THE HUMAN RIGHT TO WATER IN INTERNATIONAL TREATIES: EXISTENCE, PREVENTION AND MANAGEMENT

Il diritto umano all'acqua nei trattati internazionali: esistenza, prevenzione e gestione.

Francesco Anastasi - Alessandro Suppa[1]

Abstract *In the current era we are assisting to a human rights revolution. Such revolution pushes research to analyse and develop other human rights before existing and applied only in "media language". The human right to water has been clearly established only recently and it had attracted the attention especially due to the scarcity of it the world will/is facing. Therefore, this paper will evaluate the entire development of the human right to water, from its origin to the latest establishment in treaties. Moreover, due to the importance Transnational Enterprises (TNEs) have in relation with water management, usage, pollution, their activities and due diligence will be analysed. What companies can do to reduce pollution of water as consequence of their activities? How to control the use of water and reduce to the minimum needed? In what way companies should manage water throughout their activities? These are the questions we will try to give an answer.*

Nell'era attuale stiamo assistendo ad una rivoluzione dei diritti umani. Tale rivoluzione spinge la dottrina ad analizzare e sviluppare altri diritti umani, prima esistenti e applicati solo nel "linguaggio dei media". Il diritto umano all'acqua è stato chiaramente stabilito solo di recente e ha attirato l'attenzione soprattutto a causa della scarsità di essa che il mondo dovrà/sta affrontando. Pertanto, il presente articolo valuterà l'intero sviluppo del diritto umano all'acqua, dalla sua origine all'ultima istituzione nei trattati. Inoltre, data l'importanza che le Imprese Transnazionali (TNI) hanno in relazione alla gestione dell'acqua, l'uso, l'inquinamento, la loro gestione e due *diligence* saranno analizzate. Cosa possono fare le aziende per ridurre l'inquinamento delle acque come conseguenza delle loro attività? Come controllare l'uso dell'acqua e ridurlo al minimo necessario? In che modo le aziende dovrebbero gestire l'acqua durante le loro attività? Queste sono le domande a cui si cercherà di dare una risposta.

1 [*] *Palacký University Olomouc, Czech Republic - alessandro.suppa01@upol.cz*

This article is a partial outcome of the research project of Palacky University in Olomouc, Czech Republic – IGA_PF_2021_007 – Transnational Enterprises: identification and protection. Current development in international law.

Introduction.

According to the World Water Development of the United Nations, by 2030 is expected a 40% drop in water availability, unless the management and use of this resource will improve[2].

Most of the international rules on water are addressed to states, which often deal mainly with affirming their territorial sovereignty over water resources present in their territory rather than guaranteeing the right to water of their citizens. In European law there are several problems concerning the use of water: for instance, the various forms of pollution that threaten rivers, lakes and underground waterways or the various uses of water resources[3].

Furthermore, under the international law, the right to water is subject to a series of normative acts of different legal value, from the declarations of the General Assembly of the United Nations to acts of greater effectiveness from the point of view of the obligation, which, moreover, are not addressed in the same direction. This contributes greatly to making the overall regulatory framework even more uncertain and contradictory. The essay tries to make order in the international regulation of water.

The origins of modern international environmental law

The evolution of the international water law as autonomous field starts during the XX century, where it finds its roots in the development of the general subject "international environmental law".

By the end of the 19th century, the first, occasional, agreements were signed in international matters. The reasons that inspired the action of the States to stipulate a sort of embryonic agreements were very different from those that animated the searches and the concerns of the naturalists of the time. The Paris agreement was, in fact, an international agreement, mostly bilateral, inspired by utilitarian reasons, instrumental to the pursuit of purely economic advantages, in the which was minimal - or completely lacking - a truly environmental vocation.

In this context, it should be recalled the convention concluded between France and Great Britain in November 1867, aimed at fighting the excessive oysters fishing and, above all, the Convention for the protection of birds useful for agriculture (whose name is, indeed, indicative of its inspirational ratio), signed in Paris in 1902, which may be considered the first multilateral convention to enter into force to protect of some animal species. Also worth mentioning are the concluded Treaty in Washington in 1911 between the United States and Great Britain for conservation and protection of seals[4], as well as the first international

2 *The UN World Water Development Report 2015, Water for a Sustainable World*, disponibile su http://www.unesco.org/ ; sul punto cfr. anche *2017 UN World Water Development Report, Wastewater: The Untapped Resource*, disponibile su http://www.unesco.org/; Cfr. anche https://www.un.org/sustainabledevelopment/water-and-sanitation/

3 Cfr. Giuffrida R., Amabili F., *La tutela dell'ambiente nel diritto internazionale ed europeo,* Giappichelli, Torino.

4 *Interim Convention on Conservation of North Pacific Fur Seals* (Washington, 7 February 1957).

regulation convention of whale fishing, promoted within the League of Nations and open to ratified in Geneva on September 24, 1931[5] .

The first international texts that can be considered, albeit partially, characterized by a more authentically ecological perspective of action, they are constituted by a series of treaties on water regulation and protection cross-border and, among these, first of all the Treaty on border waters[6], stipulated between the United States and England in 1909 in order to regulate the water regime at border between the United States and Canada (at the time under British rule).

The Boundaries Treaty of 1909 represents a particularly advanced legal instrument compared to other international environmental treaties of that historical period, having sanctioned the express ban on polluting border waters, to protect health and property[7], in addition to having envisaged the establishment of an international mixed commission - the International Joint Commission[8] - as an ad hoc body with a function consultative and arbitration for the settlement of all disputes within the scope of application of the treaty.

Considering this important innovation, the *Institut de Droit International* a few years later developed a series of indications aimed at regulating the use of the courses of water for different needs than those of navigation[9], with this contributing to the evolutionary process of the principle of the prohibition of transboundary pollution.

Since the 1930s onwards, they were developed some international instruments aimed at the protection of flora and fauna, among which first of all we recall the "*London Convention relating to the protection of flora and fauna in their natural environment"* (London Convention Relative to the Preservation of Fauna and Flora in their Natural State[10]). This agreement - the inspirational logic of which, however, remains fundamentally utilitarian - owes its relevance to circumstance of having, for the first time in an international convention, recognized the danger of permanent damage to these elements in various areas of the world, and in particularly in Africa, trying to protect you through the institution in this continent of protected areas for certain animal species and the creation of national parks[11].

---

5 *International Convention for the Regulation of Whaling* (Geneva, 1931).

6 "*Treaty Between the United States and Great Britain Relating to Boundary Waters",* Washington, 11 January 1909.

