

PART 2

OPERATIONALIZING



CHAPTER V: OBJECTIVES OF WATER MANAGEMENT AND RELATED PRINCIPLES OF INTERNATIONAL LAW TO GUIDE TRANSBOUNDARY WATER ALLOCATION

SUMMARY:

This chapter begins by discussing cross-cutting objectives of IWRM and their related legal principles, to be considered when initially developing transboundary water allocation processes and outcomes. Core principles of international water law, both substantive and procedural, which should guide transboundary allocation of surface and groundwater resources, are then examined, with particular attention given to provisions of the Water Convention and Watercourses Convention. Additional principles of international law that are applicable to water allocation are then described. Finally, emerging legal principles relevant to water allocation in a transboundary context are outlined.

1. Cross-cutting Objectives of Water Management (and Related Principles) Relevant to Allocation

a. Reconciliation of different water uses and needs

Transboundary waters have many uses for the riparian States, including freshwater supply, flood control, irrigation, navigation, recreation and tourism and hydropower production. States may differ greatly in their characteristics, interests and relations with one another. Hence, water cannot be allocated for a single purpose; whereby different water uses and needs of co-riparian States need to be reconciled.¹⁷¹ In relation to transboundary allocation, the principle of equitable and reasonable utilization provides guidance on how to balance different water uses and needs when considered in conjunction with related principles such as no harm and cooperation. From a more technical point of view, the broader approaches, such as the nexus approach and basin-wide planning, discussed in Chapter IV, can also serve the objective of reconciliation of uses.

Priority of uses as an allocation approach

Reducing conflicts between, and ensuring water for, competing water uses are the collective central aims of the principles of equitable and reasonable utilization and no significant harm. Once the overall availability of the shared water resources and the different uses and needs of the co-riparian States have been identified, it is possible to define water use priorities and formulate transboundary water allocation rules (see also Chapter III, subsection 3d). The prioritization of uses of transboundary waters is guided by the principles of international water law and may be specified in an agreement among co-riparian States or through custom. The parties to an agreement may determine, for instance, that vital household needs are to be met first, followed by the needs of the environment, subsistence farmers, agriculture, hydropower and industry. The agreement may define which water uses are to be prioritized within the basin, which are allowed to continue

171 Aaron T. Wolf, "Criteria for equitable allocations: the heart of international water conflict", *Natural Resources Forum*, vol. 23, No. 1 (1999), p. 3–30; Sergei Vinogradov and Patricia Wouters, *Sino-Russian Transboundary Waters: A Legal Perspective on Cooperation*, Stockholm Papers (Stockholm-Nacka, Institute for Security and Development Policy, 2013).

as usual and what limitations need to be put in place. A transboundary water agreement may also prescribe precise water allocations (with numerical values) among the parties.¹⁷² Determining the prioritization of uses is thus an established allocation approach and can be adaptable to the available water flows and to changing water demands.¹⁷³ In practice, transboundary agreements have examples on prioritization, but specific water uses have been prioritized only occasionally.¹⁷⁴

Relationship between different water uses in the United Nations global water conventions

The United Nations global water conventions provide guidelines on how to determine the relationship between different water uses in water allocation. The Watercourses Convention indicates that, in the absence of an agreement or a custom to the contrary, no use enjoys inherent priority (Art. 10(1)). Furthermore, where a conflict of uses of an international watercourse arises, it shall be resolved with reference to Articles 5 to 7, with “special regard” to be given to the requirements of “vital human needs” (Art. 10(2)). The concept of vital human needs has been defined in the preparatory works of the Convention to refer to “sufficient water to sustain human life, including both drinking water and water required for the production of food in order to prevent starvation”.¹⁷⁵ Also, factors to be considered when determining what constitutes equitable and reasonable utilization include the population dependent on the watercourse in each State.¹⁷⁶ The Water Convention follows a similar approach whereby the *Guide to Implementing the Water Convention* specifically makes references to and follows the approach of the Watercourses Convention on this issue. Under the Water Convention, the Protocol on Water and Health also aims to provide access to drinking water for everyone within a framework of integrated water-management systems (Art. 6).¹⁷⁷ The United Nations global water conventions additionally highlight the importance of ecosystems, as discussed in subsection c below. The Water Convention requires the parties to take all appropriate measures to ensure conservation and, where necessary, restoration of ecosystems (Art. 3), while the Watercourses Convention states that the ecosystems of international watercourses must be protected and preserved (Art. 20).

Existing and potential uses

Water allocation methods and discussions on the priority of uses under transboundary water agreements are often based on historical and existing water uses.¹⁷⁸ There is continuous debate on the relationship between existing and potential uses in transboundary water allocation, and on the principle of the equality of rights among riparian States.¹⁷⁹ Changing the status quo of water allocation is often very difficult, even though transboundary water resources and water use needs may have changed. Moreover, the potential uses and their impacts can be difficult to predict.¹⁸⁰ Existing and potential water uses may be consumptive and non-consumptive (see Chapter III, subsection 3.b). The former means that water is removed from a water

172 Wolf (1999); Juan Carlos Sanchez and Joshua Roberts, eds., *Transboundary water governance: adaptation to climate change*, IUCN Environmental Policy and Law Papers, No. 75 (Gland, Switzerland, IUCN, 2014), p. 67–68.

173 Sanchez and Roberts, eds. (2014), p. 67–68.

174 Wolf (1999).

175 International Law Commission (ILC), *Convention on the Law of the Non-Navigational Uses of International Watercourses: Report of the Sixth Committee convening as the Working Group of the Whole (A/51/869)*, para. 8.

176 See Attila Tanzi and Maurizio Arcari, *The United Nations Convention on the Law of International Watercourses: A Framework for Sharing* (The Hague, Kluwer Law International, 2001), p. 138–142; Alistair Rieu-Clarke, Ruby Moynihan and Bjørn-Oliver Magsig, *UN Watercourses Convention User's Guide* (Dundee, IHP-HELP Centre for Water Law, Policy and Science, 2012), p. 129–133; Christina Leb, *Cooperation in the Law of Transboundary Water Resources* (Cambridge, United Kingdom, Cambridge University Press, 2013), p. 203.

177 See Attila Tanzi, “Reducing the gap between international water law and human rights law: the UNECE Protocol on Water and Health”, *International Community Law Review*, vol. 12, No. 3 (2010), p. 267–285.

178 See, for example, Frank A. Ward, “Forging sustainable water-sharing agreements: barriers and opportunities”, *Water Policy*, vol. 15, No. 3 (2013), p. 386–417.

179 Ibid.

180 See McIntyre (2017), p. 239.

body or its quality is changed, while the latter means that water is not withdrawn from, or it is returned to, the same water body and may be reused or recycled.¹⁸¹

While the United Nations global water conventions ascribe no specific priority to existing versus potential future uses of transboundary surface and groundwaters, the Watercourses Convention refers to “existing and potential uses of the watercourse” as one of the factors relevant to equitable and reasonable utilization (Art. 6.1.e). According to the Watercourses Convention, States need to use and develop international waters “with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse”.

b. Water quality and good status

Water quantity and quality and water use timing are the main elements of water allocation arrangements that operationalize the principles and objectives of international water law. Water quantity is most commonly specified as an average volume of water (per year, month or other period). It may also be defined as a minimum volume, as a percentage of available supplies (a share of flow or of the volume in storage) or by a particular access rule (e.g. right to abstract a certain volume under particular circumstances). The quantity of available water in a transboundary basin is affected by consumptive uses such as irrigation, which reduces the absolute quantity of water, as well as non-consumptive uses such as hydropower, which can change the timing of water flow if it is not of the run-of-river type.¹⁸²

The allocation elements of transboundary water agreements often focus on the availability of water in terms of quantity. However, water allocation mechanisms also affect the quality of international waters. The clearest link between water quality and allocation in a transboundary context actualizes when poor quality reduces the quantity of water resources available for allocation. When the water allocation arrangement provides for a certain volume and distribution of flow, it also impacts indirectly on water quality, in particular where those flows are important for diluting concentrations of substances. Quality problems are often caused by pollution, but may also be the result of water allocation affecting, for example, water flow and sedimentation. Sometimes transboundary water agreements require a minimum quality of water linked to specific uses such as the production of drinking water.¹⁸³ Timing of water allocation is linked to seasonal variabilities of water and floods and droughts, as well as to non-consumptive uses such as hydropower production. Changing the timing of water allocation according to flow variabilities and needs of basin States may solve some allocation challenges in a setting where the water flows are irregular.¹⁸⁴ The operationalization of water quantity and quality regulation and water use timing in transboundary water allocation arrangements is discussed in more detail in Chapter VII. The Water Convention imposes an obligation on parties to set water-quality objectives and criteria (Art. 3).

The Water Convention requires each party to define water-quality objectives and adopt water-quality criteria (Art 3.3). The task of joint bodies is to elaborate joint water-quality objectives and criteria and to propose measures for maintaining and improving the existing water quality of transboundary waters (Art. 9.2). Annex III to the Convention sets guidelines for developing water-quality objectives and criteria. Each party and joint body needs to establish programmes for monitoring and joint monitoring the conditions and

181 See Kohli, Frenken and Spottorno (2010).

182 See Speed and others (2013), p. 63–66.

183 See *Ibid.*, p. 51–66.

184 Speed and others (2013).

water quality of transboundary waters (Arts. 4, 9.2, 11).¹⁸⁵ According to the Watercourses Convention, States may set joint water-quality objectives and criteria to prevent, reduce and control pollution (Art. 21.1).¹⁸⁶

In addition, the Water Convention includes provisions on the exchange of information related to water quality. First, the parties have a general obligation to provide for the widest exchange of information (Art. 6). Second, the riparian countries must exchange reasonably available data on environmental conditions of transboundary waters (Art. 13.1).¹⁸⁷ The Watercourses Convention similarly requires that riparian States regularly exchange readily available data and information on the conditions of shared waters (Art. 9).¹⁸⁸ From a pan-European regional perspective, the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) requires that the public has access to environmental information (Art. 4), some of which may be relevant to water allocation.¹⁸⁹

In relation to water quality, the Water Convention stipulates the setting of emission limits for discharges from point and diffuse sources at the national level.¹⁹⁰ Point-source emission limits must be based on respective best available techniques (BAT), authorizations for wastewater discharges and the application of at least biological or equivalent processes to treat municipal wastewater. Best environmental practices (BEP) are called for to reduce the input of nutrients and hazardous substances from agriculture and other diffuse sources (Art. 3.1).¹⁹¹ Moreover, the Protocol on Water and Health to the Water Convention aims at water quality that does not endanger human health (Art. 4). For this purpose, the parties need to establish targets, for example, for the quality of discharges from wastewater treatment installations and waters used as sources for drinking water or for bathing, aquaculture or the production or harvesting of shellfish (Art. 6.2.h, j).¹⁹² The Watercourses Convention stipulates that States need to prevent, reduce and control pollution that may cause significant harm to other watercourse States or their environment, uses of the waters or living resources of the watercourse. Accordingly, the pollution may mean any detrimental alteration in the composition or quality of the waters of an international watercourse that results directly or indirectly from human conduct (Art. 21).¹⁹³ Thus, the provision may apply to transboundary water allocation that, for example, decreases water flow, resulting in transboundary pollution.¹⁹⁴

Concerning transboundary groundwaters, Annex III of the Water Convention stipulates that the water-quality objectives and criteria must take into account specific requirements regarding sensitive and specially protected waters and their dependence on groundwater resources. According to the Draft Articles on the Law of Transboundary Aquifers, States need to take all appropriate measures linked to water quality to

185 See UNECE, *Guide to Implementing the Water Convention* (New York and Geneva, United Nations, 2013), p. 60–62, 70–76, 80–82; see also UNECE, *Strategies for Monitoring and Assessment of Transboundary Rivers, Lakes and Groundwaters* (2006); Rémy Kinna, “The development of legal provisions and measures for preventing and reducing pollution to transboundary water resources under the UNECE Water Convention”, in *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation*, Attila Tanzi and others, eds., International Water Law Series, vol. 4 (Leiden, Brill/Nijhoff, 2015), p. 211–227.

