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AGUA, RECURSO NATURAL LIMITADO

Entre el desarrollo sostenible y la seguridad internacional

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The uses of international watercourses and equity

Laurence BOISSON DE CHAZOURNES

SUMMARY: 1. INTRODUCTION.—2. BOUNDARY DELIMITATION, NAVIGATION AND FISHING ACTIVITIES AND THE EMERGENCE OF COMMUNITY-DRIVEN TRENDS.—3. IRRIGATION, ENERGY PRODUCTION AND INDUSTRIAL USES: THE CONSECRATION OF THE COMMUNITY OF INTERESTS CONCEPT.—4. CONFLICTS OF USES AND THEIR RESOLUTION WITH SPECIAL REGARD TO VITAL HUMAN NEEDS AND ENVIRONMENTAL FLOWS.—5. THE NEED TO FOSTER THE RESOLUTION OF CONFLICTS OF USES AND THE GLOBAL HIGH-LEVEL PANEL ON WATER AND PEACE.

1. INTRODUCTION

Most of the existing regime regulating the uses of international watercourses owes its origins to the sovereignty-driven international practice of the 19th century. In this context, the *corpus iuris* pertaining to international watercourses has been constrained by the difficulties attached to co-existence among sovereign entities, whereby each State favours its unrestricted use of the resource. In this light, the need for cooperative regulation has arisen only when, and to the extent that, the interests of two or more sovereigns have impinged on one another. Contemporary regulation has attempted to eradicate the vestiges of this traditional logic by introducing community-driven concepts to facilitate more effective sharing of resources [1].

Resonant with the diversification of water-related activities, the regime applicable to the uses of international watercourses has seen the scope of its subject matter expanded so as to encompass issues of global relevance, ranging from energy production techniques, irrigation for agricultural purposes, access to drinking water for human consumption

[1] J. BRUNEE and S. TOOPE, 'Environmental Security and Fresh-water Resources: A Case for International Ecosystem Law', *Yearbook of International Environmental Law*, vol. 41, no. 5, 1994. More generally, see E. BROWN WEISS, *In Fairness to Future Generations: International Law, Common Patrimony and Intergenerational Equity*, Dobbs Ferry, NY, Transnational Publishers, 1989.

and the preservation of natural and cultural heritage. In parallel, environmental concerns have arisen which, owing to their gravity, are now a priority. These various uses, as well as their interrelationships have to accommodate each other while taking into consideration equity considerations, among them human and environmental needs.

2. BOUNDARY DELIMITATION, NAVIGATION AND FISHING ACTIVITIES AND THE EMERGENCE OF COMMUNITY-DRIVEN TRENDS

During the 19th century, watercourses —used mostly for communication and fishing— were often taken as a point of reference in boundary delimitation, providing a readily identifiable separation of territories. Traditionally, there are three methods that have been used to delimit territories having recourse to rivers or lakes[2]. The oldest is that of coastal boundaries, identified by the bank of each of the concerned States or with the bank of only one of two adjacent States[3]. A second method is that of 'successive watercourses', *i.e.* watercourses that, instead of dividing, pass through the territory of a number of States. The boundary drawn according to this method connects the respective terrestrial borders, generally through a straight line with reference points at the territorial boundaries. A more complex approach than those mentioned above is that of tracing the boundaries among contiguous riparian States. Obviously, States have full discretion in deciding how to fix a boundary; they may, for instance, agree on a certain geographical point of reference or on given coordinates. Otherwise, the common boundary can be fixed either according to the geographical thalweg[4] or the median line between the two banks[5].

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[2] M. Kohen and M. Tignino 'Do people have rights in boundaries' delimitations?', in L. Boisson de Chazournes, C. Leb and M. Tignino (eds.), *International Law and Freshwater: The Multiple Challenges*, Cheltenham, UK, Edward Elgar, 2013.