7 See Paragraph IV.

8 See Paragraph VII, article VIII, IX.

9 "*International Regulation Regarding the Use of International Watercourses for Purposes other than Navigation",* Madrid, 20 April 1911

10 *African Convention on the Conservation of Nature and Natural Resources, London 1933.*

11 "*The Governments of the Union of South Africa, Belgium, the United Kingdom of Great Britain and Northern Ireland, Egypt, Spain, France, Italy, Portugal, and the Anglo-Egyptian Sudan: Considering that the natural fauna and flora of certain parts of the world, and in particular of Africa, are in danger, in present conditions, of extinction or permanent injury; Desiring to institute a special regime for the preservation of fauna and flora; Considering that such preservation can best be achieved (i) by the constitution of national parks, strict natural reserves, and other reserves within which the hunting, killing or capturing of fauna, and the collection or destruction of flora shall be limited or prohibited, (ii) by the institution of regulations concerning the hunting, killing and capturing of fauna outside such areas, (iii) by the regulation of the traffic in trophies, and (iv) by the prohibition of certain methods of and weapons for the hunting, killing and capturing of fauna; Have decided to conclude a Convention for these purposes* […]"

International water law.

The international water law starts to begin an autonomous subject on an international scale in the latter half of the twentieth century. Previously, water resources were considered abundant, and allocation schemes were rudimentary and scarcely enforced.

The first pace was moved in 1966, by the International Law Association (ILA) convened in Helsinki, Finland, that created the Helsinki Rules on the Uses of Waters of International Rivers (International Law Association 1966)[12]. The goal of the rules was to codify customary legal norms and principles, in addition to setting in motion further development of international water law. Given the preliminary nature of the endeavour, the Helsinki Rules were appropriately modest in their ambitions, establishing the groundwork for future action and establishing principles of water law that reflected prevailing notions of water resources management.

The most significant principle—the "equitable use"—was prevalent in many national legal settings and by itself did not present controversy[13]. The principle of equitable use states that "*each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin*." In other words, states may use water resources as long as their use is reasonable and beneficial. Although the Helsinki Rules did not clearly define those limits, they represented an important first step in the development of international water law.

Thirty years later, the international community attempted to further solidify and codify international water laws and principles in the form of a binding treaty instrument. The 1997 UN Convention on the Law of Non-Navigational Uses of International Watercourses (United Nations 1997a) contains 37 Articles laying down basic norms of international water law. The milestone Article 5, Equitable and Reasonable Utilization and Participation. Echoing the Helsinki Rules, lays down the equitable use principle and affirms the concept of equitable participation to encourage states to resolve issues of equitable use jointly and cooperatively. On the other hand, the article 7 introduced one more obligation not to cause *significant harm*[14].

The principle of "no significant harm"[15] imposes a higher standard on basin states by requiring them to refrain from taking actions that would cause substantial damage to another state's water resources. The no significant harm principle prevents upstream states from using water resources if downstream states are adversely affected[16].

This could be a problem when an upstream state decides to make a reasonable use of a transboundary river, i.e. for sanitation purposes, causing a detriment of a downstream state whose prior appropriations are diminished. Accordingly, the no significant harm principle

12 Helsinki Rules on the Uses of Waters of International Rivers https://www.internationalwaterlaw.org/documents/intldocs/ILA/Helsinki_Rules-original_with_comments.pdf

13 S. Gebriye Setegn, M.C. Donoso, *Sustainability of Integrated Water Resources Management: Water Governance*, Springer, 2015.

14 Ibid.

15 Dellapenna, Joseph W. *The Berlin rules on water resources: the new paradigm for international water law*. Universidade do Algarve.

16 S. Gebriye Setegn, M.C. Donoso, *Sustainability of Integrated Water Resources Management: Water Governance*, n. 14.

is favoured by the downstream states[17]. The relationship between the principles of equitable use and no significant harm is not totally clear without an interpretation of how both should or can coexist. Nevertheless, the text was approved by a vast number of states, with 106 votes in favour and just 3 votes against (United Nations 1997b). Nonetheless, to date, only 30 states have ratified the convention, with 35 needed for entry into force[18].

The International Law Association decided in 2004 to summarize customary international water law in light of the Watercourses Convention and the development of international environmental laws since the adoption of the 1966 Helsinki Rules[19]. It adopted the *2004 Berlin Rules on Water Resources* aimed to introduce several layers to the development of international water law (International Law Association 2004). In first place, the rules extended the applicability of international water laws also to waters that were purely national. The right of public participation, the obligation to use best efforts to achieve both conjunctive and integrated management of waters, and duties to achieve sustainability and the minimization of environmental harm are principles synthetized during the elaboration of the Berlin Rules [20]. In addition, the Berlin Rules maintained the equitable use —no significant harm dichotomy, but overcame the apparent tension between the two principles by incorporating one into the other: "*basin States shall in their respective territories manage the waters of an international drainage basin in an equitable and reasonable manner having due regard for the obligation not to cause significant harm to other basin States*." Since 2004, other international legal instruments have exerted some influence on the reasonable use–no significant harm debate.

Lacking a binding treaty instrument governing all types of groundwater, the UN's International Law Commission produced the Draft Articles on the Law of Transboundary Aquifers in 2008 (United Nations 2008). The Draft Articles clarify some principles governing transboundary aquifers, while reinforcing the dual principles of equitable use and no significant harm[21]. In particular, article 3 provides that each aquifer state has sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory, in accordance with international law[22].

The Special Rapporteur to the International Law Commission (ILC), Chusei Yamada, specified that the presence of this principle was a concession to aquifer states since aquifers are analogous to mineral resources and are governed by the principle of territorial sovereignty[23].

17 L. Boisson de Chazournes, *Fresh Water in International Law,* Oxford University Press: Oxford, pp. 83–96, 2015.
18 Ibidem.
19 P. Canelas De Castro, *The Evolution Of International Water Law*, Int. J. Sus. Dev. Plann. Vol. 10, No. 6 (2015).
20 McCaffrey, S., *The Law of International Watercourses – Non-Navigational Uses*, 2nd edn., Oxford University Press: Oxford, 2007.
21 https://legal.un.org/ilc/texts/instruments/english/commentaries/8_3_1994.pdf
22 P. Canelas De Castro, *The Evolution Of International Water Law*, n. 20
23 C. Yamada, *Codification of the law of transboundary aquifers (groundwater) by the United Nations*, Water Int 36(5)

How was affirmed[24], it seems that even after half a century of development, "*it is difficult to ascertain with any certainty how international law has resolved the inherent tensions between upstream and downstream states*"[25]. It could be concluded, on one hand, that the principles of equitable use and no significant harm are complementary and operate in conjunction. However, in cases where the principles cannot be reconciled some interpreters observed that equitable use has primacy over no significant harm.

