan needs to be drawn up with a well detailed public awareness and information sharing processes that will engage all relevant stakeholders.

What to consider when drafting provisions on national implementation

- **The work of a joint body is anchored on the activities of national bodies carrying out obligations undertaken by States.**

The relevant institutional arrangements at the national level will need to commence with the identification of the appropriate institution(s) to lead the implementation drive. Depending on the governance framework in a State it may become necessary to create joint or inter-ministerial arrangements for national level implementation. Often a national focal point is appointed with the clearly assigned role of liaising with the joint body on clearly detailed mats for all actors.

- **Implementation measures should consider the particular roles that reflect the obligations undertaken in the arrangement.**

It can be effective to develop a national implementation plan in consultation with all relevant stakeholders. This plan should detail out the key actors and their roles in the implementation process. At the national level, systems for monitoring and evaluation with the responsible institution should be put in place. To be able to comply with international obligations, the national implementation measures should assign roles reflective of every obligation to be fulfilled. The monitoring and evaluation should also target all obligations by the States. Additionally, it can help to put in place periodic reviews for the national implementation plans. In some of the world's basins, member States have delegated a supranational authority to the joint body and the joint body itself implements the decisions in the States sharing transboundary waters.

Box X. Volta Basin Authority Strategic Plan 2010-2014

The Parties would usually indicate the types of cooperation that is appropriate to ensure implementation of obligations at the global, regional and sub-regional levels. This can happen through the work of organizations, and through consultation with national stakeholder including non-state actors such as NGOS, Civil Society Organizations, youth groups, women's groups and such relevant groups involved in the water sector, to ensure an effective development, implementation and updating of their implementation plans.

How the implementation provisions at the national level could be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Protocol on sediment management to the Framework Agreement on the Sava river basin, 2015

Article 6: Coordination/Harmonization of plans

The Parties shall take appropriate steps to coordinate and/or harmonize the Sediment Management Plan, the Sava River Basin Management Plan and other plans and programmes dealing with water management and sediment management for achieving common synergies and benefits having regard to the objectives of the FASRB accordingly.

Article 7: Coordinated system of sediment monitoring

The Parties shall establish a coordinated system of sediment monitoring in order to provide all data necessary for development and implementation of the Sediment Management Plan.

Article 8: Dredging

1. The Parties shall perform only maintenance and environmental remedial dredging.

2. Capital dredging shall be allowed only in the designated areas that are in accordance with Sediment Management Plan and national law.

3. The dredging shall be performed only by natural or legal person, which is, in accordance with national law of the Party, entitled to perform dredging.

Article 9: Information on planned dredging

1. Each Party shall develop the Information on Planned Dredging on yearly basis.

2. Until the Sediment Management Plan is adopted, the Information on Planned Dredging shall contain at least the following:

(a) planned locations and types of dredging including assessment of quantity and quality of sediment to be dredged for Sava River and its main tributaries;

(b) methods for sediment disposal;

(c) methods for sediment treatment in case the sediment is polluted;

(d) summarized quantities of dredged sediment for the sub-basins of other tributaries.

Supporting resources (non-exhaustive)

- International Sava River Basin Commission, *Protocol on sediment management to the framework agreement on the Sava river basin*, 2015.
- Volta Basin Authority, *Volta Basin Authority Strategic Plan 2010-2014,* 2010.

Module 5 - Implementation, institutional framework and dispute settlement

- **Building block: Implementation at transboundary level, including establishment of joint bodies**

Key aspects:

- Status of the joint body and legal personality
- Structure, tasks and functions, composition, working languages,
- decision making process

- Other supporting bodies (e.g. working groups, operational committees, scientific councils, technical bodies)
- Representation and status of non-state actors within the joint body (e.g. consultative, participation in the voting procedure...) and admission rules (if applicable)
- Existence of action plans (if applicable)

Article 9(2) of the Water Convention requires that arrangements on transboundary waters, "shall provide for the establishment of joint bodies". According to the Convention, a joint body "means any bilateral or multilateral commission or other appropriate arrangements for cooperation between the Riparian Parties". It is important to note that joint bodies exist in many forms and shapes, with a wide range of competencies from institutions with very limited coordination functions to international river commissions with strong implementation competences.

Upon its establishment, a joint transboundary body often becomes a legally recognized actor in international law and, through a mandate provided by the relevant countries, has the legal personality to negotiate, enter into agreements and develop international laws and norms. The joint body then takes the institutional form (structure, composition, working languages …) and assumes the tasks and functions vested in it by the Parties. These joint bodies therefore are governed by principles, norms, rules, procedure and programmes that have been agreed upon by the legally recognised actors on certain specified and particular issues[102].

Despite their form, most joint bodies share common features like a decision-making body meeting at reasonably regular intervals, executive body(ies) and subsidiary bodies (working groups) and the representation of all States sharing transboundary waters in the different institutional bodies.

Depending on the mandate given by riparian parties, joint bodies will adopt political, technical and administrative arms with varied and complementary functions. Within the context of a multilateral framework convention, such as the 1992 Water Convention, the political implications of the outcome of activities by joint bodies of Parties may be addressed at a high-level, through a decision-making body such as the Meeting of the Parties (MOP) or the Conference of Parties (COP), usually headed by officials authorized for that purpose by States. The commitment of the political heads to engage in the work of the COP or MOP is of key importance because at this level, States may be building upon, varying and expanding upon obligations originally adopted. Often the involvement of the political heads is important as political will to carry out obligations can make or unmake a joint body[103]. The frequency and richness of the COP or MOP will facilitate the progress of the work of the joint body.

The work of the COP or MOP is often facilitated by a secretariat in charge of the day-to-day direction of the work of the joint body. These take the form of the organization of the meetings of the joint body and/or the working groups and the facilitation of the implementation of decisions. Often to get the full cooperation of the States, recruitment of staff of the secretariats must be open to the citizens of party States. There is also the need to have a budgetary allocation for the work of the secretariat and the working groups.