[3] In the first case, the watercourse itself will be considered as 'no man's land', provided that the concerned States do not establish a condominium. According to the *Dictionnaire de droit international public*, the notion of condominium pertinent to this context is defined as: *"[s]tatut territorial comportant l'existence sur un même territoire d'une souveraineté indivise entre deux ou plusieurs Etats [ ] L'exemple classique est celui du golfe de Fonseca entre le Honduras, le Nicaragua et El Salvador"*. J. Salmon (ed.), *Dictionnaire de droit international public*, Brussels, Bruylant, 2001, p. 229. It should be noted that this technique has progressively been relinquished in State practice. See L. Caflisch, 'Regulation of the Uses of International Watercourses', in S. Salman and L. Boisson de Chazournes (eds.), *International Watercourses - Enhancing Cooperation and Managing Conflict, Technical Report of the World Bank, No. 414*, Washington, D. C., World Bank, 1999, pp. 3-16.

[4] This word of German origin refers to the lowest points along the length of a river bed or valley. Several meanings have been given to this term in State practice: i) lowest points along the entire length of a stream bed defining its deepest channel; ii) the principal channel used by navigators to go down a river; iii) the median line of a channel. The latter of these meanings is the more recent and that used most broadly. See J. Salmon (ed.), *Dictionnaire de droit international public*, Brussels, Bruylant, 2001, p. 1082.

[5] The median line is defined as the line that is at every point equidistant from the nearest points of the coastal baselines; a simplified version adopts a sequence of determined points

To date, a systemic —let alone an 'ecosystemic'— vision has been absent from this endeavour[6]: watercourses are still predominantly perceived as a line of delimitation between segments of land rather than as a constituent element of a broader environmental unit. That said, delimitation might impede the satisfaction of human needs (be it access to water for basic needs or for fishing activities). Some courts and tribunals have taken them into account, notwithstanding the frontier. This was the case, for example, in the *Kasikili/Sedudu* case, when the International Court of Justice stressed that the parties should cooperate to avoid hampering the socio-economic activities routinely performed by the communities of the area. In the words of the Court:

> "102. The Court observes, however, that the Kasane Communiqué of 24 May 1992 records that the Presidents of Namibia and Botswana agreed and resolved that:
>
> '(c) existing social interaction between the people of Namibia and Botswana should continue;
>
> (d) the economic activities such as fishing shall continue on the understanding that fishing nets should not be laid across the river;
>
> (e) navigation should remain unimpeded including free movement of tourists'
>
> [...]
>
> 103. The Court, which by the terms of the Joint Agreement between the Parties is empowered to determine the legal status of Kasikili/Sedudu Island concludes, in the light of the above-mentioned provisions of the Kasane Communiqué, and in particular of its subparagraph (e) and the interpretation of that subparagraph given before it in this case, that the Parties have undertaken to one another that there shall be unimpeded navigation for craft of their nationals and flags in the channels of Kasikili/Sedudu Island. As a result, in the southern channel of Kasikili/Sedudu Island, the nationals of Namibia, and vessels flying its flag, are entitled to, and shall enjoy, a treatment equal to that accorded by Botswana to its own nationals and to vessels flying its own flag. Nationals of the two States, and vessels, whether flying the flag of Botswana or of Namibia, shall be subject to the same conditions as regards navigation and environmental protection. In the northern channel, each Party shall likewise accord the nationals of, and vessels flying the flag of, the other, equal national treatment"[7].

These extracts effectively convey the Court's intention to go beyond the mere concept of a 'river border' and to embrace a more complex vision, one which is cognisant of a range of activities —mainly fishing and navigation— essential to the everyday life of the respective riparian

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identified throughout the equidistance principle and then put together by means of straight lines.

[6] On this aspect see, for example, H. Dipla, 'Les règles de droit international en matière de délimitation fluviale: remise en question?', *Revue générale de droit international public*, vol. 89, 1985, pp. 589-624.

[7] *Case Concerning the Kasikili/Sedudu Island (Botswana v. Namibia)*, Judgment, ICJ Reports 1999.

communities. It has been noted that this dicta of the Court contributed to mitigating the severity of a strict linear demarcation of the border[8].