186 See Rieu-Clarke, Moynihan and Magsig (2012), p. 173–180.

187 See UNECE, *Guide to Implementing the Water Convention* (2013), p. 82–84.

188 See Rieu-Clarke, Moynihan and Magsig (2012), p. 126–128.

189 See UNECE, *The Aarhus Convention: An Implementation Guide*, 2nd ed. (Geneva, United Nations, 2014), p. 78–94.

190 For possible measures in this regard, see OECD (2017).

191 See UNECE, *Guide to Implementing the Water Convention* (2013), p. 40–52; UNECE, *Strategies for Monitoring and Assessment of Transboundary Rivers, Lakes and Groundwaters* (2006).

192 See Kinna (2015), p. 221–222.

193 See Rieu-Clarke, Moynihan and Magsig (2012), p. 173–180.

194 See Owen McIntyre, “Environmental protection and the ecosystem approach”, in *Research Handbook on International Water Law*, Stephen C. McCaffrey, Christina Leb and Riley T. Denoon, eds. (Cheltenham, United Kingdom, Edward Elgar, 2019), p. 129.

protect and preserve ecosystems within, or dependent upon, transboundary aquifers or aquifer systems (Art. 10).¹⁹⁵

What constitutes good status of waters may vary from one region to another. The European Union Water Framework Directive (2000/60/EC) requires the European Union Member States to achieve good ecological and chemical status of surface water bodies, as well as good quantitative and chemical status of groundwater bodies, both of which incorporate transboundary basins (see also Chapter III, subsection 4c; Chapter V, subsection 2c). It provides an example of strict water quality requirements. The overall environmental objectives of the Directive are to achieve a good (or higher) status of water bodies and prevent its deterioration (Art. 4). The status of water bodies is classified through specific parameters, including ecological, hydromorphological and physico-chemical quality elements (Annex V). Water allocation infrastructure can impact on the hydromorphological assessment of a water body. The requirements of the Directive for the achievement of the environmental objectives of transboundary river basins must be coordinated among the Member States and they must also endeavour to coordinate them with the relevant non-Member States (Art. 3). In general, the Directive focuses more on water quality, particularly the ecological and chemical status of surface water, than water quantity management and transboundary water allocation.¹⁹⁶ Groundwater allocation is not mentioned in the Directive, but good quantitative status is required by the Directive for groundwater bodies (Annex V, Table 2.1.2). This is relevant to transboundary allocation as groundwater resources should not be overused, thereby depleting them.

c. Protection of ecosystems

In general, international water law is based on the idea that ecosystems are an integral part of sustainable transboundary water resources.¹⁹⁷ The United Nations global water conventions recognize the need to protect, conserve and, where appropriate, restore ecosystems. The Water Convention requires parties to take all appropriate measures to ensure conservation and, when necessary, restoration of ecosystems (Art. 2.2). When the ecosystem so requires, the parties need to apply stricter requirements to prevent transboundary impacts, even leading to prohibition in individual cases (Art. 3.1(d)). Also, the application of the ecosystems approach needs to be promoted as a part of sustainable water resources management (Art. 3.1). The Watercourses Convention requires States, individually and jointly, to protect and preserve the ecosystems of international watercourses (Art. 20). The protection of ecosystems is also addressed in the Draft Articles on the Law of Transboundary Aquifers. Accordingly, States must take all appropriate measures to protect and preserve ecosystems within, or dependent upon, their transboundary aquifers or aquifer systems. These measures need to ensure, for example, that the quality and quantity of water retained in an aquifer and water released through its discharge zones are sufficient for the protection and preservation of ecosystems (Art. 10).¹⁹⁸

Concerning transboundary water allocation, water quantity is an important element in securing the integrity of ecosystems. Measures on water quantity also impact on the quality of transboundary waters.¹⁹⁹ The concept of environmental flow is not used in the United Nations global water conventions, but it is helpful in understanding the ecosystem requirements in transboundary water allocation. As outlined in Chapter II, environmental flows can be defined as the quantity, timing and quality of freshwater flows and levels necessary to sustain aquatic ecosystems.²⁰⁰ Maintaining minimum environmental flows can be seen as an

195 See Report of the International Law Commission, sixtieth session (5 May-6 June and 7 July-8 August 2008), *Official Records of the General Assembly, Sixty-third Session, Supplement No. 10 (A/63/10)*, p. 33–34.

196 See Gábor Baranyai, “Transboundary water governance in the European Union: the (unresolved) allocation question”, *Water Policy*, vol. 21, No. 3 (2019), p. 496–513. See also Götz Reichert, “Europe: international water law and the EU Water Framework Directive”, in *Research Handbook on International Water Law*, McCaffrey, Leb and Denoon, eds. (2019), p. 397–413.

197 See UNECE, *Guide to Implementing the Water Convention* (2013) p. 5. See also McIntyre (2019), p. 125–146.

198 A/63/10, p. 33–34.

199 See UNECE, *Guide to Implementing the Water Convention* (2013), p. 27.

200 Arthington and others (2018).

emerging legal requirement that enhances the implementation of an ecosystem approach in transboundary basins.²⁰¹

d. Indigenous water allocation and cultural flows

Increasing attention is being given to the importance of water allocation for use by Indigenous peoples, including for cultural flows.²⁰² Many water management regimes, including in a transboundary context, have ignored, and continue to ignore, Indigenous values, connections, knowledge and rights.²⁰³ Indigenous peoples have often faced inequitable allocation rules. To enhance the situation, States should consider the participatory rights of Indigenous peoples and their ownership and custodianship of water resources when allocating water resources at the transboundary level and within a country. States may find the concept of cultural flows useful in that regard.²⁰⁴ The cultural flows refer to specific cultural water allocations for Indigenous peoples. These water allocations meet their development aspirations as well as spiritual, cultural, social, economic and environmental management responsibilities.²⁰⁵ The key is that the Indigenous peoples can decide where and when water is delivered on the basis of their traditional knowledge and aspirations.²⁰⁶

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) recognizes Indigenous peoples' ownership over their cultural expression, including water. Accordingly, Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used waters and to uphold their responsibilities to future generations in this regard (Art. 25). The centerpiece of the UNDRIP is the right to self-determination. By virtue of that right, Indigenous peoples can freely pursue economic, social and cultural development. The right to self-determination is regarded as a *jus cogens* peremptory norm of general international law, meaning that it is accepted as a fundamental legal principle to the international community that cannot be set aside (as by treaty).²⁰⁷

The United Nations global water conventions do not explicitly mention Indigenous peoples' water uses and interests. Nevertheless, in the Watercourses Convention, the population dependent on an international watercourse is one of the factors relevant to equitable and reasonable utilization. Considering the human right to water, the United Nations Committee on Economic, Social and Cultural Rights highlights that States should give special attention to, for example, Indigenous peoples who have traditionally faced difficulties in exercising this right.²⁰⁸ The developments in the field of the human right to water and sanitation and

201 McIntyre (2019), p. 142–144.

202 See, for example, William D. Nikolakis, R. Quentin Grafton and Hang To, "Indigenous values and water markets: survey insights from northern Australia", *Journal of Hydrology*, vol. 500 (September 2013), p. 12–20; Rosalind H. Bark and others, "Operationalising the ecosystem services approach in water planning: a case study of indigenous cultural values from the Murray–Darling Basin, Australia", *International Journal of Biodiversity Science, Ecosystem Services & Management*, vol. 11, No. 3 (2015), p. 239–249; Elizabeth MacPherson, "Beyond recognition: lessons from Chile for allocating indigenous water rights in Australia", *UNSW Law Journal*, vol. 40, No. 3 (2017), p. 1130–1169; Sue Jackson, Darla Hatton MacDonald and Rosalind H. Bark, "Public attitudes to inequality in water distribution: insights from preferences for water reallocation from irrigators to Aboriginal Australians", *Water Resources Research*, vol. 55, No. 7 (July 2019), p. 6033–6048.

203 Katherine Selena Taylor, Sheri Longboat and Rupert Quentin Grafton, "Whose rules? A water justice critique of the OECD's 12 Principles on Water Governance", *Water*, vol. 11 (2019), 809.

204 See Jason Robinson and others, "Indigenous water justice", *Lewis & Clark Law Review*, vol. 22, No. 3 (2018), p. 901; Elizabeth Jane Macpherson, *Indigenous Water Rights in Law and Regulation: Lessons from Comparative Experience* (Cambridge, United Kingdom, Cambridge University Press, 2019).

205 See Bradley J. Moggridge, Lyndal Betteridge and Ross M. Thompson, "Integrating Aboriginal cultural values into water planning: a case study from New South Wales, Australia", *Australasian Journal of Environmental Management*, vol. 26, No. 3 (2019), p. 273–286.

206 Aboriginal and Torres Straits Islander Social Justice Commissioner, *Native Title Report 2008* (Sydney, Australian Human Rights Commission, 2009), p. 184.

207 Robinson and others, "Indigenous water justice", *Lewis & Clark Law Review*, vol. 22, No. 3 (2018), p. 847–852.

208 United Nations, Economic and Social Council, Committee on Economic, Social and Cultural Rights. General comment No. 15 on the right to water (2002) (E/C.12/2002/11), para. 7.

Indigenous rights may also increase the weight to be given to vital human needs (Art. 10 of the Watercourses Convention) when assessing the equitable and reasonable utilization of transboundary waters.

CASE STUDY 18: Indigenous water allocation and cultural flows in the Murray–Darling Basin

In Australia, since 1788 and the colonization practices of removing Indigenous people from habitation (and management of) their Country, Indigenous peoples' access to ownership and management of water has been substantially eroded over time. This was through acts of land (and associated water rights) being "gifted" to settlers, and subsequent policy and legislation enacted to manage land and water through traditional British processes.

Indigenous people in the New South Wales portion of the Murray–Darling Basin (MDB) comprise nearly 10 per cent of the population but their organizations hold only 0.2 per cent of the available surface water, with the small base having reduced by almost one fifth between 2009 and 2018. In 2019, the Australian Government committed \$A 40 million to enable Indigenous groups' access to water entitlements in the MDB, as a symbolic step to reverse this trend.

In Australia's national blueprint for water reform, the 2004 National Water Initiative, federal, state and territory governments agreed to recognize Indigenous needs in relation to water access and arrangements. It raised the need for Indigenous peoples' representation in water planning processes, inclusion of social, spiritual and customary objectives in water plans, and the possibility of native title rights.

The Millennium Drought, a devastating drought in Australia from 1997 to 2009, catalysed community and political recognition that significant changes were needed to manage the MDB's water (see Case Study 13).

The resulting 2012 Murray–Darling Basin Plan (the Plan) aims to bring the Basin back to good health (see Case Study 13). The Plan specifically recognizes and acknowledges that traditional owners and their Nations of the Basin have a deep cultural, social, environmental, spiritual and economic connection to their waters (and land and sky).

The Plan also requires that water management plans must be prepared, having regard to the views of Indigenous peoples with respect to cultural flows (section 10.54). The Plan provides States and territories with provisions to give regard to Indigenous cultural values and cultural flows in developing 33 subbasin water resource plans.

Additionally, the Plan acknowledges that "cultural flows will benefit Indigenous people in improving socioeconomic health, wellbeing and empowerment to be able to care for their country and undertake cultural activities". It also provides a definition of cultural flows from the 2007 Echuca Declaration: "Cultural Flows are water entitlements that are legally and beneficially owned by the Indigenous Nations of a sufficient and adequate quantity and quality to improve the spiritual, cultural, environmental, social and economic conditions of those Indigenous Nations. This is our inherent right" (Murray Lower Darling Rivers Indigenous Nations, 2007). The cultural flows element of the Plan sets the policy foundation for change and reconciliation.