[102] Marc A. Levy et al, "The Study of International Regimes", *European Journal of International Relations*, vol. 1(3), 1995, pp. 267-330.

[103] Ampomah, B.Y., Adjei, B.A., Youkhana, E., *The transboundary water resources management regime of the Volta Basin*, ZEF Working Paper Series, No. 28, 2008.

In addition to the secretariat, the creation of other supporting bodies such as working groups, operational committees, scientific councils, technical bodies with experts on specific topics, relevant to the basin aid in effective working of the joint body. These groups should also draw up and implement the monitoring and assessment strategy, including its technical, financial and organizational aspects. The COP or /MOP may guide the secretariat to develop a reporting format for all supporting bodies. Also, the COP or /MOP must set aside assigned time periods to review of the reports of tasks assigned to the supporting body and also review the working structures of these ancillary/working bodies.

What to consider when drafting provisions on joint bodies

- **Provisions on joint bodies may create a legal personality for the institution and give it the ability to undertake legal duties and obligations.**

An arrangement that establishes a joint body should especially in case it is multilateral one, clearly set out its legal personality and provide an appropriate mandate for that body to fulfil its commitments. The arrangement should also provide supporting bodies with a legal mandate to be able to demand action of states parties.

- **An arrangement that sets up a joint body must put in place provisions that will create substantive and procedural obligations and rights.**

The work of the joint body needs to be guided by substantive and procedural rules. This will guide the joint body on how to direct States in the compliance with and implementation of the obligation undertaken. It will also assist the States to have a clear view of how to grow the treaty regime. Although the work of the joint body resolves around the COP or MOP and their decision-making processes, States-party should consider making non state actors an active part of the consultative and participatory processes. The admission processes for these non-state actors should be laid out in an arrangement to consider how a non-state actor can be represented and work in a joint body and its supporting bodies (e.g. consultative, participation in the voting procedure). For example, non-state actors in the geographical region, or who contribute financially and technically can be admitted as a member or observer of the joint body. In the same way, the rules for dismissal or removal of these non-state actors should be clearly laid out. Customarily however, voting and decision making is limited to state actors. However, if possible, on certain stated topics and issues, non-state actors may be allowed to vote to a limited extent. Allowing voting may create commitment of non-state actors especially those that actively contribute to the work of the COP or MOP, financially and technically.

How provisions on joint bodies and other supporting bodies could be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Volta Basin Authority Convention, 2007

Article 3

1. For the purpose of ensuring international cooperation for the rational and sustainable management of the water resources of the Volta basin and for the socio-economic integration among the Parties herein, there is hereby established an organization called the Volta Basin Authority (VBA) hereinafter referred to as the "Authority".

2. The Authority shall have the status of an international organization enjoying thereto the privileges and immunities of an international legal entity.

ORGANS, SPECIFIC OBJECTIVES AND OPERATING RULES

Article 8

The following shall constitute the permanent administrative organs of the Authority

a) The Assembly of Heads of State and Government;

b) The Council of Ministers in charge of Water Resources;

c) The Forum of the Parties involved in the Volta basin development:

d) The Committee of Experts:

e) The Executive Directorate of the Authority.

2. The Council of Ministers may, as and when necessary, establish any other organ of the Authority.

3. The Executive Director of the Authority shall enjoy all the privileges and immunities granted to Heads of Diplomatic missions.

Other examples: Statute (Revised) of the Interstate Commission for Water Coordination of Central Asia, 2008; Agreement between the government of the Republic of Botswana, and the Republic of Namibia on the establishment of a permanent Okavango river basin water commission (OKACOM), (1994) '1994 OKACOM Agreement'.

Supporting resources (non-exhaustive)

- UNECE, Principles for Effective Joint Bodies for Transboundary Water Cooperation, 2018.
- UNECE, Guide to Implementing the Water Convention, 2013, pp.70-80.
- UN Water, UNECE, UNESCO, Progress on Transboundary Water Cooperation - Global baseline for SDG indicator 6.5.2, 2018.
- UNECE, Background study on financing transboundary water cooperation and basin development, 2020.
- Ampomah, B.Y., Adjei, B.A., Youkhana, E., *The transboundary water resources management regime of the Volta Basin*, ZEF Working Paper Series, No. 28, 2008.

Module 5 - Implementation, institutional framework and dispute settlement

- **Building block: Financing**

Key aspects:

- **Financing of the institutional structure (meetings, secretariat)**
- **Financing of joint activities (e.g. relevant research and studies, actions.)**

Transboundary water management requires addressing a variety of complex environmental, socio-economic and political challenges that might demand exceptional costs such as the construction of infrastructure, the acquisition of monitoring equipment, and the development of studies. Different funding and financing sources might be required at different stages of management and development. Usually, at least core costs of joint bodies should be covered from national budgets mainly for reasons of sustainability. In some cases, national budgets might not be sufficient to address such challenges, particularly in developing countries where funds might divert to attend to other priority sectors. In these scenarios, alternative and innovative mechanisms could represent a suitable option to fill finance gaps.

Financial resources are needed to cover core institutional costs such as salaries, office facilities, as well as program costs including the collection of data and information to monitor the state and quality of waters.

Large funding is required for activities such as the reliable collection and exchange of data and information, the strengthening of the technical capacities of water managers and the active involvement of local communities and civil society that implemented adequately can ensure enhanced management and governance of waters. Some of these costs can be covered at national level but sometimes States and joint bodies need to attract different forms of investment and mobilize funds for the better protection, use and development of transboundary waters.