Navigation activities constitute one of the oldest forms of utilising international watercourses. In this respect, their regulation has contributed significantly to the evolution of the law of international watercourses[9]. The majority of the early treaties at the end of the 18th and of the 19th centuries dealt almost exclusively with navigational uses and the freedom of navigation on international rivers[10]. The regime of freedom of navigation evolved over time and may differ between continents. As such, the late 19th and early 20th centuries saw a profound liberalisation in this respect, notably on the European, African and Asian continents. The principle of freedom of navigation gained momentum through the pursuit of colonial and commercial interests by the European powers in many regions of the world[11]. With regard to the American continent, although the regime of freedom of navigation has been consistently asserted, the practice indicates that this principle has benefited only those vessels flying the flag of riparian States, and this was framed through a specific legal regime forged by treaties and national legislation[12].

The liberal interpretation of the principle of freedom of navigation was not adhered to by later agreements. These embraced different concepts of the principle that varied depending on the region or watercourse they applied to. The advent of authoritarian regimes in Europe in the 1930s and the Cold War further weakened the liberal interpretation of the principle of freedom of navigation[13]. The 1948 Convention Regarding the Regime of Navigation on the Danube restricted the freedom of navigation on the river to vessels carrying the flags of the riparian States

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[8] On this point, see R. Ranjeva, 'Nouveaux aspects du droit des frontiers en Afrique à la lumière de la jurisprudence de la Cour internationale de Justice', in L. Boisson de Chazournes and V. Gowlland-Debbas (eds.), *L'ordre juridique international, un système en quête d'équité et d'universalité. Liber amicorum Georges Abi-Saab*, The Hague, Martinus Nijhoff Publishers, 2001. See also L. Boisson de Chazournes, *Fresh Water in International Law*, Oxford University Press, 2013, pp. 10 *et seq.*

[9] L. Caflisch, 'Règles générales du droit des cours d'eau internationaux', *Collected Courses of the Hague Academy of International Law*, vol. 219, 1989.

[10] See *ibid.*, 104-132.

[11] The principle of freedom of navigation was of paramount importance to the European Powers, their colonial expansion and the development of their commercial activities. The ICJ observed in the *Kasikili/Sedudu Island* case 'that navigation appears to have been a factor in the choice of the contracting powers in delimiting their spheres of influence. The great rivers of Africa traditionally offered the colonial powers a highway penetrating deep into the African continent'. *Case Concerning the Kasikili/Sedudu Island (Botswana v Namibia)*, Judgment, ICJ Reports 1999, par. 44. See the General Act of the Berlin Conference, which includes the extension of a liberal regime as regards navigation to the Congo and Niger rivers. *Acte général de la Conférence de Berlin*, in J. Hopf (ed.), *Recueil général de traités et autres actes relatifs aux rapports de droit international, Deuxième série, Tome X*, Göttingen, Librairie de Dietrich, 1885, pp. 416-418.

[12] See L. Caflisch, 'Règles générales du droit des cours d'eau internationaux', *Collected Courses of the Hague Academy of International Law*, vol. 219, 1989, p. 42.

[13] *Ibid.*, p. 42

of Eastern Europe[14]. The riparian States of the River Rhine imposed, in parallel, limitations on the vessels of Eastern European States[15]. The end of the Cold War brought about the end of these restrictions and the recognition of a right to navigate for the benefit of ships of all riparian States.

In other regions of the world, the regime on navigation varies in its contours. In Africa, the 1972 Convention Relative to the Statute of the Senegal River restricts the application of the principle of freedom of navigation to ships flying the flags of contracting States only[16] and in Asia the 1995 Agreement on Cooperation for the Sustainable Development of the Mekong River Basin provides for the application of this principle to all riparian States[17]. The navigation regime on the American continent has been restricted to either riparian countries[18] or contracting Parties[19]. These examples of international practice serve as a reminder of

[14] Convention Regarding the Regime of Navigation on the Danube (Belgrade, 18 August 1948; UNTS 32 (1949) 181), Art. 1.