The first argument that support this claim is that the International Court of Justice (ICJ) relied on the Watercourses Convention's equitable use principle to render its decision in the Gabčíkovo–Nagymaros case (Gabčíkovo–Nagymaros 1997)[26], while scarcely mentioning the no significant harm principle. The ICJ has affirmed the decision as reflective of a uniform priority between the two principles, and, of course, an ICJ decision is only binding on the states party to the case.

The sovereignty principle contained in the Draft Articles on the Law of Transboundary Aquifers also signs a pace away from viewing water as just a resource[27]. On the side of transboundary natural resources management principles, territorial sovereignty is even less restrictive on state action than equitable use. However, remains the fact that neither the Draft Articles on the Law of Transboundary Aquifers nor the Watercourses Convention has entered into force[28].

In this moment, in any case it should be considered that jurisprudence, courts and national policies usually refers to the principles stated in the International Conventions.

On other hand, the apparent lack of progress does not provide confidence that basic principles are being accepted by nation states, and does not provide clarity with respect to the equitable use—no significant harm relationship[29]. Possibly the toughest argument in support of the primacy of the equitable use principle is the concept that equitable or reasonable use doctrines are applied in an overwhelming number of bilateral and multilateral agreements, judicial bodies, and national policies[30]. A 1994 report of the ILC concluded that: "*A survey of all available evidence of general practice of States, accepted as law, in respect of the non-navigational uses of international watercourses… reveals that there is overwhelming support for the doctrine of equitable utilization as a general rule of law for the determination of the rights and obligations of States in this field*" (International Law Commission 1994).

24 S. Gebriye Setegn, M.C. Donoso, *Sustainability of Integrated Water Resources Management: Water Governance*, n. 14

25 Ibidem.

26 https://www.icj-cij.org/files/case-related/92/092-19970925-JUD-01-00-EN.pdf. See also A. Schwabach, *Diverting the Danube: The Gabcikovo-Nagymaros Dispute and International Freshwater Law,* 1996; M. Greco, A. Carravetta, R. Della Morte, *River Flow 2004*, Volume 1, Taylor & Francis, 2004, pp. 138–141.

27 AA.VV. *The UN Convention on the Law of the Non-Navigational Uses of International Watercourses,* Oxford University Press, 2018.

28 P. Canelas De Castro, *The Evolution Of International Water Law*, n. 20

29 S. Gebriye Setegn, M.C. Donoso, *Sustainability of Integrated Water Resources Management: Water Governance*, n. 14

30 AA.VV. *The UN Convention on the Law of the Non-Navigational Uses of International Watercourses,* Oxford University Press, 2018.

Nevertheless, it is not clear how the foundational principles of international water law interact, especially in cases where an equitable use may cause significant harm to a downstream state.

On some level, this ambiguity is intentional: in fact, each watercourse has its own individual characteristics, and in this way international laws and principles must necessarily be broad and flexible. It seems likely that where a set of reasonable and equitable uses cannot be satisfied by the water resources of a watercourse, the necessary recourse is to balance the competing uses by weighing the relevant factors and circumstances involved.

A pace beyond: The human right to water in international treaties.

The first international initiative that focused on the right to water was the United Nations Conference on Water, which was held in Mar de la Plata, Argentina, in 1977[31]. In the final declaration it was argued that "*everyone has the right to access drinking water in quantities and qualities corresponding to one's basic needs* ". Subsequently, in September 1990, the United Nations promoted the final conference of the International Drinking Water Decade in New Delhi and in January 1992 the United Nations Conference on Water and Environment was held in Dublin, which ended with the important "Dublin Final Declaration"[32]. This first phase of international initiatives ended with the United Nations Conference on environment and development, held in Rio de Janeiro in June 1992, during which the problem of water was widely discussed[33]. More recently and particularly effectively the Lisbon Group and the Mario Soares foundation have spoken, which in September 1998 promoted the 'Water Manifesto', the two World Water Forums of Marrakesh (1997), The Hague (2000)[34], to which were added the World Social Forums of Porto Alegre and the World Alternative Water Forums of Florence (2003) and Geneva (2005).

Despite this series of important initiatives, international standards, as indeed national ones, do not offer today a minimally adequate response to political threats and environmental problems due to the growing demand for water and the resulting conflicts[35]. The global demand for water is growing rapidly due to the demographic expansion of the human species and the spread of the technological-industrial model, typical of western modernity. Simultaneously, the quantity of drinking water available to populations decreases due to climatic turbulence, increasingly widespread pollution and the salinization of fresh water[36].

31 https://www.ircwash.org/sites/default/files/71UN77-161.6.pdf

32 AA.VV., *International Environment Reporter: Current Report,* Volume 14, Bureau of National Affairs, 1991.

33 AA.VV. *Global Water Resource Issues,* Cambridge University Press, 1994.

34 The Forum was organized by the World Water Council, established in 1994 by the World Bank with the collaboration of some members and large companies. In the same period, the Global Water Partnership was established, which aims to bring together public authorities and private investors.

35J. Castro Pereira, *Environmental issues and international relations, a new global (dis)order - the role of International Relations in promoting a concerted international system*, Rev. bras. polít. int. vol.58 no.1 Brasília Jan./June 2015.

36 M. Cañedo-Argüelles, B. Kefford,R. Schäfer, *Salt in freshwaters: causes, effects and prospects - introduction to the theme issue,* Philos Trans R Soc Lond B Biol Sci. 2019.

The first observation to make is that there is no explicit normative formulation of the subjective right to water in existing international law, nor an explicit qualification of fresh water as a possible object of a collective right[37]. This is undoubtedly a serious gap in the international system that should be quickly filled, as various national and international movements and associations have been calling for for about a decade[38]. The right to water has been configured as a social right to be traced back to the wider area of the right to life[39]. As noted by Luigi Ferrajoli[40], the paradigm of the right to life as it was theorized at the origins of modern legal civilization - as "right not to be killed" and that is, as simple immunity or "negative freedom" - has profoundly changed and also includes "law to subsistence "in the proper sense. Contrary to the classical liberal ideology, for which survival was a natural phenomenon, entrusted to man's relationship with nature, his personal work and his free initiative, today survival is a social fact, entrusted to the possibilities of work, of consumption and subsistence offered by social integration. Therefore, what men have a vital need today is increasingly the scarce, disputed and vulnerable product of human intervention.