What to consider when drafting provisions related to financing

- **Funding for joint bodies should come primarily from States' budgets.**

Arrangements on transboundary waters should ideally expressly define how the costs between states will be calculated and shared. Public financing can have different forms (public loans or grants, regional taxes, management fees, sale of services) but direct contributions remain most common. Sometimes member States provide in-kind contributions like technical assistance, the provision of building, office space or staff. [104] Costs may be allocated simply on an 'equal share' basis, or different formula may be introduced to determine the contribution from each Party. These formulas may consider the geographic area of the basin, the populations dependent on it and the Gross Domestic Product (GDP) of the States who are parties to the joint body, as well as the specific benefits received from joint activities.

- **Alternative sources of funding, particularly from the private sector, international banks and cooperation agencies can also contribute to the implementation of joint bodies' specific functions.**

The manner in which these funds are to be secured might be included within the arrangement to ensure transparency. Art. 24 of the Dniester Treaty, for example, States that financing shall be provided on the basis of Party contributions (based on their capacities), by aiming to attract resources from bilateral and multilateral sources and financial vehicles, including grants and loans; and the use of innovative methods and incentives for attracting and channeling resources.

How financing provisions could be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Agreement on the Establishment of the Zambezi Watercourse Commission, 2004

Article 19: Financial provisions

1. The budget of the Commission shall be drawn from annual cash contributions by Member States; donations, grants and loans from bilateral and multilateral organizations, monies raised internally; and other sources of funding agreed to by the Council.
2. The contributions of Member States to the ordinary budget of the Commissions shall be determined by the Council.
3. Unless specified by the Council, contributions by Member States to projects implemented by the Commission could either be in cash or in kind; In kind

[104] UNECE, Background Study on Funding and Financing of Transboundary Water Cooperation and Basin Development, 2020, p. 55.

contributions include: staff time, experts, training facilities, services, office accommodation and equipment or any other contributions as may be agreed by Council from time to time.

Other examples: Agreement for Establishment of the Binational Commission for the Integrated Water Resources Management of the Transboundary Basins shared between Ecuador and Peru, 2017, Art. 12; Dniester Treaty, 2012, Art. 24; Itaipu Treaty signed by Brazil and Paraguay, 1973, Art. 8.

Supporting resources (non-exhaustive)

- UNECE, *Background Study on Funding and Financing of Transboundary Water Cooperation and Basin Development*, 2020.
- SDC, UNCDF, GWH, *Blue Peace Invest in Peace through Water,* 2019.
- World Bank, *Promoting Development in Shared River Basins. Case Studies from International Experience*, 2018.

Module 5 - Implementation, institutional framework and dispute settlement

- **Building block: Compliance monitoring**

Key aspects:

- **Monitoring implementation of the agreement (e.g. obligation of reporting, monitoring compliance, compliance review).**

International water experts often assess the effects of an arrangement on transboundary waters in terms of the extent to which States comply with its commitments. Full compliance is said to lead States into a pattern of obedience and predictable behavior. Therefore, conflict on water utilization mainly arises when States fail to comply with their commitments. The concept known by the Latin formula *pacta sunt servanda* ("agreements must be kept") is arguably the oldest principle of international law. Without such a rule, no international agreement would be binding or enforceable.

What to consider when drafting provision on compliance and monitoring

- **Arrangements should clearly set out the commitments to be implemented at the national and transboundary levels**

Any legal arrangement should set out clear requirements for States parties in terms of the commitments that operate at a transboundary level, and the obligations that States must comply with at the national level, such as establishing the necessary laws, regulations and administrative procedures. While some flexibility or ambiguity may be embedded into an arrangement in order to achieve consensus, clarity in the commitments adopted is essential for monitoring compliance.

- **Compliance may include commitments to report, assess and address incidences of non-compliance**

Joint bodies established under an arrangement can play a key role in relation to compliance and implementation. Due to state sovereignty concerns, the power of joint bodies is often limited to a coordinating function, sometimes operational powers and very rarely regulatory or judicial functions. However, joint bodies can play a role in terms of monitoring compliance. For

instance, an arrangement may oblige States to submit periodic reports related to the implementation of the arrangement to the joint body. A joint body may also have a role in reviewing these periodic reports and assessing the current implementation status of the arrangements. In more limited incidences, a joint body may play a role in addressing non-compliances, through for example, the provision of financial or technical assistance.

How compliance and monitoring provisions could be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Great Lakes Water Quality Agreement, 2012

Article 5 – Consultation, Management and Review

…

2(e) the Parties shall prepare, in consultation with the Great Lakes Executive Committee, a binational Progress Report of the Parties to document actions relating to this Agreement, taken domestically and binationally. The first such report shall be provided to the Public and the Commission before the second Great Lakes Public Forum, and subsequent reports shall be provided before each subsequent Great Lakes Public Forum.

Article 7 – International Joint Commission

The Parties agree that, pursuant to Article IX of the Boundary Waters Treaty, the Commission shall have the following responsibilities: … (k) providing to the Parties, in consultation with the Boards established under Article 8, a triennial "Assessment of Progress Report" that includes: (i) a review of the Progress Report of the Parties; (ii) a summary of Public input on the Progress Report of the Parties; (iii) an assessment of the extent to which programs and other measures are achieving the General and Specific Objectives of this Agreement; (iv) consideration of the most recent State of the Lakes Report; and (v) other advice and recommendations, as appropriate.

Article 5(4)

The Parties shall review each Assessment of Progress Report prepared by the Commission in accordance with Article 7(1)(k), and consult with each other on the recommendations contained in the reports, and consider such action as may be appropriate. The Parties may transmit any commitments to the Commission within six months of receipt of the Assessment of Progress Report.

Article 5(5)

Following every third triennial Assessment of Progress Report of the Commission, the Parties shall review the operation and effectiveness of this Agreement. The Parties shall determine the scope and nature of the review taking into account the views of State and Provincial Governments, Tribal Governments, First Nations, Métis, Municipal Governments, watershed management agencies, other local public agencies, downstream jurisdictions, and the Public.