[15] Revised Convention for Rhine Navigation (Strasbourg, 17 October 1868), Art 1. Electronic version available at *http://www.ccr-zkr.org/* (accessed 2 August 2017).

[16] Convention Relative to the Status of the Senegal River (Nouakchott, 11 March 1972), in *Documents of African Regional Organizations III* (New York: Oceana, 1973). Art. 6 reads as follows:

> *"Sur les territoires nationaux des Etats contractants, la navigation sur le fleuve Sénégal et ses affluents, qui seront désignés ultérieurement, est entièrement libre et ouverte aux ressortissants, aux bateaux marchands et marchandises des Etats contractantes, aux bateaux affrétés par un ou plusieurs Etats contractants, sur un pied d'égalité en ce qui concerne les droits e port et les taxes sur la navigation commerciale. Les bateaux marchands et navires étrangers, de toute origine, seront soumis à une réglementation commune qui sera élaborée ultérieurement".*

[17] Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin (Chiang Rai: 5 April 1995; ILM 34 (1995)). Art 9 of the Agreement reads as follows:

> "On the basis of equality of right, freedom of navigation shall be accorded throughout the mainstream of the Mekong River without regard to the territorial boundaries, for transportation and communication to promote regional cooperation and to satisfactorily implement projects under this Agreement. The Mekong River shall be kept free from obstructions, measures, conduct and actions that might directly or indirectly impair navigability, interfere with this right or permanently make it more difficult. Navigational uses are not assured any priority over other uses, but will be incorporated into any mainstream project. Riparians may issue regulations for the portions of the Mekong River within their territories, particularly in sanitary, customs and immigration matters, police and general security".

Though riparian to the Mekong River, China and Myanmar are not parties to this agreement.

[18] See Treaty between Uruguay and Argentina concerning the Rio de la Plata and the Corresponding Maritime Boundary [Montevideo, 19 November 1973; ILM 13 (1974)], Art. 7, which reads as follows: "Each Party shall permanently and in all circumstances, recognize the freedom of navigation throughout the river of vessels flying the other's flag".

[19] See Amazon Cooperation Treaty [Brasilia, 3 July 1978; UNTS 1202 (1980)], Art. 3, which reads as follows:

> "In accordance with and without prejudice to the rights granted by unilateral acts, to the provisions of bilateral treaties among the Parties and to the principles and rules of International Law, the Contracting Parties mutually guarantee, on a reciprocal basis, that there shall be complete freedom of commercial navigation on the Amazon and other international Amazonian rivers, observing the fiscal and police regulations in force now or in the future within the territory of each. Such regulations should, insofar as possible, be uniform and favor said navigation and trade".

the importance that riparian States in various parts of the world attach to the principle of freedom of navigation. It needs to be pointed out that this principle takes its substance from economic, historic and political realities that are specific to each waterway and each region.

To understand the regime of navigation in international law, it is appropriate to consider on the one hand the actual content of the right of free navigation, and on the other hand the rules that govern and ensure its implementation in international practice. Freedom of navigation is generally understood as a freedom to transport persons or merchandise on international watercourses.

The principle entails the freedom of the movement of ships and boats along the entire course of an international watercourse[20]. In this context, the Permanent Court of International Justice (PCIJ) considered in the *Case Relating to the Territorial Jurisdiction of the International Commission of the River Oder* (hereinafter, the Oder River case) that freedom of navigation was an expression of the community of interests that existed around an international watercourse among riparian countries. According to the Court, "[i]f the common legal right is based on the existence of a navigable waterway separating or traversing several States, it is evident that this common right extends to the whole navigable course of the river"[21] and, as a consequence, "the interest of all States is in liberty of navigation in both directions"[22]. This is a statement which has helped crystallize an important principle of a community of interests that finds application with respect to navigation but also with respect to other uses.

It was in the second half of the 19th century that the first conventions on fishing in international watercourses began to emerge. Among them are bilateral or multilateral agreements in respect of some European rivers such as the Rhine[23]. Treaties concluded at the beginning of the 20th century dealt with fishing-related issues such as the pollution-engendered effects likely to affect such activity and access to the resource. They have evolved and now cover fishing rights, rules applicable to the preservation of aquatic fauna and rules of cooperation.