The central problem is, on the one hand, the guarantee of access to water for millions of people who, for political, economic and ecological reasons, are unable to dispose of them, just as they do not have sufficient food and affordable medicines. Precisely for these reasons it has been proposed that the right to water should be conceived as a "social right"[41]. It is a "new" social right, because the need underlying it is new, generated by the growing scarcity of the necessary good, by the inequality with which it is distributed or accessible, by the disputes caused by the competition for its hoarding.

The problem is therefore that of a widespread reform of national systems which includes the right of access to water and water consumption among constitutionally guaranteed social rights that can be brought to trial and addresses the problem of guaranteeing this right in favour of all members of the social group, starting with the most disadvantaged and marginalized. However, at present, there are international treaties from which it is possible to deduce the existence of a right to water and hygiene, as essential elements to meet the fundamental needs of a human being.

---

37 A. Tanzi, *The Consolidation of international Water Law. A Comparative analysis of the UN and UNECE Water Conventions*, Editoriale Scientifica, 2017.

38 A. Tanzi, *Reducing the Gap between International Water Law and Human Rights Law: The UNECE Protocol on Water and Health,* International community law review. ,2010, Vol.12(3).

39 It is important to underline, in this context, the so called *Water Manifesto*, written in 1998 by an internationa commitee and led by the former president of Portugal Mario Soares. There are four key ideas: water is an irreplaceable source of life and a "vital good" that belong to all the inhabitants of the land in common; water is a patrimony of humanity and for this reason it is a resource that, unlike any other, can not be the object of private property; Human society is conducted, at different levels of its organization, must also guarantee in economic terms the right of access to all without any discrimination; water management and democratic institutions, participatory and representative democracy. For this reason, it is urgent to organize, on a global level, a "Water Parliaments Network", launch international information campaigns and establish a "World Observatory for Water Rights".

40 L. Ferrajoli, *L'acqua come bene comune e il diritto all'acqua come diritto fondamentale*, Relazione al Convegno internazionale sul diritto all'acqua, Gorizia, 8 febbraio 2003

41 T.H. Marshall, *Citizenship and Social Class*, in T.H. Marshall, *Class, Citizenship and Social Development*, Chicago, The University of Chicago Press, 1964

In particular, numerous international treaties have been drawn up which have posed the problem of the existence of a right to water and hygiene, as an indispensable element to meet the fundamental needs of a human being. About certain categories of people, the right to water is expressly mentioned, for example, in the Convention on the elimination of all forms of discrimination against women (New York. 1979), in the Convention on the rights of the child (New York, 1989) and in the Convention on the Rights of Disabled Persons (New York, 2007). The Convention on the Uses of International Waterways Other than Navigation (New York, 1997) [42] provides that, in the event of a conflict between different uses of an international waterway, special consideration must be given to the needs of the vital needs of the individual.

The human right to water and hygiene is specifically addressed in the Protocol on water and health (London, 1999) to the Convention on the protection and use of cross-border waterways and international lakes (Helsinki, 1992), with the aims to protect human health and well-being through the management of water resources. Unfortunately, these conventions elaborate the human right to water and hygiene conditionally ("should")[43].

The protocol, on the other hand, is very clear about the objectives that the parties pursue and on the main aspects of the human right to water (for food and hygiene) (see Art. 5, j). In reality, the right to water and hygiene, although having its own specificity, is already implicit in several human rights reaffirmed and affirmed in other human rights treaties, including the right to life, food, housing and to health. Thus, although not expressly mentioned, the right to water can easily be included in the right to life (art.6) of the Covenant on Economic, Social and Cultural Rights (New York, 1966), in the right to food and housing (art.11) and in the right to health (art.12).

In his general comment n. 1 (2002) on the right to water, the Committee on Economic, Social and Cultural Rights reaffirmed the importance of this right, which must also be understood as a condition for being able to benefit from other human rights, and specified 11 concrete contents (to quench thirst, for personal hygiene, for domestic use) [44].

Concerning its contents, the human right to water and hygiene implies the obligation of the State to ensure the availability, quality, accessibility of water to the individual, as well as the related information. In particular, the cost of water supply must be sustainable by everyone: water must be considered as a social and cultural asset, and not as a commercial good it must be distributed at a cost accessible to all. It is a sort of hydrological naturalism, which sometimes, particularly in Vandana Shiva, takes on the characteristics of a "global ethics" almost with religious accents[45]. There are those who have tried to clarify the scope of this natural right on a normative level.

---

42 Cfr. SC. MCCaffrey, M. Sinjela, *The 1997 United Nations Conventions on International Watercourses*, in American Journal of international Law, 1998.
Cfr anche A. Tanzi, M. Arcari, *the united nations convention on the law of international watercourses*, Kuver law international, London, 2001

43 «*Equitable access to water, adequate in terms both of quantity and of quality, should be provided for all members of the population, especially those who suffer a disadvantage or social exclusion» art. 5,l*
«Special consideration should be given to the protection of people who are particularly vulnerable to water-related disease» (art. 5, k).

44 Cfr. UN Document E/C.12/2002/11 20 January 10th 2003 par. 1.

In fact, although it is a public service there are those who have understood it as a right to be guaranteed to everyone free of charge up to a certain amount, exceeding rising costs up to a certain share beyond which they will suffer strong economic penalizations to disincentivize waste.

Business activities and the use of water.

This new approach to water resource, considered not just as a natural good but as a human right, is progressively changing its way of use. Companies all over the world are model alternative managing systems related to the resource in order to strengthen their reputation in the markets. In this context, it is important to stress that nearly two-thirds[46] of all water consumption going into producing ingredients for corporate supply chains. This incredible amount of water needs an important change of approach in its usage. As recalled, fortunately, many corporations are adopting sustainable water use practices to strengthen their brand reputation and to manage water-related business risks. Water shortages or pollution increased corporate concerns because it affects negatively their reputation. To give an example of how business activities badly affected the environment and water availability, the desiccation of the Aral Sea has had severe consequences, such as water shortage and contamination of stored drinking water causing, among other impacts, devastation of the floral and faunal biodiversity of the native ecosystems of the Syr and Amu, faecal-oral transmission of disease in Aral Sea area households[47]. Inadequate sanitation and water access represent a considerable risk for diarrhoeal disease, one of the main global contributors to child mortality[48]. In 2020, around 1 in 4 people lacked safely managed drinking water in their homes and nearly half the world's population lacked safely managed sanitation[49], and industries have mainly contributed to it. The enormous water usage by fashion industry is a very debated aspect. For instance, China represents the biggest hub for the international textile industry providing cheap clothes but at a huge environmental and water pollution. A report from the Institute of Public and Environmental Affairs (IPE), leading environmental NGO in China, documents the huge pollution caused by the fashion industry and identifies 48 top brands — Armani, Puma and Zara to name just three — that contract with these polluting factories to manufacture their apparel[50]. Of these brands, H&M, Nike, Wal-Mart,