For Indigenous people, environmental flows, while welcome, will not necessarily meet cultural, spiritual or social outcomes. However, if consulted early and appropriately, Indigenous people can advise on the best time and volumes of water to maximize cultural, spiritual or social outcomes. In 2020, through consultation with both the Northern Basin Aboriginal Nations (NBAN) and the Murray Lower Darling Rivers Indigenous Network (MLDRIN), Indigenous people gave guidance for the first time in long-term environmental watering activities in the Basin. Identifying cultural outcomes aligned with planned

environmental flows was a key component of this guidance. Evidence received from NBAN and MLDRIN from this consultation and guidance on the watering activities suggests cultural outcomes were achieved.

e. Water stewardship

Water stewardship has emerged in the past decade as a dominant concept in water management, capturing private sector engagement on water in public interest.²⁰⁹ It is defined by the Alliance for Water Stewardship as a “use of water that is socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site- and catchment-based actions.”²¹⁰ Its logic and business case is built on the major water use and the impacts of water use in the operations and value chains of companies, the resulting water risks and the disruptions to business the companies face with the growing water challenges, and the responsibility and opportunities that working for water security brings for companies and their stakeholders alike.²¹¹ Water stewardship starts at the site, from the time water is accessed, extracted, used and processed, and extends to the time it is discharged back to the environment. Good water stewards understand and commit not only to improve their own water use but also to address shared basin-level concerns in terms of water governance, water balance, water quality, important water-related areas and ecosystems and water, sanitation and hygiene. They may also voluntarily choose to reallocate their own water use quotas for other uses.²¹² The approach emphasizes stakeholder collaboration as water risks to business cannot be addressed merely with internal measures. The public sector is an important collaborator since sustainable water use and governance is ultimately under its mandate.

Water stewardship in transboundary water cooperation and allocation

When allocating water for private sector projects and operations, including those with transboundary reach and impacts, the water stewardship framework and criteria can be used to support implementation of national and international water-related targets, such as the European Union Water Framework Directive and the SDGs. Water stewardship aims and efforts are aligned with those of SDG 6.5, according to which IWRM should be implemented at all levels, including through transboundary cooperation. The water stewardship and IWRM frameworks are mutually complementary: stewardship provides a clear incentive and structure for corporate engagement in water management and governance beyond the company fence, while IWRM has the potential to scale up and integrate corporate efforts to public policy processes.²¹³ Examples may include large scale infrastructure, plantations and industrial sites but also cover partnerships of various sizes and types, addressing shared water challenges (see also SDG 17 on the global partnerships for sustainable development).

Water stewardship principles, policies and practices are therefore important to consider in conjunction with questions regarding sustainable and equitable water allocation, including in a transboundary context.²¹⁴ While to date there has been very limited research on water stewardship’s direct application to water allocation, especially in a transboundary context, recent studies have noted this as an area for further

209 Peter Newborne and James Dalton, “Corporate water management and stewardship: signs of evolution towards sustainability”, Briefing Note (London: Overseas Development Institute (ODI), 2019).

210 Alliance for Water Stewardship, *International Water Stewardship Standard, version 2.0, 22.3.2019* (North Berwick, Scotland, 2019).

211 UN Global Compact, “CEO Water Mandate”; Alexis Morgan, *Water Stewardship Revisited: Shifting the Narrative from Risk to Value Creation* (Berlin, WWF-Germany, 2018).

212 Alliance for Water Stewardship (2019).

213 Global Water Partnership (GWP), *Engaging the Private Sector in Water Security* (Stockholm, 2018).

214 Newborne and Dalton, “Corporate water management and stewardship” (2019).

assessment and application.²¹⁵ A key message to subsequently emerge is that “water allocation—a crucial issue in water resources management—tends to be side-lined in the discussion on water stewardship.”²¹⁶ Consequently, discussions within the water stewardship approach as a whole “would benefit from refocusing on water withdrawals and water allocation across the geographies where companies operate, and on their interactions with other water users in those catchment and basins.”²¹⁷ One example of how stewardship could be better applied taking into account these considerations is: “In planning for allocation of water resources to agriculture, what is grown where (the choice of crops, taking into account water availability) is as important as how it is grown (water-use efficiency).”²¹⁸

f. Valuing water

The value(s) assigned to water resources within the context of a transboundary allocation framework will shape its processes and outcomes. Often, in the context of allocation, this is specifically related to economic valuations of water resources.²¹⁹ Moreover, value in economic terms can be tied to water pricing regimes, water markets and water trading schemes, which are all intended, primarily, to allocate water in order to maximize efficiency. However, water markets as allocating institutions and water trading practices have traditionally only been applied and studied within national or subnational jurisdictions rather than in transboundary contexts.²²⁰ Notable examples of water markets in federal countries are the Murray–Darling Basin in Australia, the Colorado–Big Thompson Project in the United States and the transfers between the Palo Verde and metropolitan water districts in the United States.²²¹ Such approaches may be applicable in other national water allocation contexts, but they remain largely untested at the transboundary scale between co-riparian States.²²² Notwithstanding, their premise and conceptual frameworks for valuing water in economic terms may be generally helpful in guiding transboundary allocation framework planning and

215 See, for example, Yale D. Belanger, “Water stewardship and rescaling management of transboundary rivers in the Alberta–Montana borderlands”, *Journal of Borderlands Studies*, vol. 34, No. 2 (2019), p. 235–255; Peter Newborne and James Dalton, “Review of the International Water Stewardship Programme - for lesson-learning: opportunities and challenges of promoting water stewardship, for practitioners, policy-makers and donors: report to DFID” (n.p., September 2019); Newborne and Dalton, “Corporate water management and stewardship” (2019).

216 Newborne and Dalton, “Review of the International Water Stewardship Programme” (2019), p. 17.

217 *Ibid.*, p. 65.

218 Newborne and Dalton, “Corporate water management and stewardship” (2019), p. 1.

219 See, generally, Nihal K. Atapattu, “Economic valuing of water”, IWMI Books, Reports H031121 (Colombo, Sri Lanka, International Water Management Institute, 2002); Kerry Turner and others, “Chapter 3: Economics of water allocation”, in *Economic Valuation of Water Resources in Agriculture: From the Sectoral to a Functional Perspective of Natural Resource Management* (Rome, FAO, 2004); Julio Berbel and others, “Review of alternative water allocation options. Deliverable to Task A4B of the BLUE2 project ‘Study on EU integrated policy assessment for the freshwater and marine environment, on the economic benefits of EU water policy and on the costs of its non-implementation’” (Córdoba, Spain, WEARE: Water, Environmental and Agricultural Resources Economics and ECORYS, 2018).

220 See, for example, Murray–Darling Basin Authority, “Water markets and trade”, 30 March 2021.

221 See, generally, Dustin E. Garrick, Nuria Hernández-Mora and Erin O’Donnell, “Water markets in federal countries: comparing coordination institutions in Australia, Spain and the Western USA”, *Regional Environmental Change*, vol. 18, No. 6 (2018), p. 1593–1606; Gustavo Velloso Breviglieri, Guarany Ipê do sol Osório and Jose A. Puppim de Oliveira, “Understanding the emergence of water market institutions: learning from functioning water markets in three countries”, *Water Policy*, vol. 20, No. 6 (December 2018), p. 1075–1091; R. Quentin Grafton and others, “An integrated assessment of water markets: a cross-country comparison”, *Review of Environmental Economics and Policy*, vol. 5, No. 2 (Summer 2011), p. 219–239.

222 See, generally, Takahiro Endo and others, “Are water markets globally applicable?”, *Environmental Research Letters*, vol. 13 (2018), 034032.

certain conceptualizations may potentially be adaptable at the transboundary scale, if so decided by the riparian States.²²³

More recent conceptualizations of the valuing of water have tried to go beyond narrow financial and economic objectives and take a more holistic approach.²²⁴ Several initiatives and reports have attempted to raise the profile of valuing water holistically, including the United Nations' *World Water Development Report 2021: Valuing Water*.²²⁵ Their common denominator is the message that water is generally undervalued in societies and its price does not usually reflect its cost, nor its value. The High Level Panel on Water lists the following principles on valuing water and recommends their integration to water-related policies, initiatives and projects at all levels:²²⁶

- **Recognize and Embrace Water's Multiple Values;**

Principle 1. Identify and take into account the multiple and diverse values of water to different groups and interests in all decisions affecting water;

- **Reconcile Values and Build Trust;**

Principle 2. Conduct all processes to reconcile values in ways that are equitable, transparent and inclusive;

- **Protect the Sources;**

Principle 3. Value, manage and protect all sources of water, including watersheds, rivers, aquifers, associated ecosystems, cultural values and used water flows for current and future generations;

- **Educate to Empower;**

Principle 4. Promote education and public awareness about the intrinsic value of water and its essential role in all aspects of life;

- **Invest and Innovate;**

Principle 5. Ensure adequate investment in institutions, infrastructure, information and innovation to realize the many different benefits derived from water and reduce risks.

When accounting for transboundary water resources, each riparian country's portion of surface and groundwater resources should be identified and recognized in any allocation framework. The volumetric share of freshwater inflows from, and outflows to, neighbouring countries should also be identified to assist with ascribing values within any allocation framework. If there are any agreements or other arrangements on water allocation quotas, these can be recorded alongside the actual flows.²²⁷

UNECE supports the implementation of the System of Environmental-Economic Accounting (SEEA) as the global standard. SEEA can be an important tool to inform environmental-economic policies and measure

223 See, for example, Maksud Bekchanov, Anik Bhaduri and Claudia Ringler, "How market based water allocation can improve water use efficiency in the Aral Sea basin?", ZEF Discussion Papers on Development Policy, No. 177 (Bonn, University of Bonn, Center for Development Research (ZEF), 2013); Jason F. L. Koopman and others, "The potential of water markets to allocate water between industry, agriculture, and public water utilities as an adaptation mechanism to climate change", *Mitigation and Adaptation Strategies for Global Change*, vol. 22, No. 2 (2017), p. 325–347; Gui-liang Tian and others, "Water rights trading: a new approach to dealing with trans-boundary water conflicts in river basins", *Water Policy*, vol. 22, No. 2 (2020), p. 133–152.

224 See, for example, Dustin E. Garrick and others, "Valuing water for sustainable development", *Science*, vol. 358, No. 6366 (November 2017), p. 1003–1005; The Valuing Water Initiative, *Valuing Water: A Conceptual Framework For Making Better Decisions Impacting Water: Concept Note* (n.p., 2020); Huw Pohlner and others, *Valuing Water: A Framing Paper for the High-Level Panel on Water* (Canberra, Australian Water Partnership, 2016).

225 See UNESCO WWAP, "Valuing water"; WWF, "Water Risk Filter: Valuing Water Database"; The Netherlands, "Valuing Water Initiative: better decisions impacting water"; United Nations, *The United Nations World Water Development Report 2021: Valuing Water* (Paris, UNESCO, 2021).

226 High Level Panel on Water, "Value water" (n.d.).

227 United Nations Department of Economic and Social Affairs, Statistics Division, *SEEA-Water: System of Environmental-Economic Accounting for Water* (New York, United Nations, 2012), p. 97.

sustainable development, and also SDG 6 on water and sanitation.²²⁸ SEEA-Water includes managing water supply and demand as one of its quadrants of water policy objectives. The aim is to improve water allocation to satisfy societal needs as well as the needs of future generations and the environment. To achieve this aim it is important to monitor the amounts of water allocated for different uses, such as agriculture, energy production, water supply and industries, and measure the trade-offs in the allocation in economic terms.²²⁹

A legal approach to valuing water can be found in the European Union Water Framework Directive. The Directive introduces the principle of recovery of the costs of water services in accordance with the polluter pays principle in particular. The costs to be covered include environmental and resource costs. According to the Directive, water-pricing policies need to provide adequate incentives for users to use water resources efficiently and different water uses, disaggregated into at least industry, households and agriculture, have to adequately contribute to the recovery of the costs based on the economic analysis (Art. 9).