Other examples: 2002 Sava Agreement, Art. 21; 2003 Lake Tanganyika Convention, Art. 22.

Supporting resources (non-exhaustive)

- UNECE, Water management: Guidance on public participant and compliance with agreements, Geneva, March 2000), https://unece.org/DAM/env/water/publications/documents/guidance.pdf.
- Ute Mager, *International Water Law: Global Developments and Regional Examples*, Berlin-Brandenburg Academy of Sciences and Humanities, 2015.
- UNECE, *The ECE Water Convention and UN Watercourses Convention: An analysis of their harmonized contribution to international water law,* Water Series No. 6, 2015, pp. 71-74.

Module 5 - Implementation, institutional framework and dispute settlement

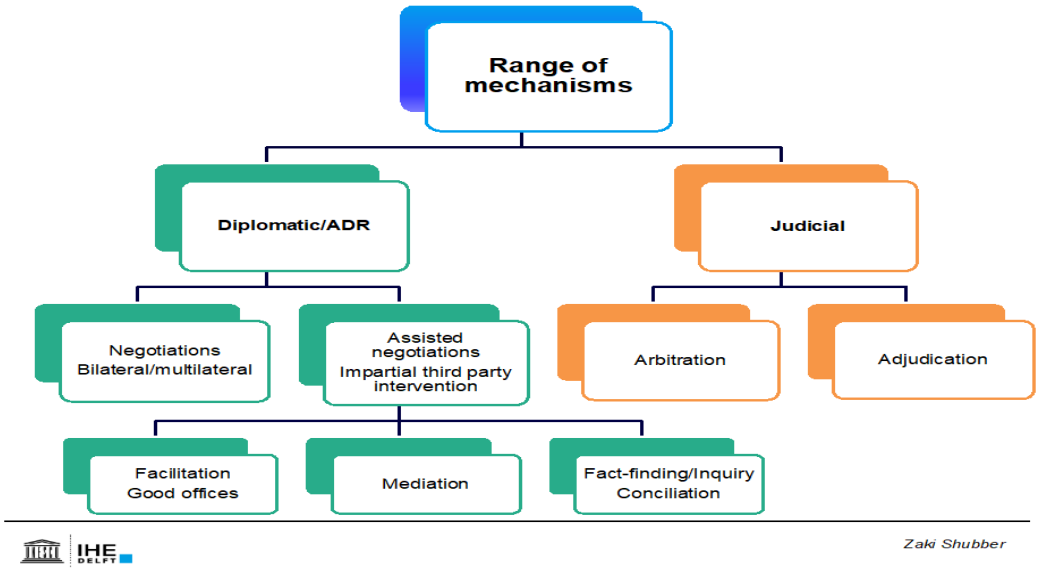
- **Building block: Dispute settlement**

Key aspects:

- **Dispute prevention (e.g. through joint body, recourse to the Water Convention Implementation Committee)**
- **Avenues for dispute settlement (e.g. through joint bodies, negotiation, mediation, good offices, arbitration, impartial fact-finding, ICJ)**

Under international law, States have the obligation to settle peacefully their disputes, including those on transboundary water resources (UN Charter, art.33). States and parties involved in managing shared water resources will invariably encounter conflicting goals and practices. When a dispute crosses international boundary, resolving it can be more difficult as each State may have different interests in water use. They may also want to resort to different means by which disputes should be resolved.

Conflict exists on a spectrum of avoidance to escalation. Avoidance can be a strategy to avoid a conflict or, alternately, may represent a conflict that has reached an impasse in negotiations or conflicting parties avoid discussing the conflict entirely. Avoidance can also be a strategy for a more powerful actor, who could receive the benefits desired from the water resource without negotiations. Opposite to avoidance is escalation, or the increased intensity of the dispute. In between these two extreme strategies are a host of approaches, from legal to technical to diplomatic to unofficial [see Figure X]. The appropriate intervention will vary depending on the status of the conflict, although it is generally more efficient to prevent disputes than to resolve them after the fact.



The 1997 Watercourses Convention and the 1992 Water Convention establish frameworks where general principles and prescriptive obligations related to the settlement of disputes between States are set out.

Parties can often have different views on the interpretation or application of an agreement or other arrangement on transboundary waters. For these reasons, States often include specific clauses dealing with dispute settlement. The provision of dispute settlement mechanisms in water treaties has become increasingly common over the years, rising from 31 % of agreements signed before 1950 to 44 % of agreements signed after 1950. Since 1990, 61 % of agreements have incorporated some sort of dispute settlement mechanisms, including five different methods for conflict resolution: the use of diplomatic channels (39 %), arbitration (32 %), the creation of special commissions for conflict resolution (28 %), the agreement to submit a dispute to an existing permanent judicial organ (8 %), such as the International Court of Justice, and third-party involvement (e.g. a donor or mediator) (6 %)[105].

What to consider when drafting provisions on dispute settlement

- **States have at their disposal several ways to peacefully settle water disputes. The majority of agreements and other arrangements include some form of dispute settlement mechanism**.

Riparians often include in arrangements on transboundary waters specific clauses on dispute settlement. The means by which to settle water disputes may be diplomatic or judicial ones. While in the first case, the result is not binding to the Parties, in the second case the Parties in question commit to comply with the decision adopted by an international court or tribunal.

Dispute settlement mechanisms include negotiations to be carried out in good faith. Riparians may also jointly seek the good offices of, or request mediation or conciliation by, a third party. Riparians may also make use, as appropriate, of any joint watercourse institutions that they may have established. States may also agree to submit the dispute to arbitration or to the International Court of Justice.

[105] Giordano et al., "A review of the evolution and state of transboundary freshwater treaties", *Int. Environ. Agreements*, vol.14, 2013, pp.245-264.