45 V. Shiva, *Water Wars: Privatisation, Pollution and Profit*, Cambridge (Mas.), South End Press, 2002, trad. it., Milano, Feltrinell

46 The Nature Conservancy, Corporate Water Use, https://www.conservationgateway.org/ConservationPractices/Freshwater/CorporateWaterUse/Pages/corporate-water-use.aspx

47 Herbst S, Fayzieva D, Kistemann T. *Risk factor analysis of diarrhoeal diseases in the Aral Sea area* (Khorezm, Uzbekistan). Int J Environ Health Res 2008; 18: 305 - 21

48 Wolf J, Prüss-Ustün A, Cumming O et al. Assessing the impact of drinking water and sanitation on diarrhoeal disease in low- and middle-income settings: systematic review and meta-regression. Trop Med Int Health 2014; 19: 928 - 42

49 WHO, Progress on Sanitation and Drinking Water, 2021, <https://reliefweb.int/report/world/progress-household-drinking-water-sanitation-and-hygiene-2000-2020-five-years-sdgs#:~:text=Between%202016%20and%202020%2C%20the,cent%20to%2071%20per%20cent>.

50 IPE, Textile Phase I Report - Cleaning up the Fashion Industry, 2012

Esquel[51], and Levi's have responded pro-actively, while other brands have not yet responded, and there are also brands that have refused to give a response. Nevertheless, twenty-five Chinese and international brands are promoting the use of the Pollutant Release and Transfer Register (PRTR) data sheets developed by IPE for suppliers to publicly disclose energy and water consumption, greenhouse gas, wastewater and air pollutant emissions, energy efficiency targets and progress towards them, as well as solid waste (including hazardous waste) generation and transfer. In addition, Apple, C&A, Dell, Levi's and New Balance have started promoting supply chain carbon management among their direct suppliers, requiring their own suppliers to calculate and disclose greenhouse gas and pollutant emissions[52]. The number of suppliers reporting and disclosing carbon and PRTR data via IPE's website has continued to increase since 2015, and more than 100 suppliers disclosed their fresh water reduction targets, water reuse targets, waste water reduction targets, and industrial solid waste reduction and hazardous waste reduction targets for the coming year[53]. Another important step forward has been made by some major companies within the concept of supply chain transparency. Because companies are strongly pressured by NGOs, governments, consumers, stakeholders, it was necessary to find solutions to satisfy different interests. Therefore, the supply chain transparency requires companies to divulge anything happening in the supply chain both internally and externally: from working conditions to the quality of product used, from waste management to child labour, et cetera[54]. In fact, consumers would pay from 2% to 10% more for products provided that there is supply chain transparency[55]. The result was the issue of new laws in some countries to enhance transparency in some specific areas, for instance: Section 1502 of the Dodd Frank Act[56]; Australian and UK modern slavery acts; California Transparency in Supply Chains Act; U.S. Food Safety Modernization Act.

Nevertheless, such laws are not able alone to fight the matter in question because water pollution is prevalent across the whole global apparel and textile sector value chain, from the production of raw materials, through to the ultimate disposal of clothes, shoes and household textiles. The first step is to control the design of products: 80% of a product's environmental impact through its life cycle is designed into the product[57]. Moreover, clothing

51 Esquel has been using the China Pollution Map Database to manage its supply chain for some time now. They have pushed suppliers to make rectifications and disclose information. During this investigation none of Esquel's suppliers were found to have violation records.

52 IPE, Green Supply Chain CITI 2021, Green Transformation through Synergistic Reduction of Pollution and Carbon Emission, 2021

53 IPE, Blue Map Database, 2021

54 Cf. Alexis Bateman, Leonardo Bonanni, What Supply Chain Transparency Really Means, Harvard Business Review, 2019 available at: https://hbr.org/2019/08/what-supply-chain-transparency-really-means#:~:text=Supply%20chain%20transpa

55 Tim Kraft, León Valdés , Yanchong Zheng, Supply Chain Visibility and Social Responsibility: Investigating Consumers' Behaviors and Motives, in Manufacturing & Service Operations Management, Vol. 20, No. 4, 2018

56 Dodd-Frank Wall Street Reform and Consumer Protection Act. Section 1502 - "conflict minerals" provision- requires U.S. publicly-listed companies to check their supply chains for tin, tungsten, tantalum and gold, if they might originate in Congo or its neighbours, take steps to address any risks they find, and to report on their efforts every year to the U.S. Securities and Exchange Commission (SEC).

57 CDP, Interwoven risks, Untapped opportunities - The business case for tackling water pollution in apparel and textile value chains (Water Apparel analysis report), 2020

manufactured are not every time all sold causing ninety-two million tonnes to be sent to landfill or incinerated each year[58]. Nevertheless, a product may have circumnavigated the globe multiple times bringing about intentional or unintentional release of wastewater from cargo ships with adverse impact on water quality[59]. For this reason, Swedish government proposed a tax on chemicals in clothes and footwear in 2020. Parliament made some changes to the government's budget, but nothing concerning the tax on chemicals in clothing and shoes[60]. The proposed new tax of €3.66 per kilogram of clothing and footwear will be applied to all produced or imported clothing to Sweden. This system of rules would both contribute to public finances (approximately €68.6 million/year) and reduce the release and exposure of harmful chemicals from apparel production[61]. Unfortunately, in the proposal for a Swedish national budget for 2022, the Swedish Government stated that it had no intentions to move forward. However, it opens the debate over chances to regulate the use/management of water by companies. It might represent a possible solution together with other ones, such as the due diligence law. The Swedish law did only refer to the use of chemicals in garments, and therefore its purpose was only to protect water from being polluted by chemical waste management. No reference was done to the use of water itself. Data[62] shows that the use of water for the production of clothes (as well as food, tyres, gasoline etc.) is high. For instance, 2495 litres of water are needed for the production of a 250 gr cotton t-shirt[63]; 8000 litres for 800 gr jeans; 382 litres for 454 gr of wool; 9606 litres for a pair of leather shoes, and so on. These data highlight how the scarcity of water must be looked at from every angle: from the use of water for production of goods at first place, to the management of industry's waste so as to not pollute water and surrounding environment. On that account, a thorough and global due diligence law would represent a better solution to manage and control the water usage and waste management by transnational enterprises. Therefore, it is useful to focus the attention on treaty law development at European and international level. More specifically, how is the UN Treaty on Business and Human rights developing with regards to the management of water and waste?; how are European Union initiatives (such as the European Green Deal and in particular the new circular economy action plan - CEAP-) improving the current situation?