2. Core Principles of International Water Law to Guide Transboundary Water Allocation

Certain principles of international law should guide the decision-making and implementation processes and outcomes for water allocation in a transboundary context. Principles of international law have a distinct legal character that is normative in nature, meaning that each one sets a generally accepted basic rule or standard that States must adhere to, but without necessarily defining the specific elements comprised within that rule or standard.²³⁰ Principles are thus frequently general in nature to allow for their elaboration and contextualized expression within treaties and other agreements between States.²³¹

A distinction exists between substantive (which refers to those laws which create, define and regulate rights and obligations) and procedural (which describe the content of a formal process to be taken to enforce rights and obligations) international law. However, there appears to be increasing interconnectedness between substantive and procedural obligations in the interpretation of international environmental law and especially as it relates to international water law principles such as no significant harm.²³² In this regard, international courts and tribunals, through their judgments, often give further detail to the content and application of such principles.²³³ For example, aspects of the substantive and procedural content of the equitable and reasonable utilization and no significant harm principles, including their close relationship to procedural duties of prior notification, consultation and negotiation, and exchange of information, were outlined by the International Court of Justice in the *Gabčíkovo–Nagymaros* and *Pulp Mills* judgments,

228 UNECE, “Environmental-economic accounting” (n.d.), at www.unece.org/stats/seea.html (accessed 29 November 2020).

229 UNESCO WWAP and United Nations Statistics Division, “Monitoring framework for water: the System of Environmental-Economic Accounts for Water (SEEA-Water) and the International Recommendations for Water Statistics (IRWS)”, Briefing Note (New York and Perugia, United Nations, 2011).

230 See also Makane Moïse Mbengue and Brian McGarry, “General principles of international environmental law in the case law of international courts and tribunals”, in *General Principles and the Coherence of International Law*, Mads Andenas and others, eds., Queen Mary Studies in International Law, vol. 37 (Leiden, Brill/Nijhoff, 2019), p. 420.

231 For example, Article 6 of the Watercourses Convention provides a non-exhaustive list of factors to be considered when assessing what constitutes equitable and reasonable utilization. See also Mbengue and McGarry (2019), p. 420.

232 See Jutte Brunnée, *Procedure and Substance in International Environmental Law*, Pocketbooks of the Hague Academy of International Law, vol. 40 (Leiden, Brill/Nijhoff, 2020).

233 See, generally, Owen McIntyre, “The World Court’s ongoing contribution to international water law: the *Pulp Mills* case between Argentina and Uruguay”, *Water Alternatives*, vol. 4, No. 2 (2011), p. 124–144; Alistair Rieu-Clarke, “Notification and consultation on planned measures concerning international watercourses: learning lessons from the *Pulp Mills* and *Kishenganga* cases”, *Yearbook of International Environmental Law*, vol. 24, No. 1 (2013), p. 102–130; Mbengue and McGarry (2019), p. 420.

respectively, specifically as regards transboundary watercourses.²³⁴ Certain elements of these procedural duties have been elaborated further in subsequent International Court of Justice decisions.²³⁵

There are recognized core principles of international water law that pertain to allocation, namely, equitable and reasonable utilization, no significant harm and the principle of cooperation, as codified in the Water Convention and Watercourses Convention, respectively.²³⁶ There are principles in other areas of international law that can also relate to allocation, such as principles of international environmental law and international human rights law detailed below. Sections 2 and 3 of this Chapter outline the basic principles that are applicable to water allocation in a transboundary context and should thus guide related decision-making and implementation processes and outcomes.

a. No significant harm (preventing, controlling and reducing transboundary impacts)

The requirement to prevent, control and reduce transboundary impacts is an expression of the no-harm principle. The no-harm principle is a customary international law principle and one of the normative cornerstones of the Water Convention along with the principles of cooperation and equitable and reasonable utilization.²³⁷ The no-harm principle provides a due diligence obligation, i.e. an obligation of conduct, rather than an obligation of result. It means, on the one hand, that the origin State of an existing or potential transboundary impact must take all appropriate measures to prevent, control and/or reduce such impact. On the other hand, the origin State does not directly become internationally responsible for a breach of an international obligation if transboundary impact occurs, provided that it can show that it has taken all appropriate measures to prevent, control and/or reduce that impact.²³⁸ Its responsibility is engaged, however, if it fails to take such appropriate measures.

The Water Convention requires the parties to take all appropriate measures to prevent, control and reduce any transboundary impact (Art. 2.1). Transboundary impact is a significant adverse effect on the environment within an area of another party resulting from a change in the conditions of transboundary waters (Art. 1.2). Transboundary waters include both surface and groundwaters, which mark, cross or are located on boundaries between two or more States (Art. 1.1).²³⁹ Changes in the conditions of transboundary waters may occur as changes in water storage, quality or timing and amount of flows, which in turn, affects transboundary water allocation. The Water Convention further specifies the no-harm rule and measures needed for its implementation. First, the parties need to practically take specific legal, administrative, economic, financial and technical measures to prevent, control and reduce potential harm such as the application of low-waste technology, best available technology and best environmental practice and the prior licensing of wastewater discharges (Art. 3.1).²⁴⁰ Second, in taking such measures as deemed appropriate, the parties have to be guided by the principles of precaution (action not to be postponed on the justification

234 See, generally, McIntyre (2011).

235 See Mbengue and McGarry (2019), p. 422. See also relevant decisions, *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)* and *Construction of a Road in Costa Rica Along the San Juan River (Nicaragua v. Costa Rica)*, International Court of Justice, 16 December 2015.

236 Attila M. Tanzi, "The inter-relationship between no harm, equitable and reasonable utilisation and cooperation under international water law", *International Environmental Agreements: Politics, Law and Economics*, vol. 20, No. 4 (December 2020), p. 619–629.

237 UNECE, *Guide to Implementing the Water Convention* (2013), p. 15, 19. See also Stephen McCaffrey, "The contribution of the UN Convention on the law of non-navigational uses of international watercourses", *International Journal of Global Environmental Issues*, vol. 1, Nos. 3/4 (2001), p. 346–380; Owen McIntyre, *Environmental Protection of International Watercourses under International Law* (Aldershot, United Kingdom, Ashgate, 2007), p. 87–119; Attila Tanzi and Alexandros Kolliopoulos, "The no-harm rule", in *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation*, Tanzi and others, eds. (2015).

238 UNECE, *Guide to Implementing the Water Convention* (2013), p. 10–11; Stephen McCaffrey, "Intertwined general principles", in *Research Handbook on International Water Law*, McCaffrey, Leb and Denoon, eds. (2019), p. 83–94.

239 See UNECE, *Guide to Implementing the Water Convention* (2013), p. 19–21; Tanzi and Kolliopoulos (2015), p. 133–145.

240 See UNECE, *Guide to Implementing the Water Convention* (2013), p. 41–44.

that scientific research has not fully proved causal links), polluter pays (costs of measures to be borne by the polluter) and sustainability (ability of future generations to meet their needs) (Art. 2.5).²⁴¹

Under the Water Convention, all appropriate measures to prevent, control and reduce transboundary impact include the exchange of information, and consultations between the origin and potentially affected States (Arts. 6, 9–10, 13). In terms of what constitutes “all appropriate measures”, as this is a due diligence obligation, “the conduct of each Party shall be proportional to the degree of risk of transboundary impact. The ‘appropriateness’ of the measures also means that the measures depend on the capacity of the Party concerned, i.e. on the level of its economic development, and technological and infrastructural capacity. The ‘appropriate measures’ are therefore to be determined on a case-by-case basis.”²⁴²

The no-harm principle is also included in the Watercourses Convention and the Draft Articles on the Law of Transboundary Aquifers. The Watercourses Convention stipulates that watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States (Art. 7).²⁴³ In the same way, the Draft Articles on the Law of Transboundary Aquifers state that aquifer States shall, in utilizing transboundary aquifers or aquifer systems in their territories, take all appropriate measures to prevent the causing of significant harm to other aquifer States or other States in whose territory a discharge zone is located (Art. 6).²⁴⁴

Under the Watercourses Convention, where a State has taken all appropriate measures but significant harm is nonetheless caused, that State is required to do its best to stop or mitigate the harm through consultations with the affected State, with due regard to the principle of equitable and reasonable use. In addition, where appropriate, the States need to discuss the question of compensation (Arts. 6(2) and 7). States may also need to tolerate some transboundary impacts, where all appropriate measures have been taken to prevent, control and reduce them and those impacts can be established to be equitable and reasonable.²⁴⁵ Interrelated provisions under the Watercourses Convention also oblige States to prevent, reduce and control pollution (Art. 21), protect and preserve ecosystems (Art. 20) and protect and preserve the marine environment, including estuaries (Art. 23).

241 See *Ibid.*, p. 22–25, 28–31. See also 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 *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation*, Tanzi and others, eds. (2015), p. 160–175; Leslie-Anne Duvic-Paoli and Pierre-Marie Dupuy, “The polluter-pays principle in the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes”, in *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation*, Tanzi and others, eds. (2015), p. 176–194; Alistair Rieu-Clarke, “The sustainability principle”, in *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation*, Tanzi and others, eds. (2015).

242 UNECE, *Frequently Asked Questions on the 1992 Water Convention: With the Road Map to Facilitate Accession Processes* (Geneva, United Nations, 2020), p. 40.

243 See Tanzi and Arcari (2001), p. 142–179; Rieu-Clarke, Moynihan and Magsig (2012), p. 117–122.

244 See *A/63/10*, p. 30.

245 See UNECE, *Guide to Implementing the Water Convention* (2013), p. 10–12, 19–20. See also Rieu-Clarke, Moynihan and Magsig (2012), p. 100; Tanzi and Kolliopoulos (2015); Rieu-Clarke, Moynihan and Magsig, 2012), p. 100.

CASE STUDY 19: Vuoksi River water allocation and compensation for loss due to transboundary harm

In the two main agreements governing the Vuoksi River between Finland and Russia there are provisions for compensating for loss regarding possible damage caused by adjustments in flow rates and reduced hydropower generating capacity.

To maintain downstream flows at an optimum rate for the operation of the Russian “Svetogorsk” hydropower station, the streamflow is regulated whereby there is a loss of generating capacity incurred by the upstream “Imatra” hydropower station in Finland. Under the 1972 Vuoksi Hydropower Agreement, the parties declare that ongoing flow maintenance for the “Svetogorsk” hydroelectric station causes the permanent loss of electrical energy of 19,900 MWh per year at the “Imatra” hydroelectric station. Compensation of that amount of electrical energy shall be made annually on a retroactive basis by the supply of electric power from Russia. The supply of compensatory electricity is verified and possible differences in this regard settled by the relevant ministries.