- **States may include provisions that establish a process to settle water disputes.**

Often, states opt to establish more than one step in the respective dispute settlement mechanism, structuring the processes from bilateral negotiation between disputing parties, possibly facilitated by the joint body, followed by a possible engagement of external actors, through mediation, arbitration or adjudication. These steps are progressive and most arrangements require the States to exhaust alternative dispute resolution mechanisms before adopting a more adversarial adjudicative stance.

- **Monitoring and compliance mechanisms may be included in agreements. These mechanisms help to resolve disputes in advance.**

Including provisions related to compliance monitoring (see above) can offer an important means by which to identify potential incidences of non-compliance with an existing agreement. These mechanisms rely on transparent and collaborative approaches and can avoid to invoke formal, adversarial dispute settlement mechanisms.

- **The establishment of fact-finding commissions may be a useful tool to prevent the resort to judicial means to solve a water dispute.**

In case of disagreement on the application and interpretation of a water agreement or arrangement, Parties may decide to set up a fact-finding mechanism. For instance, the UN Watercourses Convention provides for this option. The fact-finding commission is composed of one member nominated by each party concerned and in addition a member not having the nationality of any of the parties concerned (Art.33.4.). The Parties can decide to include the duty to provide to the commission with the necessary information. They may also give the right to the Commission to have access to their territory and to inspect any facilities, plant, equipment, construction, or natural feature relevant for the purpose of its inquiry (Art.33.7). The report of the Commission is not binding for the Parties, but they must take it into consideration in good faith.

How dispute settlement provisions could be framed? Examples from treaty practice (non-exhaustive)

BOX XX. Indus Waters Treaty, 1960

Article IX: Settlement of differences and disputes

(1) Any question which arises between the Parties concerning the interpretation or application of this Treaty or the existence of any fact which, if established, might constitute a breach of this Treaty shall first be examined by the Commission, which will endeavour to resolve the question by agreement.

(2) If the Commission does not reach agreement on any of the questions mentioned in Paragraph (1), then a difference will be deemed to have arisen, which shall be dealt with as follows:

(a) Any difference which, in the opinion of either Commissioner, falls within the provisions of Part I of Annexure F shall, at the request of either Commissioner, be dealt with by a Neutral Expert in accordance with the provisions of Part 2 of Annexure F; …

(4) Either Government may, following receipt of the report referred to in Paragraph (3), or if it comes to the conclusion that this report is being unduly delayed in the Commission, invite the other Government to resolve the dispute by agreement. In doing so it shall state the names of its negotiators and their readiness to meet with the negotiators to be appointed by the other Government at. a time and place to be indicated by the other Government. To assist in these negotiations, the two Governments may agree to enlist the services of one or more mediators acceptable to them.

(5) A court of Arbitration shall be established to resolve the dispute in the manner provided by Annexure G

(a) upon agreement between the Parties to do so; or
(b) at the request of either Party, if, after negotiations have begun pursuant to Paragraph (4), in its opinion the dispute is not likely to be resolved by negotiation or mediation;
(c) at the request of either Party, if, after the expiry of one month following receipt by the other Government of the invitation referred to in Paragraph (4). that Party comes to the conclusion that the other Government is unduly delaying the negotiations.

Other Examples: Agreement between Finland and Sweden Concerning Transboundary Rivers, 2009, Art. 30; Zambezi Agreement, 2000, Art. 21.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention User's Guide*, 2012, pp. 234-257.
- *Guide to Implementing the Water Convention*, 2013, pp. 98-100.
- UNECE, The ECE Water Convention and UN Watercourses Convention: An analysis of their harmonized contribution to international water law, Water Series No. 6, 2015, pp. 71-74
- Diplomacy, responsibility and accountability in transboundary water disputes, in M. Tignino, C. Bréthaut (eds.), *Research Handbook on Freshwater Law and International Relations*, Edward Elgar, 2019, pp. 197-214

Module 6 – Final Provisions

The final provisions, or final clauses, are part of the operative sections of a treaty and they are binding on the Parties. These provisions are technical in nature and include Articles on its entry in force, ratification formalities, denunciation, withdrawal and revisions.

- **Building block: Ensuring evolvement over time**

As time passes by, arrangements on transboundary waters may operate in a context different from the one in which the Parties drafted them. Arrangements therefore have to adapt to a changing environment through flexible and purpose-oriented interpretation, and informal or formal modification. The Parties to an arrangement usually endeavor to preserve it in a manner which conforms to present-day exigencies by adopting supplementary arrangements, or through the adoption of instruments within the relevant joint body. Minutes, decisions or guidelines of the latter may allow for taking into account novel trends or allow for interpretation of the arrangement in light of changing circumstances without the need for costly and often time consuming formal amendments to an arrangements provisions.

What to consider when drafting provisions on subsequent events and developments.

- **Some arrangements for transboundary water cooperation assign to the joint body, besides its specific tasks, the function to develop further regulations.**

Providing a joint body with the flexibility to develop subsequent protocols or guidelines may be an effective way to deal with changing circumstances. Article 18.1 of the 1994 Danube Convention for example, provides a mandate for the ICPDR to elaborate, 'proposals and recommendations addressed to the Contracting Parties. Similarly, a function of the Lake Victoria Basin Commission is, pursuant to Art. 33(3) of the 2003 Lake Victoria Protocol, 'guidance on implementation of sectoral projects and programmes'.

- **The formal conclusion of subsequent agreements or arrangements by the Parties, complementing the initial one, is also a tool allowing for the adaptation of the latter**.

Arrangements may provide a provision that sets out the right of Parties to develop supplementary instruments. For example, under the Sava Agreement (Art. 30), the Parties commit to develop a defined set of protocols on the protection against flood, water use/ utilization, exploitation of stone, sand, gravel and clay, protection and improvement of water quality and quantity, protection of aquatic recourse, prevention of pollution from navigation and emergency situations. Additionally, the Parties, 'agree to conclude other protocols necessary for the implementation of this Agreement' (Art. 30). A slightly different approach, taken by the 1944 US-Mexico Treaty, is to adopt 'minutes' at meetings of the bilateral commission as supplementary instruments to the treaty (Art. 25).