58 Niinimäki K., Peters G., Dahlbo H., Perry P., Rissanen T., Gwilt A., The environmental price of fast fashion, Nature Reviews Earth & Environment, 1 (5), 2020. Dyes, chemicals and microfibers remaining on textiles can leach out of the landfill into the soil, contaminating groundwater and surface water.

59 ibidem

60 Statens budget 2022 – Rambeslutet, available https://data.riksdagen.se/fil/B3B88A53-41F1-43C1-B711-FEDFF99E1705; Regeringens proposition 2021/22:1, Budgetpropositionen för 2022, available at https://www.regeringen.se/4a6ebe/contentassets/cdd922ce835e4da0a87edcb38aafef65/forslag-till-statens-budget-for-2022-finansplan-och-skattefragor.pdf

61 CDP, Interwoven risks, Untapped opportunities, n 12

62 Ian Tiseo, Global water industry - statistics & facts, Statista, 2021; Jennifer Billock, How much water it takes to create 30 common items, Stacker, 2020; Mekonnen M.M., Hoekstra A.Y., A global assessment of the water footprint of farm animal products, Ecosystems, 15(3), 2012; Mekonnen M.M., Hoekstra A.Y., The green, blue and grey water footprint of crops and derived crop products, Hydrology and Earth System Sciences, 15(5), 2011; Mekonnen M.M., Hoekstra, A.Y., The green, blue and grey water footprint of crops and derived crop products, Value of Water Research Report Series No.47, UNESCO-IHE, 2010

63 A polyester T-shirt is a lower-water option, but it uses more oil to produce, therefore increasing chances of mismanagement of oil waste.

- UN Treaty on Business and Human Rights

The UN Treaty on business and human rights is at the third revised draft. Many changes have been made until this point, and many aspects can be underlined with regard to prevention of human rights abuses and protection of victims. The risk of polluting or causing scarcity of water by fashion industry activities has been underestimated, as well as the attribution of responsibility in the global supply chain. In the previous paragraph it has been underlined the importance of transparency in the supply chain, as well as the legislative steps taken nationally. Nevertheless, the issue still exists and it needs a comprehensive regulation.

The core purpose of the third draft of the UN Treaty on business and human rights is to prevent and protect victims from "human rights abuses"[64]. In fact, in the "Statement of Purpose"[65] it is declared that the draft applies "to all business enterprises … that undertake business activities of a transnational character"[66], and it shall encompass all internationally recognised human rights law "including those recognized in the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, all core international human rights treaties and fundamental ILO Conventions to which a State is a Party, and customary international law"[67].

That being said, some aspects need to be evaluated. First of all, since it refers to internationally recognised human rights it should de deduced that it encompasses any direct or indirect reference to right to water.

Secondly, the third draft managed to overcome the terminological issue of the first two drafts. In fact, it does not anymore refer to "contractual relationship" but only to "(business) relationship"[68]. The difference is relevant considering that business activities are interconnected in many different ways, contractually or not, in equity or non-equity groups, etc. Therefore, the third revised draft is directed to business activity of transnational character, where the transnationality is due to the presence of business relationships in different countries.

Notwithstanding, even if this issue appears to be solved, the content of the due diligence rules related to the misuse of water in the global supply chain (or in other words in the

64 OEIGWG, Third Revised Draft "Legally binding instrument to regulate, in international human rights law, the activities of transnational corporations and other business enterprises", article 1, 2021. It refers to "*any harm committed by a business enterprise, through acts or omissions in the context of business activities, against any person or group of persons, that impedes the full enjoyment of internationally recognized human rights and fundamental freedoms, including regarding environmental rights*".

65 ibid., article 2. "*a. …effective implementation of the obligation of States to respect, protect, fulfill and promote human rights in the context of business activities, particularly those of transnational character; b. … respect and fulfillment of the human rights obligations of business enterprises; c. To prevent the occurrence of human rights abuses…; d. To ensure access to justice and effective remedy for victims…; e. To facilitate and strengthen mutual legal assistance and international cooperation to prevent human rights abuses in the context of business activities and provide access to justice and effective remedy to victims of such abuses*"

66 ibid., article 3 (1)

67 ibid., (3)

68 ibid., article 1 (5)

Transnational Network - TNN-)[69] gives rise to some questions. The human rights due diligence (HRDD) system is settled upon: identification and assessment of any potential human rights abuse; application of measures to avoid, prevent and/or mitigate eventual abuses; monitoring the effectiveness of the measures; constant communication with stakeholders[70].

The HRDD on the UN Treaty appears to be more limited in some aspects compared to the UNGP's content. In fact, if UNGPs refer to adverse human rights impact "with which they [the business enterprises] may be involved", the UN Treaty calls the attention on human rights abuses "that may arise from their own business activities, or from their business relationships". Therefore, UNGPs encompass causal or non-causal link between business activities/relationships and a particular harm, meanwhile UN Treaty points rather at a causal link that could be read as more restrictive in terms of the business activities and relationships it would cover[71].

Secondly, if the UNGPs distinguishes between actions required in cause, contribute, and directly linked situations, the draft treaty overlaps causing and contributing together, leading to confusion between cause/contribute scenarios and directly linked scenarios.

Moreover, while UNGPs require integrating the findings of identified human rights risks, the treaty omits integration, focusing only on actions needed to respond to potential human rights abuses[72]. This is an important aspect because, as highlighted in the previous paragraph, new researchers have found out how much water is used for the production of simple products. For instance, in this case "integration" means that companies would recur to solutions in the production to reduce the use of water.

- European Green Deal: the new circular economy action plan and the proposal for a corporate sustainability reporting directive.

As half of total greenhouse gas emissions and more than 90% of biodiversity loss and water stress come from resource extraction and processing, the European Green Deal[73] launched a concerted strategy for a climate-neutral, resource-efficient and competitive economy[74]. The EU has to point towards a "regenerative growth model" that gives back to the planet more than it takes, and it has to work together with companies on creating the framework for sustainable products. The goal is to plan a "*Circular Economy Action Plan […]*" able to provide *"[…] a future-oriented agenda for achieving a cleaner and more competitive Europe in co-creation with economic actors, consumers, citizens and civil society organisations"*[75]. The CEAP is directed to improve sustainability aspects (durability, reusability, upgradability and reparability) of products starting from the design. This means that products' recycling will

69 Peter T Muchlinski, Multinational Enterprises and the Law, Oxford, Oxford University Press, 2nd Ed, 2007
70 OEIGWG, Third Revised Draft, cit., article 6.4
71 Ben Grama, Antoine Duval, Annika van Baar, Lucas Roorda, Third Revised Draft Treaty on Business and Human Rights: Comments and Recommendations, POLICY BRIEF, Asser Institute, 2021
72 Ibid.
73 COM(2019) 640
74 European Commission, Circular Economy Action Plan- For a cleaner and more competitive Europe, 2020
75 Ibid.

increase, therefore the use of water will be proportionally reduced, less water pollution caused by waste management, less use of chemicals, and so on.