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[20] Three categories of transport can be found in international practice: 'grand cabotage', transit and 'petit cabotage'. While the first and second are the principal objects of treaties, the third category is generally reserved for nationals of States. On the various categories of transport, see B. Vitanyi, *The International Regime of River Navigation*, Alphen aan den Rijn, Sijthoff and Noordhoff, 1979, pp. 264-2645; see also, L. Caflisch, 'Règles générales du droit des cours d'eau internationaux', *Collected Courses of the Hague Academy of International Law,* vol. 219, 1989, p. 108.

[21] *Case Relating to the Territorial Jurisdiction of the International Commission of the River Oder, Judgment,* PCIJ Reports 1929, Series A, no. 16, pp. 27-28.

[22] *Ibid.*, p. 28.

[23] Convention Concerning the Regulation of Fishing for Salmon in the Rhine Basin (Berlin, 30 June 1885), reprinted in W. Burhenne and E. Schmidt (eds.), *International Environmental Law: Multilateral Treaties,* 1885, p. 48; See also Convention Between Switzerland, The Grand Duchy of Baden, and Alsace-Lorraine Establishing Uniform Provisions on Fishing in the Rhine and its Tributaries, including Lake Constance (Lucerne, 18 May 1887).

Fishing rights are the rights granted to a State in respect of the fish resources in a shared watercourse. In practice, the obligation manifests itself in two ways. On the one hand, it may indirectly preserve the availability of fish by ensuring the quality of the watercourse or guaranteeing a minimum flow for the activities of fishing. On the other hand, it can lead to the enactment of rules directly governing fishing activity.

Cooperation has manifested itself through the establishment of joint bodies, such as a committee in charge of assisting States in implementing their common policy on fisheries[24] or an organization responsible for the monitoring and management of fisheries on the concerned body of water[25]. Such a task can also comprise the many activities with which basin and river commissions are entrusted. Fishing activities are indeed very dependent upon other uses and require that they are managed in a sound and sustainable manner.

3. IRRIGATION, ENERGY PRODUCTION AND INDUSTRIAL USES: THE CONSECRATION OF THE COMMUNITY OF INTERESTS CONCEPT

International watercourses are not only relevant for boundary delimitation, navigation and fisheries. They constitute in and of themselves a reserve of further resources. Since the end of the 19th century, watercourses have increasingly been used for irrigation and energy production as well as industrial uses. This aspect was also reflected in the practice of States and in the evolution of the pertinent *corpus iuris*. Irrigation and energy production involve 'planned measures'[26]. According to the International Law Commission's definition, planned measures are to be understood in a broad sense, including new projects and programmes, as well as changes in the existing uses of a transboundary watercourse[27]. Under this category fall physical infrastructure and installations that are required for an industrial economy, such as dams, water supply pipes and locks, also referred to as 'infrastructure' or 'works'.

The famous US-Mexican dispute over the Rio Grande speaks to the different conceptions of the applicable law to these uses[28]. Two oppos-

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[24] Commission established by the Convention Concerning Fishing in the Waters of the Danube (Bucharest, 29 January 1958; 339 UNTS 23), Art. 11.

[25] Convention for the Establishment of the Lake Victoria Fisheries Organization 1994, available at *http://www.fao.org/docrep/W7414B/w7414b0l.htm* (accessed 2 August 2017), Art. II.

[26] Convention on the Law of the Non-Navigational Uses of International Watercourses 1997 (UN Watercourses Convention) [New York, 21 May 1997; ILM 36 (1997)], Art. 11.

[27] See the Commentary to Art 11 of the Draft Articles that later became the UN Framework Convention on the Law of the Non-navigational Uses of International Watercourses 1997, in International Law Commission, *Report of the International Law Commission - Forty-sixth session*, UN Doc A/49/10 (22 July 1994), 111.