- **Notwithstanding the above means of adapting a treaty, the Parties to it may consider necessary, at a certain point, to proceed with the amendment of the latter.**

The relevant provisions of the 1969 Vienna Convention, though they provide useful normative guidance on the matter, are residual rules, giving way to the amendment procedure chosen by the signatories to a treaty. Many international agreements specify their own procedures for amendment and the relevant practice varies considerably, however the latter usually requires two steps: the adoption of the amendment by the Parties to the agreement and its subsequent entry into force, the latter is triggered by the formal consent by all or a specified number of the Parties to it. This does not exclude however the possibility that an amendment takes effect once adopted, in particular in case of agreements which have entered into force upon signature, as it is case with the 1995 Mekong River Agreement (Arts. 36 and 37).

The formal consent of each Party for the entry into force of the amendment following its adoption may be expressed in the form required for the entry into force of the initial agreement (i.e., ratification, acceptance or approval), while simplified procedures (such as tacit acceptance following the absence of objection within a certain period after the adoption of the amendment) may be followed for the amendment of technical annexes. In the case of bilateral agreements, unanimity of both Parties is required for the entry into force of an amendment, while in case of multilateral treaties State practice provides a variety of options, such as unanimity or qualified majority.

Regarding in particular multilateral agreements on transboundary watercourses or international lakes, the integrated approach for the use and protection of transboundary waters suggests the unanimity rule for the entry into force of amendments to them, otherwise a differentiated treaty regime might apply to the relevant basin, some States being bound, once the amendment has entered into force, by the agreement as amended while some others will continue to be bound by the non-amended version of the former. Unanimity may however not be the option chosen

by the signatories, in particular in case of agreements with a considerable number of Parties such as the 1994 Danube Convention or the 1987 Convention on the establishment of the Niger Basin Authority, where qualified majority has been retained instead of unanimity, as the absence of consent to be bound by the amendment by just one Party to them would block the evolution of the treaty regime.

- **The evolution of international water law may prompt the Parties to an Agreement to proceed with its amendment.**

Changes and novel trends in international water law are usually taken into account by the Parties to an arrangement through an evolutive interpretation of its provisions, often reflected in the text of minutes, recommendations and action plans produced by the relevant joint body. However, the quest for legal certainty may prompt the signatories to an arrangement on transboundary waters to provide for the adaptation of existing arrangements concluded between some of them for the elimination of contradictions between the latter and the former (Danube Convention, Art. 21,).

How could provisions be framed? Examples from treaty practice (non-exhaustive)

Box XX. Framework Agreement on the Sava River Basin, 2002

Article 26- Amendments to the Agreement

1) Any Party may propose amendments to this Agreement.
2) The text of any proposed amendment shall be submitted in writing to the Secretariat, who shall communicate it to all Parties at least ninety days before the meeting of the Parties at which it is proposed for adoption.
3) The Parties shall adopt any proposed amendment by consensus. The Chairman of the Sava Commission shall notify the Depositary of any amendments adopted by the Parties.
4) Amendments shall enter into force, *mutatis mutandis,* in accordance with the procedure referred to in Article 28 of this Agreement.

Other examples: Art. 17, Revised Convention creating the Niger Basin Authority, 1987; Art. 25, Treaty between the United States of the America and Mexico relating to the waters of the Colorado ad Tijuana Rivers, and the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico, 1944 '1944 US-Mexico Treaty'.

Supporting resources (non-exhaustive)

- United Nations, *Final Clauses of Multilateral Treaties Handbook,* 2003, pp. 95-107.
- UNECE, *Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices,* 2015, pp. 22-28.
- International Law Commission, *Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties,* Report of the International Law Commission, seventieth session, doc. A/73/10, 2018, pp. 12-16.

o Building block: Entry into force

A treaty has to include provisions for entry into force because it is what puts in place processes that trigger the coming into legal effect of an international treaty at the domestic level. They set out the way the treaty becomes legally binding on the States that negotiated, signed the

treaty and have further ratified or acceded to the treaty. Therefore, the treaty has to enter into force to be binding for its Parties. The signature of a treaty alone is not sufficient to make a treaty binding for a Party. However, according to Article 18 of the Vienna Convention, a State that has signed a treaty should not act in manner that defeats the object and the purpose of the agreement, unless it has made clear its intention not to become a Party to the agreement.

What to consider when drafting provisions related to entry into force

- **A treaty may include provisions on its depositary and registration.**

These provisions act as part of the processes for entry into force. Although the registration is not mandatory, it is a necessary process as it acts as a means to provide public information on the obligations undertaken by states. The Charter of the United Nations provides that "every treaty and every international agreement entered into by any member of the United Nations after the present Charter comes into force shall as soon as possible be registered with the Secretariat and published by it" (Art. 102). Some arrangements provide the registration or depositary of the treaty with a specific party to the agreement or a regional organization. For example, in the case of the 1999 Convention on the Protection of the Rhine, Switzerland acts as the depositary of the Convention. It receives the notification from each Party that the national procedures for the entry into of force have been exhausted and it informs the other contracting Parties (Art.17).

- **An agreement or other arrangementis only binding and enforceable if it has entered into force.**

Procedures to enter into force commence when the arrangement is first of all be signed by all Parties or a requisite number of Parties who negotiated the agreement. It will enter into force dependent on times and processes set out by the Parties during the negotiations phase. These processes are two pronged, - the actions by the States and an event. Actions of the States are in the form of signing and ratifying while the event required is the culmination of submission of signatures and a time requirement. In instances where such provisions or such agreement are not clearly established, a treaty enters into force as soon as consent to be bound by the treaty has been established for all the parties participating in the negotiations (Art. 24 (1)(2) 1969 Vienna Convention).