The 1989 Vuoksi Discharge Rule governs water that is released from Lake Saimaa with the help of the upstream Finnish “Imatra” hydropower station. Under this agreement, a water release programme is approved by the parties every year, which aims to achieve the most advantageous result for both parties. The report details any estimated adjustments made to the natural flow and any possible damage and benefit resulting from them. After deviations from the natural flow rate, a final balance sheet must be drawn up of the damage or benefit. On the basis of the balance sheet, measures to compensate for possible damage are considered. The Joint Finnish–Russian Commission on the Utilization of Frontier Watercourses monitors the implementation of the 1989 Vuoksi Discharge Rule. The Commission also settles any differences concerning the interpretation or application of the Vuoksi Discharge Rule. If no agreement can be reached, including on compensation, the differences are settled through diplomatic channels.

b. Equitable and reasonable utilization

Principle of equitable and reasonable utilization

The principle of equitable and reasonable utilization is a main pillar of international water law and transboundary water allocation. It is regarded as part of customary international law, i.e. obligating even those States that are not parties to any agreement where the principle is enshrined. The principle implies the equal rights and limited territorial sovereignty of States over transboundary water resources.²⁴⁶ In the case concerning the *Gabčíkovo–Nagymaros Project (Hungary v. Slovakia)* on the Danube River, the International Court of Justice made a reference to a State’s “basic right to an equitable and reasonable sharing of the resources of an international watercourse” (paras. 78, 85) in 1997.²⁴⁷

The Water Convention prescribes that parties are to take all appropriate measures “to ensure that transboundary waters are used in a reasonable and equitable way, taking into particular account their transboundary character, in the case of activities which cause or are likely to cause transboundary impact” (Art. 2.2).²⁴⁸ The Watercourses Convention lays the foundation for the reasonable and equitable utilization of shared watercourses. The Convention dictates that “Watercourse States shall in their respective territories

246 McCaffrey (2001), p. 324–345; UNECE, *Guide to Implementing the Water Convention* (2013), p. 22–25; Rieu-Clarke, Moynihan and Magsig (2012), p. 100–110.

247 *Gabčíkovo–Nagymaros Project (Hungary/Slovakia)*, Judgment, I.C.J. Reports 1997, p. 54–56.

248 See UNECE, *Guide to Implementing the Water Convention* (2013), p. 22–25; Owen McIntyre, “The principle of equitable and reasonable utilisation”, in *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation*, Tanzi and others, eds. (2015), p. 146–159.

utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse” (Art. 5).²⁴⁹

Regarding transboundary groundwater, the Draft Articles on the Law of Transboundary Aquifers stipulate that States shall utilize transboundary aquifers or aquifer systems according to the principle of equitable and reasonable utilization (Art. 4).²⁵⁰ The UNECE Model Provisions on Transboundary Groundwaters also underline that “the Parties shall use transboundary groundwaters in an equitable and reasonable manner, taking into account all relevant factors, including under agreements applicable between them” (Art. 2).²⁵¹

Relevant factors and circumstances

To determine what equitable and reasonable utilization means in a particular case, all relevant factors and circumstances must be taken into account. Article 6 of the Watercourses Convention provides a non-exhaustive list of these factors (noting that no factor enjoys any inherent priority over another):

- 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 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 comparative value, to a particular planned or existing use.

The list can be divided into three broad categories: factors of a natural character; economic and social factors; and environmental factors. While economic and social factors are a common determinant of water use, addressing the environmental factors is often a prerequisite for sustainable water allocation, as discussed in Chapter II.²⁵² Similar to the Watercourses Convention, the Draft Articles on the Law of Transboundary Aquifers define factors relevant to the principle of equitable and reasonable utilization (Art. 5).²⁵³

Reconciliation of State needs and interests

The principle of equitable and reasonable utilization entitles each riparian State to an equitable and reasonable use of the transboundary waters situated in its territory. Furthermore, the principle creates the correlative obligation not to deprive other States of their respective rights. It highlights benefit-sharing in the uses and allocation of shared water resources and the corresponding rights and obligations of the riparian States.²⁵⁴ In this regard, the principle represents a compromise between the principles of absolute territorial sovereignty and absolute territorial integrity over water resources (see Figure 10). Absolute territorial sovereignty would mean that a State had an unlimited right to utilize water resources within its territory. Conversely, absolute territorial integrity would imply that a State had the right to the natural flow of the

249 See Tanzi and Arcari (2001), p. 95–117; Rieu-Clarke, Moynihan and Magsig (2012), p. 100–110.

250 See A/63/10, p. 28–29.

251 See UNECE, *Model Provisions on Transboundary Groundwaters* (New York and Geneva, United Nations, 2014), p. 6–8.

252 See Tanzi and Arcari (2001), p.120–135; Rieu-Clarke, Moynihan and Magsig (2012), p. 111–116; McIntyre (2019).

253 See A/63/10, p. 28–30.

254 See McCaffrey (2001), p. 95–135; Tanzi and Arcari (2001), p. 95–142; Rieu-Clarke, Moynihan and Magsig (2012), p. 100–105.

water from the upstream.²⁵⁵ The principle of equitable and reasonable utilization therefore describes the community of interests of riparian States (see subsection 4a).²⁵⁶ However, this principle does not provide riparian States with the right to equal allocation of water shares in a shared basin. Instead, all relevant factors and circumstances must be considered when allocating water resources. The above factors cover legitimate needs and interests of all co-riparian States and help in their balancing and weighting as would be needed in the context of water allocation.²⁵⁷

In determining what constitutes equitable and reasonable utilization, the Watercourses Convention stipulates that each factor is to be accorded a weight in comparison to the other factors (Art. 6.3). After this weighting, all factors are considered together to determine what is equitable and reasonable in the specific circumstances.²⁵⁸ Much in the same way, the United Nations Draft Articles on the Law of Transboundary Aquifers state that the weight to be given to each factor is to be determined by its importance with regard to a specific transboundary aquifer or aquifer system in comparison with that of other relevant factors (Art. 5.2).²⁵⁹ In sum, co-riparian countries determine the content of equitable and reasonable utilization in their bi- or multilateral cooperation negotiation frameworks. On this basis, they may then enter into agreements or other arrangements on water allocation that account for all relevant factors in the context of their cooperation.²⁶⁰ To implement these arrangements at the transboundary scale, national-level measures are then typically needed within each co-riparian State.

c. Principles of cooperation and good neighbourliness

Cooperation and good neighbourliness are collectively needed at every stage of the process of establishing and maintaining effective transboundary water allocation arrangements. Such cooperation may often prevail despite otherwise challenging relations between countries.²⁶¹ A State's general duty to cooperate is one of the main tenets of international law. It is regarded as a part of customary international law, implying an obligation on States even in the absence of an explicit agreement. In international water law, the principle of cooperation is a response to the interdependence of States and to the coordination requirements in the management and development of transboundary water resources.²⁶² In the Lake Lanoux arbitral award (*Spain v. France*) of 1957, concerning works for the utilization of transboundary waters, the tribunal declared that international practice obliges "States to seek, by preliminary negotiations, terms for an agreement".²⁶³

Under the Water Convention, the riparian parties must cooperate on the basis of equality and reciprocity. The aim for the cooperation is the prevention, control and reduction of transboundary impacts and the protection of the environment of transboundary waters and the environment influenced by such waters

255 See McCaffrey (2001), p. 113–174; Tanzi and Arcari 2001, p. 11–15; Rieu-Clarke, Moynihan and Magsig (2012), p. 100–105; McIntyre (2017).

256 UNECE, *Guide to Implementing the Water Convention* (2013), p. 22–23.

257 Tanzi and Arcari (2001), p. 99–103; Rieu-Clarke, Moynihan and Magsig (2012), p. 106–110; UNECE, *Guide to Implementing the Water Convention* (2013), p. 22–25.

258 See Tanzi and Arcari (2001), p. 123–127; Rieu-Clarke, Moynihan and Magsig (2012), p. 111–116.

259 See A/63/10, p. 28–29.

260 See Wolf (1999), p. 9–15.

261 See UNECE, *Guide to Implementing the Water Convention* (2013), p. 32–39; Hamid Sarfraz, "Revisiting the 1960 Indus Waters Treaty", *Water International*, vol. 38, No. 2 (2013), p. 204–216.

262 See Stephen McCaffrey, *The Law of International Watercourses*, 3rd ed. (Oxford, Oxford University Press, 2019), p. 309–404; Owen McIntyre, "The role of customary rules and principles of international environmental law in the protection of shared international freshwater resources", *Natural Resources Journal*, vol. 46, No. 1 (Winter 2006), p. 157–210; Christina Leeb, "One step at a time: international law and the duty to cooperate in the management of shared water resources", *Water International*, vol. 40, No. 1 (2015), p. 21–32; Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law*, 4th ed. (Cambridge, United Kingdom, Cambridge University Press, 2018), p. 161.

263 See Lake Lanoux Arbitration (*France v. Spain*), 16 November 1957, reproduced in *Reports of International Arbitral Awards*, vol. XII (1957), p. 281–317 (in French); see also UNECE, *Guide to Implementing the Water Convention* (2013), p. 33.

(Art. 2.6). The equality and reciprocity of cooperation implies that States should cooperate in good faith and not limit cooperation to purely formal procedures.²⁶⁴ The Watercourses Convention highlights the principles of cooperation whereby watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith. The objective is to attain optimal utilization and adequate protection of an international watercourse (Art. 8).²⁶⁵ Much in the same way, the Draft Articles on the Law of Transboundary Aquifers stipulate that aquifer States shall cooperate on the basis of sovereign equality, territorial integrity, sustainable development, mutual benefit and good faith in order to attain equitable and reasonable utilization and appropriate protection of their transboundary aquifers or aquifer systems (Art. 7).²⁶⁶ This principle is operationalized primarily through legal agreements and joint institutions over shared waters (see Chapter VI) and via technical methods such as data exchange and information-sharing between riparian States (see Arts. 9–15 of the Water Convention and Arts. 9–13 of the Watercourses Convention).

CASE STUDY 20: Temporary cooperation arrangements bridging broader allocation disputes: the example of the Gabčíkovo–Nagymaros Project

In 1977, Hungary and the now former Czechoslovakia signed a treaty for the construction and joint operation of dams and other related projects along the section of the Danube River that borders both nations. The project was especially aimed at preventing catastrophic floods, improving river navigability, producing clean electricity and other uses of water. Both Czechoslovakia and Hungary began construction works in their territories. Due to the environmental concerns, Hungary suspended the implementation of the project. Negotiation could not resolve the concerns and finally Hungary unilaterally terminated the treaty. Hungary based its action on the fact that the damming of the River had been agreed to only on the ground of a joint operation and sharing of benefits associated with the project, and asserted that Slovakia had unilaterally assumed control of a shared resource. Slovakia in October 1992 chose to divert the Danube into Slovak territory and kept the development entirely within its borders. The construction of the Čuňovo dam was completed to mitigate economic damage and improve flood protection and water transport within this 43 km section of the Danube. Slovakia started to operate the Gabčíkovo dam for production of hydroelectricity. This action reduced the amount of water flowing into the present border river (to 20 per cent of the original flow), which had a significant impact on the water supply and environment of the area of Szigetköz on the Hungarian side of the border.

The case was submitted to the International Court of Justice in 1993. Both States requested the Court make a determination on: “(a) whether the Republic of Hungary was entitled to suspend and subsequently abandon, in 1989, the works on the Nagymaros project and on that part of the Gabčíkovo project for which the Treaty attributed responsibility to the Republic of Hungary; (b) whether the Czech and Slovak Federal Republic was entitled to proceed, in November 1991, to the ‘provisional solution’ and to put into operation from October 1992 this system (the damming up of the Danube at river kilometre 1,851.7 on Czechoslovak territory and the resulting consequences for the water and navigation course); and (c) what were the legal effects of the notification, on 19 May 1992, of the termination of the Treaty by the Republic of Hungary. The Court was also requested to determine the legal consequences, including the rights and obligations for the Parties, arising from its Judgment on the above-mentioned

264 UNECE, *Guide to Implementing the Water Convention* (2013), p. 32. See also Patricia Wouters and Christina Leb, “The duty to cooperation in international water law: examining the contribution of the UN Water Conventions to facilitating transboundary water cooperation”, in *The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: Its Contribution to International Water Cooperation*, Tanzi and others, eds. (2015), p. 285–295.