[28] The dispute concerned the re-partition of the Rio Grande waters at the US-Mexico border. The US, as the upstream country, had set up certain derivations that had reduced the quantity of water reaching Mexico.

ing positions were maintained by the parties. On one side, the American 'Harmon' doctrine —after the name of the Attorney General who first outlined it— asserted that the US had an unfettered right to dispose of the Rio Grande waters which originated and flowed within their domestic territory[29]. On the other side, Mexico responded that any act potentially altering either the quantity or the quality of the water reaching them —it being a downstream country— constituted an infringement of their territorial integrity[30].

Over time, these contrasting positions were abandoned and a compromise was reached among the riparian States. Only in some limited circumstances are they still deemed to be a point of reference for international agreements. Most commentators and practitioners agree on their practical desuetude, and their purely rhetorical value in diplomatic negotiations[31].

Interests akin to those at stake in the US-Mexico dispute have also been handled in judicial proceedings. A good example is provided by *The Lake Lanoux* arbitral award, rendered in 1957 in a dispute that opposed Spain and France. The Tribunal adopted an interpretation concerning applicable law that has since become the cornerstone of customary law on this issue. In that decision, the arbitral tribunal held that a party proposing works that are likely to alter the course or volume of a successive watercourse is bound by a double obligation. The first obligation concerns the notification of such proposed works; its "sole purpose is to permit the carrying out of the second" obligation[32], the content of which "is more difficult to determine"[33]:

> "It must first be determined what are the 'interests' which have to be safeguarded. A strict interpretation of Article 11 would permit the reading that the only interests are those which correspond with a riparian right. However, various considerations which have already been explained by the Tribunal lead to a more liberal interpretation. Account must be taken of all interests, of whatsoever nature, which are liable to be affected by the works undertaken, even if they do not correspond to a right. Only such a solution complies with the terms of Article 16, with the spirit of the Pyrenees Treaties, and with the tendencies which are manifested in instances of hydroelectric development in current international practice".

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[29] The text of the *Harmon Opinion* is reproduced in C. Robb (ed.), *International Environmental Law Reports, Volume 1: Early Decisions*, Cambridge, Cambridge University Press, 1999, pp. 543-549.

[30] Mexico also maintained the existence of certain historical rights on the waters crossing the border. Such rights allegedly stemmed from the fact that Mexican citizens had been the first using the Rio Grande waters and had, therefore, acquired a right to enjoy of as much water as it was necessary to keep performing the whole range of their activities. For further details on this dispute, see also Quebec Minister of Foreign Affairs, *Gestion intégrée des ressources en eau: modèles étrangers et expériences récentes* (Série sur les enjeux internationaux de l'eau, vol. 2, September 1999).

[31] On the Harmon doctrine in US practice, see S. McCaffrey, *The Law of International Watercourses - Non-Navigational Uses*, Oxford, Oxford University Press, 2nd ed., 2007, pp. 76-111.

[32] *Lake Lanoux Case* 12 RIAA 281 (1957); 24 ILR 101, Award of 16 November 1957, par. 21.

[33] *Ibid.*, par. 22.

"The second question is to determine the method by which these interests can be safeguarded. If that method necessarily involves communications, it cannot be confined to purely formal requirements, such as taking note of complaints, protests or representations made by the downstream State. The Tribunal is of the opinion that, according to the rules of good faith, the upstream State is under the obligation to take into consideration the various interests involved, to seek to give them every satisfaction compatible with the pursuit of its own interests, and to show that in this regard it is genuinely concerned to reconcile the interests of the other riparian State with its own.

It is a delicate matter to establish whether such an obligation has been complied with. But, without substituting itself for the Parties, the Tribunal is in a position to proceed to that decision on the basis of elements furnished by the negotiations"[34].