In the case of a multilateral treaty, it may enter into force, depending on its final provisions, when the States sign and/or ratify it. In cases where there are only two Parties to a treaty, they may agree that the mutual notification of the completion of the relevant internal procedures triggering its entry into force. f A treaty, either bilateral or multilateral, may enters into force upon signature in the case the treaty provides the signatures shall have that effect. Signatories on behalf of States may be ministers, diplomats or departmental heads with appropriate full powers.

- **Some arrangements may indicate that pending the entry into force of the treaty some provisions, or the entire treaty, may provisionally be in force.**

Provisional application can occur where the arrangement itself expressly provides this. Such a provisional application provisions can however be terminated with respect to a States if that State notifies the other States between which the treaty is being applied provisionally of its intention not to become a Party to the treaty (Art. 25 of the Vienna Convention).

How could provisions for entry into force be framed ? Examples from treaty practice (non-exhaustive)

Box XX. Framework Agreement on the Sava River Basin, 2002

Article 28: Duration and Entering into Force

1) This agreement shall be concluded for an indefinite period of time.

2) This Agreement shall be subject to ratification.

3) Instruments of ratification shall be lodged as soon as possible with the Depositary identified in Article 33 of this Agreement. The Depositary shall inform the Parties of the date of deposit of each instrument of ratification.

4) This Agreement shall enter into force on the thirtieth day after the date of deposit of the fourth instrument of ratification. The Depositary shall notify the Parties of the date of the entry into force of the Agreement.

Other examples: Arts 19-20, 2007 Convention on the status of the Volta River and the Establishment of Volta Basin Authority; Art. 26, 2004 Agreement on the establishment of the Zambezi Watercourse Commission; Art. 28, 2002 Framework Agreement on the Sava River Basin; Art. 36, 1995 Mekong Agreement.

Supporting resources (non-exhaustive)

- *UN Watercourses Convention: User's* Guide, 2012, pp. 263-268.
- Anthony Aust, "Article 24 (Entry into force)", in O. Corten and P. Klein (eds.), *The Vienna Conventions on the Law of Treaties. A commentary*, Oxford University Press, 2011, pp.628-637.
- Anthony Aust, Handbook of International Law, 2nd edition, Cambridge University Press, 2010, p. 73.
- Treaty Section of the United Nations Office of Legal Affairs, *Final Clauses of Multilateral Treaties: Handbook*, United Nations Publications 2003.

o Building block: Withdrawal/ termination

The principle of *pacta sunt servanda,* which stipulates that agreements must be kept, is a fundamental feature of all legal systems, including treaty law (Art.26, Vienna Convention). Without such a principle, legal instruments would fail to have any binding force on Parties. In order to protect the sanctity of the principle, legal arrangements often provide provisions that stipulate clearly how States might withdraw from or terminate that arrangement. Withdrawal concerns the act whereby a Party to an arrangement seeks to no longer be legally bound by that arrangement; whereas termination relates to the situation whereby the arrangement is no longer legally binding on all its parties.

What to consider when drafting provision on withdrawal and termination?

- **Termination may be triggered in a number of ways.**

Some arrangements may run for a certain period of time, and then automatically renew. The 1998 Luso-Spanish Convention, for example, stipulates that, 'this Convention shall be valid for a period of seven years and may be prolonged automatically by periods of three years' (Art.33). If the termination clause is not triggered the Convention will run for successive periods. Other treaties simply provide that the arrangement runs for an indefinite period.[106]

[106] See for example 200 Sava Agreement, Art. 28.

Another approach is seen in the case of the 1960 Columbia Treaty, wherein Canada or the US have a right to terminate the Treaty after it has been in force for 60 years, provided that they have given at least 10 years written notice (Art. XIX).

- **An arrangement may provide different approaches to withdrawal.**

An arrangement may explicitly set out the conditions upon which a Party can withdraw from it. For example, the 1994 Danube Convention, stipulates that, 'at any time after five years from the date on which this Convention has come into force with respect to a Party, that Party may withdraw from this Convention by written notification' (Art.29). Withdrawal then becomes effective one year from the date of notification. An alternative approach can be seen by the 2002 Sava Agreement, which does not include the five-year threshold period. A Party may withdraw from the Sava Agreement at any time, 'by giving written notice to the Depository of this Agreement, who shall immediately communicate to the Parties' (Art.31). Withdrawal then takes effect, 'one year after the date of its receipt by the Depositary unless notice is withdrawn beforehand or the Parties mutually agree otherwise' (Art.31).

- **Provisions on withdrawal and termination may depend on the nature of the arrangement.**

The type of arrangement will likely shape the type of provisions that are included in relation to withdrawal and termination. Where an arrangement relates to a specific project, such as the construction of a hydropower plant on a transboundary river, fixed terms might be used for termination. Similarly, it might be particularly costly for a Party to withdraw from such an arrangement, given that the project is likely to require joint investment by the Parties. Withdrawal conditions might therefore be stricter for project related arrangements than for broader framework arrangements.

- **Withdrawal thresholds are important to stipulate in order to maintain the sanctity of the arrangement.**

A common feature of the provisions cited above is that they require that a Party planning to withdraw from an arrangement must provide sufficient notice of their intention. An absence of such a requirement, would mean that Parties might withdraw from an arrangement when their short-term interests run contrary to the commitments entered into via the arrangement. The provision of timelines and restrictions on withdrawal may also force the States to consider resolving any issues that is driving one or others to seek a withdrawal.

How could provisions be framed? Examples from treaty practice (non-exhaustive)

Box. XX Treaty Between Moldova and Ukraine on Cooperation in the Field of Protection and Sustainable Development of the Dniester River Basin, 2012

Article 31

The operation of the present Treaty shall be automatically extended for each following five-year period, unless one of the Contracting Parties informs the other Contracting Party in writing at least twelve months before termination of the relevant five-year period of its intention to terminate its operation.