265 See Tanzi and Arcari (2001), p. 181–186; Rieu-Clarke, Moynihan and Magsig (2012), p. 123–125.

266 See A/63/10.

questions”.²⁶⁷ The Court’s decision in 1997 stipulated that Hungary and Slovakia must negotiate in good faith in light of the prevailing situation. The Court also stated that both States must take all necessary measures to ensure the achievement of the objectives of the said treaty, in accordance with such modalities as they might agree upon. Negotiations are still in progress.

While negotiations have been ongoing, a water allocation scheme had been developed after the diversion of the Danube River took place, as the adjoining river branches were drained due to the dramatic changes of the water levels in the River. A technical group was established to develop a proposal. Experts represented relevant ministries and water management directorates from both States. After a long negotiation, Hungary accepted Slovakia’s proposal, but only on a temporarily basis to assure a continuous flow into the original riverbed. Hungary is claiming the right to a greater share of water flow.

As a result, the “Agreement between the Government of the Slovak Republic and the Government of Hungary concerning Certain Temporary Technical Measures and Discharges into the Danube and Mosoni branch of the Danube” was signed in 1995. Due to the 1992 diversion of the Danube River, on average, 400 m³/s was accepted on a temporary basis to provide water for the original Danube River and the adjoining inland delta branch system (Szigetköz). For the water supply of the Szigetköz area, pumps were used that proved to be ineffective. Later, an underwater weir was constructed to divert the necessary minimum quantity of water to the side arms. It is important to highlight that it is not a traditional hydraulic weir structure, but, rather, it is a stone construction that raises the water level to enable it to flow in a gravitational way. Allocation is monitored jointly, and jointly evaluated on an annual basis, with a quantity based on the average flow (floods are excluded from the calculation). Hence, despite the ongoing lack of clarity and contested nature of the Gabčíkovo–Nagymaros project, both countries have been able to move past the overarching dispute and cooperate in good faith to reach a temporary technical cooperation arrangement concerning transboundary water allocation. The two States also continue their mutual water management cooperation at bilateral (Transboundary Commission) and multilateral (European Union, International Commission for the Protection of the Danube River and European Union Strategy for the Danube Region) levels.

To be effective, cooperation must be based on mutual trust. Trust-building requires extensive dialogue between or among the riparian States and may take many years or even decades.²⁶⁸ However, many transboundary river and lake basins are not entirely covered by these principles and the majority of transboundary aquifers totally lack a cooperative arrangement.²⁶⁹ The global status of transboundary water cooperation is assessed through SDG indicator 6.5.2 that measures the proportion of transboundary basin area within a country covered by an operational arrangement for water cooperation. SDG 6.5 sets a target to implement integrated water resources management at all levels by 2030, including through transboundary cooperation.

Principle of good neighbourliness

The principle of good neighbourliness is another general principle of international law. It reflects the theory of limited territorial sovereignty by implying that a State’s sovereignty over a territory not only entails rights but also duties. States must exercise their rights in a way that does not prejudice the rights of others. In addition, each State has to tolerate some level of inevitable interference in their territorial space by

267 International Court of Justice, “Gabčíkovo-Nagymaros Project (Hungary/Slovakia): Overview of the case”, available at www.icj-cij.org/en/case/92.

268 UNECE, *Guide to Implementing the Water Convention* (2013), p. 33.

269 UNECE, *Progress on Transboundary Water Cooperation under the Water Convention: Report on Implementation of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (New York and Geneva, United Nations, 2018), p. 19–24.

neighbouring States.²⁷⁰ Limited territorial sovereignty is thus a central approach to any water allocation framework in a transboundary context.²⁷¹ The principles of cooperation and good neighbourliness are closely linked to the principle of equitable and reasonable utilization and the no-harm rule discussed below in subsection 2b.

The United Nations global water conventions include two references to good neighbourliness. The Water Convention stipulates that consultations between the riparian parties must be based on reciprocity, good faith and good neighbourliness (Art. 10), while the preamble of the Watercourses Convention affirms the importance of international cooperation and good neighbourliness. In the context of transboundary waters, the principle of good neighbourliness means, for example, that a State needs to enter into consultations with the other riparian parties (Water Convention, Art. 10) and notify other States that might be adversely affected by planned measures or emergencies occurring in its territory—which could impact on shared water resources (Watercourses Convention, Art. 12).

CASE STUDY 21: Transboundary river basin legal regime for the Senegal River based on good neighbourliness

The creation of the Organization for the Development of the Senegal River (Organisation pour la Mise en Valeur du fleuve Sénégal (OMVS)) as the ultimate institutional instrument for the promotion of cooperation between its Member States for the control and rational exploitation of the water resources of the Senegal River Basin took place on 11 March 1972. At that time, OMVS Member States were Mali, Senegal and Mauritania, with Guinea as an Observer.²⁷² Together with a number of additional legal instruments (listed below), these agreements have collectively created the OMVS and subsequently enabled the OMVS to resolve all issues related to its functioning (institutional establishment, general operation and ongoing sustainability):

- The Convention of 11 March 1972 on the legal status of the River;
- The Convention of 11 March 1972 relating to the establishment of the OMVS;
- The Convention of 21 December 1978 on the legal status of the jointly owned structures;
- The Convention of 12 May 1982 on the financing modalities of the jointly owned structures;
- The Charter of the Senegal River Waters of 28 May 2002;
- The International Code of Navigation and Transport under ratification.

According to Mbengue, the following analysis can be gleaned from the OMVS experience on good neighbourliness and its application to other basins: “One of the main aspects to ensure that cooperation over the Senegal River would be based on an ‘inclusive framework’ – that is, all riparian States must be involved in the development of the river. For that purpose, it was essential that Guinea – as the upstream State – would become an OMVS member State after 30 years of absence.²⁷³ The 2002 Water Charter explicitly insists on the necessity to consolidate the relations of good neighborliness between the ‘riparian States’ of the Senegal River and on the need to take into account the interests of the Guinean part of the basin in the elaboration of development policies and programs within the basin. The 2002 Charter in its Preamble also makes explicit reference to the general principles and customary principles of international water law, including good neighborliness, as codified in the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses and their applicability within the Senegal

270 See McCaffrey (2001), p. 137–149; Tanzi and Arcari (2001), p. 15–16; Leb (2013), p. 97–100.

271 See Rieu-Clarke, Moynihan and Magsig (2012), p. 120.

272 Since 2006, Guinea is a full Member State of OMVS, not an Observer.

273 Otherwise, Guinea, Mali, Mauritania and Senegal were all Members of the Office of the Riverine States of the Senegal River (OERS), the predecessor of the OMVS, which was created in 1968 in Labé (Guinea).

River basin. Other African river basin organizations have followed in the steps of the OMVS by adopting their own water charters. This is the case for the Niger Basin Authority, which adopted the Niger Basin Water Charter in 2008 and the Lake Chad Basin Commission, which adopted a water charter in 2012.²⁷⁴

3. Additional Principles in International Law Relevant to Transboundary Water Allocation

a. Public participation and stakeholder engagement in allocation decision-making

Benefits and principles of public and stakeholder participation

Public participation and stakeholder engagement in transboundary water allocation are important for many reasons. First, they contribute towards securing stakeholder “buy-in” and ownership of the water allocation decisions and practices and fair sharing of water. Second, they promote the idea of good governance, including transparency, democracy and accountability. Third, public participation and stakeholder engagement enhance the implementation of water allocation arrangements. Fourth, public participation and stakeholder engagement are important opportunities to promote social and cultural learning in water resources management.²⁷⁵ In practical terms, public participation and stakeholder engagement facilitate transfer of information, expertise and new ideas “from the field” to policymakers and implementing authorities. Sometimes specific stakeholders may even be responsible for the practical implementation or monitoring of water allocation policies and related activities such as water quality monitoring.²⁷⁶

In the context of transboundary water management, and specifically allocation, public participation and stakeholder engagement can be realized by a variety of ways and means. Relevant questions to address include:²⁷⁷

- Who are the stakeholders?²⁷⁸ Which stakeholders should be involved?
- How can we enable/facilitate/encourage participation? How do we initiate the process?
- Should the engagement take place on an ad hoc basis or be integrated into the planning and management processes?
- At what level (local, regional, national, river basin) do we realize the participation?
- What methods of participation do we use?
- Should the engagement be one-way communication (mainly realized through access to information) or be built on real possibilities for influencing policymaking?

274 Makane Moïse Mbengue, “A model for African shared water resources: the Senegal River legal system”, *RECIEL: Review of European Community and International Environmental Law*, vol. 23, No. 1 (April 2014), p. 59–66.

275 See, generally, for example, Uta Wehn and others, “Stakeholder engagement in water governance as social learning: lessons from practice”, *Water International*, vol. 43, No. 1 (2018), p. 34–59; Nicole Kranz and Erik Mostert, “Governance in transboundary basins: the roles of stakeholders; concepts and approaches in international river basins”, in *Transboundary Water Management: Principles and Practice*, Anton Earle, Anders Jägerskog and Joakim Öjendal, eds. (Abingdon, United Kingdom, Earthscan, 2010), p. 91–105.

276 See, generally, for example, Wehn and others (2018); Kranz and Mostert (2010).

277 See also Sabine Schulze, “Public participation in the governance of transboundary water resources: mechanisms provided by river basin organizations”, *L'Europe en Formation*, vol. 2012/3, No. 365 (2012), p. 49–68, at p. 65–66.

278 A stakeholder is usually defined as someone having an interest in a particular situation, even if this interest is not recognized or acknowledged by others (Wehn and others (2018), p. 36). In the context of transboundary water allocation, stakeholders include State actors such as ministries, officials, agencies and local governments, and non-State actors such as local communities, farmer organizations, industry organizations, international agencies, citizens and non-governmental organization (NGOs).

Regarding the nature and methods of engaging the public and stakeholders in decision-making for transboundary water allocation, some general guidelines can be discerned. Participation may take place through formal observer systems led by basin organizations or other management authorities,²⁷⁹ or through public hearings, consultations and group discussions that may be open or limited to specific groups of stakeholders or the public. Participation may also be realized through stakeholders' active involvement in programme or project planning and through actively facilitating public access to information.²⁸⁰ It is important to note that stakeholder engagement entails not only public participation but multi-stakeholder interaction, dialogue and learning.²⁸¹

Stakeholder engagement entails some challenges in the transboundary context. For instance, the number of stakeholders may be high. Furthermore, stakeholders may represent different cultural backgrounds, associations and political systems.²⁸² Nevertheless, the involvement of a diverse range of stakeholders is important in the transboundary water management context. The participatory process requires careful planning and implementation with sufficient resources.²⁸³ The process, including stakeholder analysis and engagement methods, is discussed in detail in Chapter VIII.

CASE STUDY 22: Public participation in overseeing allocation arrangements for the Zarumilla River

Ecuador and Peru have been successful in reaching a long-lasting agreement for the allocation of the Zarumilla River waters, in significant part due to the cooperation among local water users. This has been a vital factor that has enabled successful implementation of the treaty. In this regard, it is evident that the countries are supporting the agreement in their responsibility to clean and maintain the channel, but the local associations have been empowered to enforce the allocation without major problems to date. This is an important governance characteristic in the Zarumilla case, because local stakeholders have organized in a cooperative form, with regular meetings and well-organized distribution of tasks, to the extent that the involvement of the governments is marginal with regards to the administration of the channel. At the same time, the local governments are important allies in the channel-cleaning activities as they contribute with heavy machinery to conduct the cleaning activities, in coordination with the water agencies of Ecuador and Peru. This proves that decentralized water management schemes in transboundary basins is a positive and desirable approach to sustain agreements in the long-term.