Moreover, the new Water Reuse Regulation will encourage circular approaches to water reuse in agriculture. The European Commission will facilitate water reuse and efficiency, including in industrial processes. Furthermore, changing the approach in water usage, according with the European Green Deal, will grant a sustainable "blue economy" that will play a central role in alleviating the pressing demand for the EU's land resources and in addressing climate change. In fact, the role of the oceans in mitigating and adapting to climate change is increasingly recognized and can help to improve the use of the aquatic sector and marine resources, for example by promoting the production and use of new ones sources of protein that can affect the pressure on farmland. In 2021 the EU adopted the *Pathway to a Healthy Planet for All EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil,* that represent a milestone in the safeguard of natural resources. This document is an important step forward in the approach to protection of natural resources. It foreseen "The zero pollution vision for 2050" with very ambitious targets with specific reference to the water resources. From January 2023 on, it set to revise all the UE Directives on Water subject in order to provide higher human health protection thanks to more stringent water quality standards, tackling pollutants of concern, such as endocrine disruptors and microplastics, and leading to even cleaner water from the tap for all – and less need for plastic bottles. The Commission will assess by 2023 whether new parameters also need to be addressed in the ongoing review of the Bathing Water Directive. The plan also set the forthcoming review of the Urban Waste Water Treatment Directive, in order to introducing permanent monitoring of health relevant parameters in wastewaters will be analysed. This could help prepare us for any new epidemic threats.

In conclusion, the transition to the circular economy will systemically happen by the endorsement and implementation of this Action Plan and encouraging Member States to adopt or update their national circular economy strategies[76].

Another fundamental tool to support the EU Green Deal's ambitions and transform Europe into the first climate neutral economy by 2050 is the European Commission's proposal for a Directive on Corporate Sustainability Due Diligence, i.e. Corporate Sustainability Reporting Directive (CSRD). The purpose is to induce corporations' activities to be more sustainable and responsible. Identify, prevent, halt or reduce human rights abuses or environmental degradation will provide transparency and legal certainty, and it will foster human rights protection in Europe, as well as the green transition[77]. According to the current text of the proposal, CSRD will impose to member states to ensure that companies will "conduct human rights and environmental due diligence"[78]. The proposal clarifies the

76 Cf. SWD (2020)

77 European Commission, Just and sustainable economy: Commission lays down rules for companies to respect human rights and environment in global value chains, 2022. https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1145

78 Stockholm Declaration of the United Nations Conference on the Human Environment, Report of the United Nations Conference on the Human Environment, U.N. Doc. A/CONF.48/14/Rev.1 (1973), p. 3; U.N. Doc. A/CONF.48/14 (1972), pp. 2-65. and Corr. 1.

rights included in the directive and it includes the right to water, water sanitation, excess water water consumption[79].

The innovative aspect is in the following articles where the due diligence is extended to every established business relationship, direct or indirect. In other words, it extends the due diligence to every entity performing some "business operation related to the product or service[s]…for or on behalf of the company", but it does not include relationship with entities "negligible or merely ancillary part of the value chain"[80]. This proposal takes into consideration both equity and non-equity groups, contractual and non-contractual agreements with the intent to bring back responsibility for human rights abuses and environmental damages to the main company. Therefore, companies will have to identify, prevent, and take appropriate measures for adverse human rights and environmental impacts. Nevertheless, when indirect business relationships are involved, the main company will have to conclude a contract through which it will be assured that the "indirect" partner will comply with the code of conduct or preventive plan of the main company[81]. Where the "adverse impacts" cannot be avoided or brought to an end, then the company shall restrain from entering into or renewing the business relationship with another entity[82].

This directive will represent an important step forward for the issue of responsibility of TNEs related to human and environmental rights. Nevertheless, there are still some aspects of the proposal that leaves open doors to critics. For instance, the impossibility to retrieve loans or other financial support issued if it would cause a "substantial prejudice" to the other company[83]. In this way companies are pushed to put in place remedies or being judicially and extra-judicially confronted in case of adverse impacts, but are financially protected avoiding the collapse of the company itself which might potentially bring negative economic consequences to the state.

Conclusion.

The portrayed trends of evolution of International Water Law reveal an effort at holistically apprehending and giving normative response to a complex reality of problems and social expectations than those that used to be addressed by the old International Water Law, centred on the pure regulation of the uses of water. But this realization also alerts us to the uncertainties that are still involved in the progress of International Water Law.

It seems necessary that the International Community would develop a regulatory and legislative approach that does not settle for sovereignty dynamics, but an approach aimed at prevention and planning directed towards two contexts: procurement and management.

Hence, we need to rethink our environment and our way of using water resource as an opportunity to rethink the relationship between man and natural space: we need to take a

79 Proposal for a Directive of The European Parliament And Of The Council on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937, Annex 1, Part I, art. 1

80 Cf. article 3, paragraph 1 – point e and f

81 Article 7, par. 3. Also par. 4 states that the terms of the contract shall be "fair, reasonable and non-discriminatory".

82 Ibid., par. 5. Article 8, par. 6

83 Article 7 and 8, par. 6 and 7

resilient step towards a Copernican revolution in the exploitation of the resources and in particular of water resources.

In this context, the United Nations should guide the states to the introduction of a specific legislation to address the regulation of the member states in the management of resources towards a more direct approach to the use of technological tools as a bulwark for the protection of the environment and for a rational use of the resources.

This is the moment to try to carve out a living space for the human being that is not antithetical to nature, but that integrates it and protects it.