3. Termination of the present Treaty shall not affect fulfilment of obligations and measures which commenced during the operation of the present Treaty.

Other example: Convention on the Sustainable Management of Lake Tanganyika, 2003, Art. 43; Columbia Treaty, 1960, Art. XIX.

Supporting resources (non-exhaustive)

- Anthony Aust, *Treaties, Termination,* in Max Planck Encyclopaedia of Public International Law, https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1491.
- Convention on the Law of Treaties, 1969.

Annex: Outline of the Checklist

Tool		
Thematic modules	**Building Blocks**	**Key aspects (Draft in progress)**
1. Preamble	**Context** **Vision, purpose**	Generally place the arrangement within the context of current water issues, as well as their possible evolution in the future (e.g. in light of climate change) -Explain the reasons that led to the development of the agreement/arrangement (e.g. cooperative efforts that led to the adoption of the legal framework). - Put the agreement/arrangement into context by explaining its relationship with other legal instruments and institutions that operate at a global, regional and/or sub-regional level - Refer to basin-specific conditions, if relevant - Explain the vision and purpose/s, including by referring to principles, approaches and shared values as relevant/appropriate
2. General provisions	**Definitions/Use of Terms**	Identify and define (accurately) key terms and concepts
	Objective	Clearly define general and specific objectives of the cooperative framework
	Scope	Clearly define the waters (waterbodies, and/or concerned basins or sub-basins) including whether the agreement/arrangement applies to groundwater (geographical scope) and the issues (governance,

		flows, water quality, environmental services rendered) measures, activities or uses to which the agreement/arrangement applies (material scope)
	States and/or entities that can become Parties to the Parties to the agreement or other arrangement	Define who can become Party to the Parties to the agreement or other arrangement: - Riparian states - Basin states - Other states or entities (e.g. local/provincial government)
	Relationship with other agreements, rights and/or obligations	- Relationship with existing agreements under international law - Relationship with other existing rights, obligations and/or uses - Possibility to enter into further bilateral or multilateral agreements (if applicable) - Possibility to adopt more stringent measures
3. Substantive content of the agreement or other arrangement	**General obligations and rights**	Equitable and reasonable utilization, including factors that can help determine what constitutes reasonable and equitable use
		Duty to take all appropriate measures to prevent significant harm
		General obligation to protect ecosystems
		General obligation to cooperate
	Principles and other rights and obligations	Precautionary principle
		Sustainability
		Polluter/user pays principle

		Human rights to safe drinking water and sanitation
	Water management and protection issues	Water allocation and flow regulation - Quantity - Quality - Timing
		Hydraulic facilities and infrastructures - Potentially joint infrastructure - Infrastructure safety -Mitigation measures for potentially negative effects
		Prevention, reduction and control of pollution, hazardous activities, including prevention of accidental water
		Emergency/critical situations, including floods and droughts
		Drafting water/basin/aquifer management plans (s) (joint or coordinated plan(s) or objectives)
		Groundwater
		Protection of the marine environment
	Sectoral and intersectoral issues	-Agriculture
		-Energy
		River Navigation

		-Climate change-related aspects, including water scarcity
		- Spiritual aspects of water
4. Procedural features	**Regular exchange of data and information**	- General exchange of information and/or forecasts (hydrological meteorological, hydrogeological and ecological) - Information concerning planned measures -Possible exceptions and grounds for not disclosing information
	Notifications and consultations	- **Notification** for planned measures with possible adverse effects and related procedures - **Consultations and negotiations** concerning planned measures - Procedure/s in the absence of notification - Urgent implementation of planned measures - Notification in emergency/critical situations
	Public participation and stakeholder involvement	- Access to information for the public - Public participation in decision-making processes - Public participation in implementation - Non-discrimination in access to judicial and other remedies for natural or juridical persons affected by transboundary harm - Local and indigenous communities, recognizing Traditional Ecological Knowledge and different ways of knowing
	Social and environmental impact assessment	- Relevant Procedures - Possible involvement of third Parties (e.g. joint body, panel of independent experts..)

	Joint monitoring and assessment	- Coordinated/Harmonized data gathering and processing methods, joint databases, digitalization of data - Joint research and studies - Monitoring arrangements and related principles - Coordinated/Harmonized monitoring programs
5. Implementation, institutional framework and dispute settlement	**Implementation at national level**	- Designation of relevant national authorities - Implementing measures - Implementation of decisions/recommendations of joint bodies (if applicable)
	Implementation at transboundary level, including establishment of joint bodies	- Status of the joint body and legal personality - Structure, tasks and functions, composition, working languages, decision making process - Other supporting bodies (e.g. working groups, operational committees, scientific councils, technical bodies) - Representation and status of non-state actors within the joint body (e.g. consultative, participation in the voting procedure..) and admission rules (if applicable) -Existence of action plans (if applicable)
	Financing	- Financing of the institutional structure (meetings, secretariat) - Financing of joint activities (e.g. relevant research and studies, actions..)
	Compliance monitoring	- Monitoring implementation of the agreement (e.g. obligation of reporting, monitoring compliance, compliance review).

	Dispute settlement	- State responsibility - Civil liability and compensation for damage
		- Dispute prevention (e.g. through joint body, recourse to the Water Convention Implementation Committee) - Avenues for dispute settlement (e.g. through joint bodies, negotiation, mediation, good offices, arbitration, impartial fact-finding, ICJ)
6. Final provisions	**Ensuring evolvement over time**	- Amendments - Protocols - Annexes - Other legal and technical procedures (e.g. monitoring protocols, data policy)
	Entry into force	- Define procedures for entry into force: ❖ Signature ❖ Ratification, acceptance, approval, accession ❖ Permissibility of reservations - Depositary and registration
	Withdrawal/termination	- Specify right to withdraw or termination of the treaty and related procedures