In 2009, the countries agreed to establish the Binational Commission for the Integrated Water Resource Management of the Zarumilla River Basin. To date, the water allocation scheme has worked without major problems; the distribution of water is coordinated at the basin level with the local user associations, who have developed a cooperative relationship to secure equitable use of the channel under the agreements signed by both countries. At the same time, the governments have complied with their agreed responsibilities to clean and maintain the infrastructure, alternating between States each year. Given the success of the allocation arrangements, the Zarumilla Binational Commission has been the model used to create a new umbrella commission in 2018 for the management of the nine shared basins between Ecuador and Peru. The new Binational Commission will absorb the Zarumilla Commission and the roles it performed will be replaced by the basin-level committee of the Zarumilla, under the framework of the new Commission.

279 These are basin specific, initiated from an application, typically by an NGO, and include a right to participate in the governance meetings, make initiatives, make statements, etc.

280 See, for example, Schulze (2012), p. 63–64; Kranz and Mostert (2010), p. 96.

281 Wehn and others (2018), p. 35.

282 Kranz and Mostert (2010), p. 91.

283 See also Ibid.

A challenge ahead is to legalize water allocations, up to the moment the use of the waters in the channel have been allocated in an informal way, i.e. without legal licences for use on both sides of the border. However, the new water laws in Ecuador and Peru demand that every water user should have a user licence as a means to control and improve water allocation in river basins.

International principles in decision-making processes

International principles regarding decision-making processes in water allocation revolve around internationally recognized civil and political rights of groups and individuals. Procedural rights recognized in international human rights instruments such as the Universal Declaration of Human Rights and International Covenant on Civil and Political Rights include the freedom of expression, freedom of association and right of peaceful assembly. These rights enable citizens to participate in democratic processes within their respective countries.²⁸⁴

Within international environmental law, the procedural rights have been formulated as the right of the public to access environmental information, to participate in decision-making processes that concern the environment and the right of access to justice in environmental matters. These rights were codified in the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention). The Convention is built on these three pillars that seek to secure public engagement in environmental decision-making. In the context of transboundary water allocation, the provisions of the Aarhus Convention apply to those riparian States that are parties to the Convention. The Convention requires the parties to promote its principles in international decision-making processes and within the framework of international organizations (Art. 3.7).²⁸⁵

International water law approach to participation

The possibilities for and modalities of public and stakeholder engagement in transboundary water allocation depend partly on the applicable allocation strategy and method. For instance, a fixed allocation rule may include fewer public participation opportunities than allocation based on a priority of different uses (on transboundary water allocation strategies and methods, see Chapter I, subsection 2). Many transboundary water agreements address public participation. While the level of detail of the provisions varies, access to information produced by the basin governance bodies appears the most commonly secured participatory right under the agreements.

The Water Convention addresses “public information” in Article 16. Accordingly, the riparian parties are to 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”. The Watercourses Convention includes the equitable participation principle (Art. 5.2) but it concerns the watercourse States and is not a public participation provision as such. No definition of the “public” is given in the United Nations global water conventions. It has been established, though, that the relevant provisions of the Water Convention are to be applied in light of concepts and principles of the Aarhus Convention.²⁸⁶ The Aarhus Convention has adopted a broad definition of “the public concerned”, the term denoting “the public affected or likely to be affected by, or having an interest in, the

284 Sands and Peel (2018), p. 215.

285 On the application of the Aarhus Convention in transboundary water management and the UNECE Water Convention, see UNECE, *Strengthening Water Management and Transboundary Water Cooperation in Central Asia: The Role of UNECE Environmental Conventions* (Geneva, United Nations, 2011), p. 109–113.

286 “... with respect to public participation in transboundary water management, as well as water management at national level, respective provisions of the UNECE environmental Conventions are mutually complementary and should be considered and applied as a single regulatory regime for participatory decision-making”, UNECE (2011), p. 109.

environmental decision-making". In addition, the role of non-governmental organizations (NGOs) is given special recognition in the Convention (Art. 2.5).

Specific stakeholder groups to incorporate in transboundary water allocation

Transboundary water allocation decision-making should identify and explicitly recognize marginalized stakeholder groups that are easily disregarded in the relevant policymaking and implementation. While no group should be unfoundedly favoured over others, special measures are often needed to empower marginalized groups. These groups typically include Indigenous people, women and youth, and they often rely on transboundary water resources directly or through an intergenerational perspective.

Indigenous people: According to the Indigenous and Tribal Peoples Convention, 1989 (No. 169) of the International Labour Organization (ILO), people in independent countries are regarded as Indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present State boundaries. Indigenous people retain some or all of their own social, economic, cultural and political institutions (Art. 1). The ILO Convention stipulates that governments must consult Indigenous people whenever consideration is being given to legislative or administrative measures which may affect them directly (Art. 6). In addition, the governments need to establish means by which Indigenous peoples can participate at all levels of decision-making in administrative and other bodies responsible for policies and programmes which concern them and means for the full development of Indigenous peoples' own institutions and initiatives (Art. 6).

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) states that Indigenous peoples have the right to participate in decision-making in matters which would affect their rights (Art. 18) and the right to maintain and strengthen their relationship with water, among other things, as well as to uphold their responsibilities for future generations (Art. 25). UNDRIP requires States to consult and cooperate in good faith with the Indigenous peoples concerned in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of water, among other resources (Art. 32). Indigenous peoples' participation may take place through representatives or representative institutions chosen by themselves (Arts. 18, 19). In practice, however, Indigenous people are some of the most disenfranchised and underrepresented at the water negotiation table. Indigenous peoples should be included in transboundary water allocation processes since allocation may affect their use of water resources, including traditional cultural practices.²⁸⁷ Additionally, Indigenous peoples' traditional lands often overlap State boundaries. Recognizing Indigenous water and land claims and rights is one of the key issues for ensuring sustainability and equity of transboundary water allocation arrangements (see subsection 5c below).²⁸⁸

Women: It has been argued that most of the international transboundary water management processes are based on a masculinized discourse.²⁸⁹ Targets and formal policies are needed for gender equality and equity in transboundary water management and allocation to ensure genuine participation of women.²⁹⁰ While there are no specific international legal rules on promoting women's participation in transboundary water

287 See, for example, Australia, "Engaging indigenous peoples in water planning and management: a module to support water planners and managers develop and implement National Water Initiative consent, inclusive water planning and management processes that support indigenous social, spiritual and customary objectives", Module to the National Water Initiative (NWI) Policy Guidelines for Water Planning and Management (2017).

288 Katherine Selena Taylor, Bradley J. Moggridge and Anne Poelina, "Australian indigenous water policy and the impacts of the ever-changing political cycle", *Australasian Journal of Water Resources*, vol. 20, No. 2 (2016), p. 132–147.

289 Anton Earle and Susan Bazilli, "A gendered critique of transboundary water management", *Feminist Review*, vol. 103 (2013), p. 99–119.

290 See, for example, Isabelle Fauconnier and others, *Women as Change-makers in the Governance of Shared Waters* (Gland, Switzerland, IUCN), 2018).

management, the issue has received increasing attention in recent years on the basis that gender-balanced participation is vital for effective, fair and sustainable transboundary allocation processes and outcomes.²⁹¹

Youth: When discussing sustainable natural resources management, young people always have a special interest. They represent the future generations for which these resources should be safeguarded.²⁹² However, young people, especially young women and those in marginalized groups, often face challenges to fully participating in natural resource use decisions, including for water.²⁹³ Young people's participation in transboundary water management and allocation can be enhanced through information, consultation and their active engagement in water processes.²⁹⁴ It also requires education on water challenges, communication to provide access to relevant information and platforms to engage with water professionals, and support for new and innovative ideas.²⁹⁵

b. Human rights and humanitarian law principles relevant to water allocation frameworks

The United Nations has declared safe and clean drinking water and sanitation as human rights.²⁹⁶ Hence, it is the right of all people to access sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use.²⁹⁷ In addition to the human right to water, other human rights law principles are relevant in transboundary water allocation.²⁹⁸ Human rights arguments are increasingly used in the context of international water law and transboundary water cooperation.²⁹⁹ Public participation rights are an important element through which a human rights approach can be realized in a transboundary setting, including in the context of allocation frameworks. When affected people are able to influence transboundary water allocation arrangements, not only are their participatory rights being fulfilled, but also the more substantive water-related human rights, such as the right to an adequate standard of living and the right to health (International Covenant on Economic, Social and Cultural Rights, Arts. 11–12), are likely to get fuller attention and implementation.

Domestic uses in human rights law and the Sustainable Development Goals

The United Nations General Assembly declared safe and clean drinking water and sanitation a human right in 2010 (A/RES/64/292). The right to water “entitles everyone, without discrimination, to have access to

291 See, for example, Southern African Development Community (SADC) and Southern African Research and Documentation Centre (SARDC), *Mainstreaming Gender in Transboundary Water Management in SADC: Evidence, Challenges and Opportunities* (Gaborone, Botswana; Harare, Zimbabwe, 2019); Lynette de Silva, Jennifer C. Veilleux and Marian J. Neal, “The role of women in transboundary water dispute resolution”, in *Water Security Across the Gender Divide*, Christiane Fröhlich and others, eds. (Cham, Switzerland, Springer International, 2018); Karen Delfau and Pichamon Yeophantong, *State of Knowledge: Women and Rivers in the Mekong Region* (Oakland, California, International Rivers, 2020).

292 See, for example, Water Youth Network: www.wateryouthnetwork.org/.

293 GWP, *GWP Youth Engagement Strategy* (Stockholm, 2015), p. 4.

294 Ibid.

295 Ibid., p. 8.

296 In November 2002, the United Nations Committee on Economic, Social and Cultural Rights adopted general comment No. 15 on the right to water (E/C.12/2002/11); subsequently, on 28 July 2010, the United Nations General Assembly recognized the human right to water and sanitation and acknowledged that clean drinking water and sanitation are essential to the realization of all human rights (A/RES/64/292). For further information on the human rights to water and sanitation, see: www.unwater.org/water-facts/human-rights/.

297 See www.unwater.org/water-facts/human-rights/.

298 See, for example, United Nations, General Assembly, Declaration on the Rights of Peasants and Other People Working in Rural Areas (A/RES/73/165), which contains references to water.

299 See, for example, Knut Bourquain, *Freshwater Access from a Human Rights Perspective: A Challenge to International Water and Human Rights Law*, International Studies in Human Rights, vol. 97 (Leiden, Martinus Nijhoff, 2008); Takele Soboka Bulto, *The Extraterritorial Application of the Human Right to Water in Africa* (Cambridge, United Kingdom, Cambridge University Press, 2014); Jimena Murillo Chavarro, *The Human Right to Water: A Legal Comparative Perspective at the International, Regional and Domestic Level* (Cambridge, United Kingdom, Intersentia, 2015).

sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use³⁰⁰. The definition underlines the adequate quantity and quality of water, reliable access to it (including timing) and affordability.³⁰¹ The human right to water has received increasing attention and recognition since the 1990s³⁰² and it is linked to many other human rights (such as the right to an adequate standard of living, health, life, housing, etc.). SDG 6, “Clean water and sanitation for all”, involves a commitment to “ensure availability and sustainable management of water and sanitation for all”. The subgoals include several references to domestic water uses, including drinking water, sanitation and hygiene and wastewater (Goals 6.1–6.3). These goals reaffirm the increasingly recognized human right to water at the international level and the priority of vital human water needs in the realization of the SDGs.³⁰³

Human rights apply primarily in the relationship between an individual and the State. Therefore, human rights are mainly a matter of domestic implementation. However, the transboundary context is particularly relevant for the human right to water because of the hydrological interdependence between States and transboundary impacts on shared freshwater resources. In this regard, the human right to water receives protection through the application of the equitable and reasonable utilization principle and no-harm rule at transboundary scale. According to the United Nations Committee on Economic, Social and Cultural Rights, States have to respect the enjoyment of the right to water also in other countries and not interfere with that directly or indirectly. Any activities undertaken within one State’s jurisdiction should not deprive another State of the ability to realize the right to water in its jurisdiction. In this regard, the Committee refers to the social and human needs as a factor of the equitable and reasonable utilization, the no-harm rule and special regard being given to vital human needs in the Watercourses Convention.³⁰⁴ The SDGs are strongly interlinked and their implementation requires an integrated approach with close involvement of multiple sectors. The transboundary element of water management and cooperation has been recognized as having an important effect on the realization of the SDGs.³⁰⁵

Humanitarian law principles

General humanitarian law principles are foundational principles applicable in armed conflict, specific elements of which are relevant to water allocation. Two of the most central are the principle of humanity and the principle of military necessity. In addition, international humanitarian law recognizes, for example, the principle of distinction between civilians and combatants, and between civil objects and military objectives; and the principle of proportionality.³⁰⁶ These principles are applicable to shared freshwater resources during situations of armed conflict. For example, attacks against water infrastructure in armed conflict may lead to severe consequences on transboundary water resources with serious impacts on human lives. The Geneva Principles on the Protection of Water Infrastructure³⁰⁷ were launched in December 2019 as a legally non-binding guideline for States and non-State actors for enhancing the protection of water infrastructure during and after armed conflicts.