List of references

African Convention on the Conservation of Nature and Natural Resources, London, 1933

Annibale S., La tutela ambientale in campo internazionale, Cedam, Padova, 1998

Badiali G., La tutela internazionale dell'ambiente, ESI, Napoli, 1995

Bateman A., Bonanni L., What Supply Chain Transparency Really Means, Harvard Business Review, 2019

Billock J., How much water it takes to create 30 common items, Stacker, 2020

Birnie P. W., Boyle A. E., International Law & the Environment, Oxford University Press, 2002

Boisson de Chazournes L., Fresh Water in International Law, Oxford University Press: Oxford, 2015

Brans E., De Haan E. J. (edited by), The Scarcity of Water, Emerging Legal and Policy Responses, Kluver Law International, 1997

Brown Weiss E., Szasz F., Magraw M., International Environmental Law & Policy, New York, 1998

Brunnée J., Bodansky D., Hey E. (eds.), The Oxford Handbook of International Environmental Law, Oxford University Press, 2007

Cañedo-Argüelles M., Kefford B., Schäfer R., Salt in freshwaters: causes, effects and prospects - introduction to the theme issue, Philos Trans R Soc Lond B Biol Sci., 2019

Canelas De Castro P., The Evolution of International Water Law, Int. J. Sus. Dev. Plann., 10, 6, 2015

Castro Pereira J., Environmental issues and international relations, a new global (dis)order - the role of International Relations in promoting a concerted international system, Rev. bras. polít. int., 58, 1 Brasília, 2015

CDP, Interwoven risks, Untapped opportunities - The business case for tackling water pollution in apparel and textile value chains (Water Apparel analysis report), 2020

Cordini G., Fois P., Marchisio S., Diritto ambientale. Profili internazionali, europei e comparati, ESI, Napoli, 1998

Dellapenna, Joseph W. The Berlin rules on water resources: the new paradigm for international water law, Universidade do Algarve, 2021

Dodd-Frank Wall Street Reform and Consumer Protection Act

Dupuy R. J., The Future of the International Law of Environment, Nijhoff, Dordrecht, 1985

European Commission, Circular Economy Action Plan- For a cleaner and more competitive Europe, 2020

Ferrajoli L., L'acqua come bene comune e il diritto all'acqua come diritto fondamentale, Relazione al Convegno internazionale sul diritto all'acqua, Gorizia, 2003

Gebriye Setegn S., Donoso M. C., Sustainability of Integrated Water Resources Management: Water Governance, Springer, 2015

Giuffrida R., Amabili F., La tutela dell'ambiente nel diritto internazionale ed europeo, Giappichelli, Torino
Global Water Resource Issues, Cambridge University Press, 1994
Grama B., Duval A., van Baar A., Roorda L., Third Revised Draft Treaty on Business and Human Rights: Comments and Recommendations, POLICY BRIEF, Asser Institute, 2021
Greco M., Carravetta A., Della Morte R., River Flow 2004, 1, Taylor & Francis, 2004
Helsinki Rules on the Uses of Waters of International Rivers
Herbst S, Fayzieva D, Kistemann T., Risk factor analysis of diarrhoeal diseases in the Aral Sea area (Khorezm, Uzbekistan). Int J Environ Health Res 2008
Interim Convention on Conservation of North Pacific Fur Seals, Washington, 1957
International Convention for the Regulation of Whaling, Geneva, 1931
International Environment Reporter: Current Report, Volume 14, Bureau of National Affairs, 1991
International Regulation Regarding the Use of International Watercourses for Purposes other than Navigation, Madrid, 1911
IPE, Blue Map Database, 2021
IPE, Green Supply Chain CITI 2021, Green Transformation through Synergistic Reduction of Pollution and Carbon Emission, 2021
IPE, Textile Phase I Report - Cleaning up the Fashion Industry, 2012
Kiss A., Shelton D., International Environmental Law, Transnational Publishers, New York, 2004
Kraft T., Valdés L., Yanchong Zheng, Supply Chain Visibility and Social Responsibility: Investigating Consumers' Behaviors and Motives, in Manufacturing & Service Operations Management, 20, 4, 2018
Marshall T. H., Citizenship and Social Class, in T.H. Marshall, Class, Citizenship and Social Development, Chicago, The University of Chicago Press, 1964
MCCaffrey S. C., Sinjela M., The 1997 United Nations Conventions on International Watercourses, in American Journal of international Law, 1998
McCaffrey S., The Law of International Watercourses – Non-Navigational Uses, 2nd edn., Oxford, 2007
Mekonnen M.M., Hoekstra A.Y., A global assessment of the water footprint of farm animal products, Ecosystems, 15(3), 2012
Mekonnen M.M., Hoekstra A.Y., The green, blue and grey water footprint of crops and derived crop products, Hydrology and Earth System Sciences, 15(5), 2011
Muchlinski P. T., Multinational Enterprises and the Law, Oxford, Oxford University Press, 2nd Ed, 2007
Munari F., Tutela internazionale dell'ambiente, in Carbone, Luzzatto, Santa Maria (a cura di), Istituzioni di diritto internazionale, Giappichelli, Torino, 2003
Niinimäki K., Peters G., Dahlbo H., Perry P., Rissanen T., Gwilt A., The environmental price of fast fashion, Nature Reviews Earth & Environment, 1 (5), 2020
OEIGWG, Third Revised Draft "Legally binding instrument to regulate, in international human rights law, the activities of transnational corporations and other business enterprises", 2021
Sands P., Principles of International Environmental Law, Cambridge University Press, 2003
Schwabach A., Diverting the Danube: The Gabcikovo-Nagymaros Dispute and International Freshwater Law, 1996
Shiva V., Water Wars: Privatisation, Pollution and Profit, Cambridge (Mas.), South End Press, trad. it., Milano, Feltrinelli, 2002
Tanzi A., Arcari M., The United Nations convention on the law of international watercourses, Kuver law international, London, 2001

Tanzi A., Reducing the Gap between International Water Law and Human Rights Law: The UNECE Protocol on Water and Health, International community law review, 12, 3, 2010
Tanzi A., The Consolidation of international Water Law. A Comparative analysis of the UN and UNECE Water Conventions, Editoriale Scientifica, 2017
Tiseo I., Global water industry - statistics & facts, Statista, 2021
Treaty Between the United States and Great Britain Relating to Boundary Waters, Washington, 1909
UN Convention on the Law of the Non-Navigational Uses of International Watercourses, 2018
UN World Water Development Report 2015, Water for a Sustainable World
UN World Water Development Report, Wastewater: The Untapped Resource, 2017
WHO, Progress on Sanitation and Drinking Water, 2021
Wolf J., Prüss-Ustün A., Cumming O., et al., Assessing the impact of drinking water and sanitation on diarrhoeal disease in low- and middle-income settings: systematic review and meta-regression, Trop Med Int Health, 2014
Yamada C., Codification of the law of transboundary aquifers (groundwater) by the United Nations, Water Int 36(5), 2011