300 United Nations, General Assembly, The human rights to safe drinking water and sanitation (A/RES/70/169).

301 See, for example, Inga T. Winkler, “The human right to water”, in *Research Handbook on International Water Law*, McCaffrey, Leb and Denoon, eds. (2019), p. 242–254 at p. 244–245.

302 For more, see, for example, Winkler (2019).

303 Ibid.

304 E/C.12/2002/11, para 31. See also United Nations, General Assembly, Report of the Special Rapporteur on the human rights to water and sanitation (A/74/197), which discusses the impact of megaprojects on the realization of those rights.

305 See, for example, United Nations and UNESCO, *Progress on Transboundary Water Cooperation: Global Baseline for SDG Indicator 6.5.2* (Paris, 2018), p. 14.

306 See, for example, Nicholas Tsagourias and Alasdair Morrison, *International Humanitarian Law: Cases, Materials and Commentary* (Cambridge, United Kingdom, Cambridge University Press, 2018).

307 Geneva Water Hub, *The Geneva List of Principles on the Protection of Water Infrastructure* (Geneva, 2019).

c. Sustainable development

Sustainable development is a normative concept, or sometimes alternatively referred to as a principle, of international law, which can be defined as “development in accordance with customary international environmental law”.³⁰⁸ The sustainable use of transboundary waters is closely linked to this norm in international law. It requires, first, that economic, social and environmental values are balanced in water uses. Second, sustainable use needs to be based on long-term carrying capacity of transboundary waters.³⁰⁹ On a procedural level, as noted by the arbitral tribunal in *Indus Waters Kishenganga Arbitration (Pakistan v. India)*,³¹⁰ sustainable development as a principle of international law translates into “the duties to conduct an EIA and, more generally, to prevent environmental harm”³¹¹ by taking all appropriate measures. In transboundary water allocation, the sustainable management or use of water resources is regulated in more detail by individual transboundary water agreements and their specific allocation rules and arrangements. For example, an agreement may contain an abstraction limit (a “cap”) to ensure that water will not be abstracted in excess volumes. In addition, transboundary water agreements often include rules on water quality and sometimes on ecological flows (see Chapter II, subsection 3).

The United Nations global water conventions address the sustainable use or management of water resources in a general manner. The Water Convention mentions it in the context of parties’ obligation to prevent, control and reduce transboundary impacts. Accordingly, parties need to take measures to ensure that “sustainable water-resources management, including the application of the ecosystems approach” is promoted (Art. 3.1.i). The Convention also stipulates that “water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs” (Art. 2.5.c). According to the Watercourses Convention, “an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof ...” (Art. 5.1).³¹²

Concerning transboundary groundwaters, the Draft Articles on the Law of Transboundary Aquifers stipulate that States shall not utilize a recharging transboundary aquifer or aquifer system at a level that would prevent continuance of its effective functioning (Art. 4).³¹³ Much in the same manner, the UNECE Model Provisions on Transboundary Groundwaters stipulate that the parties shall use transboundary groundwater in a sustainable manner, with a view to maximizing the long-term benefits accruing therefrom and preserving groundwater-dependent ecosystems. To that end, the parties must take into due account the functions of groundwater resources, the amount and the quality of groundwater in reserve and the rate of its replenishment, making their best efforts to prevent the diminution of the groundwater reserve from reaching a critical level (Provision 2).

308 Jorge E. Viñuales, “Sustainable development in international law”, C-EENRG Working Papers, No. 2018-3 (Cambridge, United Kingdom, December 29, 2018); Jorge E. Viñuales, “Sustainable development”, in *The Oxford Handbook of International Environmental Law*, 2nd ed., Lavanja Rajamani and Jacqueline Peel, eds. (Oxford, Oxford University Press, 2019).

309 Rieu-Clarke, Moynihan and Magsig (2012), p. 107–108; Rieu-Clarke (2015), p. 195–208.

310 Permanent Court of Arbitration, *Indus Waters Kishenganga Arbitration (Pakistan v. India)*, para. 450. Available at <https://pca-cpa.org/en/cases/20/>.

311 See Viñuales (2018), p. 20.

312 UNECE, *Guide to Implementing the Water Convention* (2013), p. 23; Rieu-Clarke, Moynihan and Magsig (2012), p. 107–108.

313 See A/63/10, p. 28.

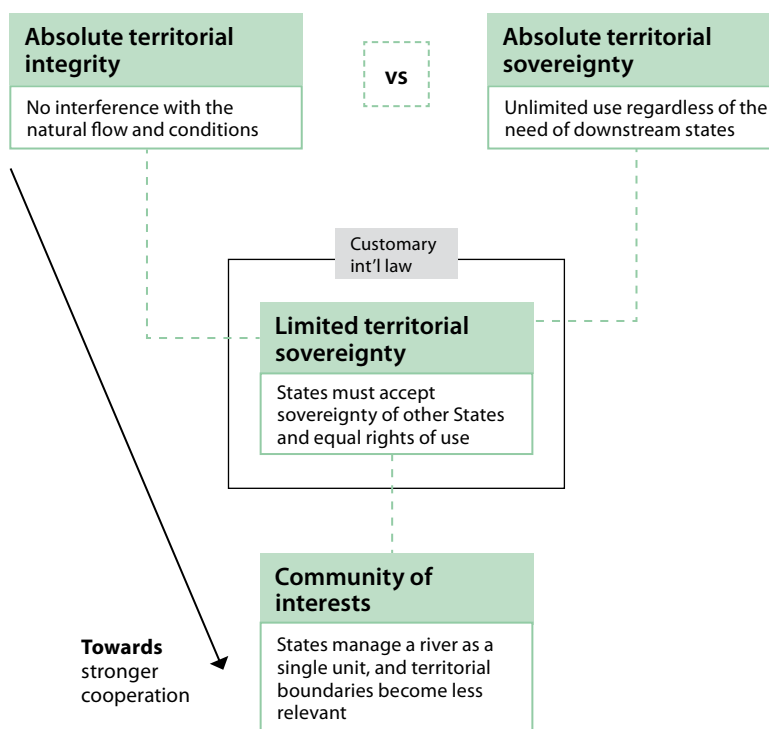
4. Emerging Legal Principles Relevant to Transboundary Water Allocation

a. Community of interest approach

A community of interest approach (COIA) to international water law³¹⁴ is seen as a potential legal framework for the common management of international watercourses. It can be very useful when established and applied in a transboundary water allocation setting. In essence, the approach denotes that the riparian States shift their attention away from individual entitlements towards common interest and benefits of cooperation in water allocation. In practice, the COIA functions as follows: “Whenever watercourse States decide to establish a community of interest in the management of a shared watercourse, they agree on certain principles and norms that create the basis for the cooperation. These norms and principles become the framework within which explicit State consent to every decision is not required. The involved States have already agreed explicitly to the process of management.”³¹⁵ Joint infrastructure regimes, such as shared hydropower projects along a border, are commonly seen as an expression of the COIA in practice.

FIGURE 10

Theories of allocation and a community of interest approach in international water law



Source: Alistair Rieu-Clarke, Ruby Moynihan and Bjørn-Oliver Magsig, *UN Watercourses Convention User's Guide* (Dundee, IHP-HELP Centre for Water Law, Policy and Science, 2012), p. 103.

314 See Julie Gjørtz Howden, *The Community of Interest Approach in International Water Law: A Legal Framework for the Common Management of International Watercourses*, International Water Law Series, vol. 8 (Leiden, Brill/Nijhoff, 2020); Bjørn-Oliver Magsig, “Overcoming state-centrism in international water law: ‘regional common concern’ as the normative foundation of water security”, *Goettingen Journal of International Law*, vol. 3, No. 1 (2011), p. 317–344; Rieu-Clarke, Moynihan and Magsig (2012), p. 101–105.

315 Julie Gjørtz Howden, “Aspects of sovereignty and the evolving regimes of transboundary water management”, *Nordic Environmental Law Journal*, No. 1 (2015), p. 55.

When used for transboundary allocation, COIA requires that co-riparian States share a common understanding of the applicable rules and principles for the governance and allocation of the shared water resource. The parties recognize their joint interests and benefits that can be gained from cooperation and, ideally, the maintenance of cooperation is fairly effortless.³¹⁶ The COIA presents challenges to traditional State sovereignty by committing the parties to cooperation with focus on common interests rather than sovereign entitlements (see Figure 10).³¹⁷ Within a COIA regime, the parties share not only interests/benefits but also the associated risks, expenses and environmental responsibility.³¹⁸

b. Rights of the river and ecosystems

There has been a gradual progression in certain rivers around the world being granted distinct legal rights, which in turn can have an impact on allocation frameworks.³¹⁹ A rights-of-rivers approach is a part of a wider idea of rights of nature, according to which nature has fundamental rights. Its roots arise from Indigenous traditions that regard humans as part of nature, not distinct from it. The rights of nature are sometimes also connected to human rights, such as the right to a healthy environment, or Indigenous rights, but the basic idea is to make a shift from an anthropogenic to an ecocentric approach. The rights-of-nature discussion can be seen as a response to modern environmental law that has not been able to adequately halt the ecological challenges.³²⁰ The rights-of-nature approach can be distilled in three central elements:

1. Nature possesses fundamental rights. It is not only human property. These rights may contain, for example, the right to exist and thrive and the right to restoration.
2. The rights of nature can be defended in a court of law. Nature has a legal standing.
3. Humans have duties to act as guardians or stewards of the rights of nature. Nature often needs guardianship bodies to uphold its rights and interest.³²¹

Rivers have a central role in the rights-of-nature discussion and have been the subject of many domestic cases in different continents. They have been linked to constitutions, treaties, legislation and case law. Nevertheless, the rights-of-rivers approach is novel and its practical impacts remain to be seen, including in the context of water allocation frameworks.³²²

316 Ibid., p. 56.

317 Julie Gjørtz Howden, "Communities of interest in the Nordic management of international watercourses", *Nordic Journal of International Law*, vol. 85, No. 4 (November 2016), p. 348–367, at p. 351.

318 Gjørtz Howden (2015), p. 56.

319 See Cyrus R. Vance Center for International Justice, Earth Law Center and International Rivers, *Rights of Rivers: A Global Survey of the Rapidly Developing Rights of Nature Jurisprudence Pertaining to Rivers* (Oakland, California, International Rivers, 2020); Erin O'Donnell and Elizabeth Macpherson, "Voice, power and legitimacy: the role of the legal person in river management in New Zealand, Chile and Australia", *Australasian Journal of Water Resources*, vol. 23, No. 1 (2018), p. 1–10.

320 Cyrus R. Vance Center for International Justice, Earth Law Center and International Rivers (2020).

321 Ibid.

322 Ibid.