Principles such as those of consultation and negotiation among riparian States or of the equitable and reasonable use of international watercourses and the obligation not to cause damage[35] have arisen, in contrast to the sovereignty-driven approaches that are reflected by the Harmon doctrine. Progressively, these developments have permeated both State practice —evidenced by their incorporation in many conventional instruments— and judicial proceedings. They have been understood as reflecting the concept of the community of interests. Indeed, the International Court of Justice (ICJ) took the opportunity to expound on this in 1997 in the *Case Concerning the Gabčíkovo-Nagymaros Project*. While restating the *dictum* of the PCIJ in the River Oder case, it held that:

"In 1929, the Permanent Court of International Justice, with regard to navigation on the River Oder, stated as follows: "[the] community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others" *(Territorial Jurisdiction of the International Commission of the River Oder, Judgment No. 16, 1929, PCIJ, Series A, No. 23,* p. 27). Modern development of international law has strengthened this principle for non-navigational uses of international watercourses as well, as evidenced by the adoption of the Convention of 21 May 1997 on the Law of the Non-Navigational Uses of International Watercourses by the United Nations General Assembly"[36].

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[34] *Ibid.*

[35] See C. Bourne, 'Procedure in the Development of International Drainage Basins: The Duty to Consult and to Negotiate', *Annuaire canadien de droit international*, vol. 10, 1972, pp. 212-234; L. Caflisch, 'Sic utere tuo ut alienum non laedas: règle prioritaire ou élément servant à mesurer le droit de participation équitable et raisonnable à l'utilisation d'un cours d'eau international?', in A. von Zeigler (ed.), *Internationales Recht auf See und Binnengewässer. Festschrift für Walter Müller*, Zurich, Schulthess, 1993, pp. 27-47.

[36] See *Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v Slovakia)*, Judgment, ICJ Reports 1997, par. 85; For a commentary see, for example, J. Sohnle, 'Irruption du droit de l'environnement dans la jurisprudence de la Cour internationale de Justice: l'affaire relative au projet Gabčíkovo-Nagymaro', *RGDIP*, vol. 1, 1998, 85-121.

Other concerns have emerged. This is the case with environmental protection which has become a component of the regime applicable to international watercourses with obligations dealing with the protection of the ecosystems of international watercourses and the prevention and control of pollution. This regime incorporates principles and rules of international environmental law, including the principles enunciated in the Rio Declaration on Environment and Development, such as the environmental impact assessment principle and the principle of public consultation.

4. CONFLICTS OF USES AND THEIR RESOLUTION WITH SPECIAL REGARD TO VITAL HUMAN NEEDS AND ENVIRONMENTAL FLOWS

The numerous uses of international watercourses may, at times, compete with one another and thereby generate disputes among States. International law appears to have endorsed a rather neutral position by avoiding the privileging of any such uses, except when it is necessary to take into account vital human needs[37]. The principles of equitable and reasonable utilisation and the obligation not to cause significant harm should guide the parties in their search for a mutually agreed solution as well as to the requirements derived from satisfying vital human needs. In this way, Article 10 of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses (UN Watercourses Convention) reads as follows:

> "*Article 10. Relationship between different kinds of uses*
>
> 1. In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses.
>
> 2. In the event of a conflict between uses of an international watercourse, it shall be resolved with reference to the principles and factors set out in articles 5 to 7, with special regard being given to the requirements of vital human needs".

The notion of vital human needs has received attention in the context of the protection of human rights, especially with respect to the emerging right to water. The criteria of justice and equity in terms of access and distribution sustain the priority of utilization, which serves the satisfaction of vital human needs.

[37] The International Law Commission has explained that in case of conflict among different uses:

> "In deciding upon the manner in which such a conflict is to be resolved, watercourse States are to have "special regard [...] to the requirements of vital human needs". That is, special attention is to be paid to providing sufficient water to sustain human life, including both drinking water and water required for the production of food in order to prevent starvation. This criterion is an accentuated form of the factor contained in article 6, paragraph 1 *(b)*, which refers to the "social and economic needs of the watercourse States concerned".

For more details, see International Law Commission, *Report of the International Law Commission - Forty-sixth session*, UN Doc A/49/10 (22 July 1994), p. 110.

A recent award, rendered in the context of a dispute between Pakistan and India, the Indus Waters *Kishenganga* arbitration[38], has shed light on a concept that had received little attention in state practice and in judicial practice. This is the concept of environmental minimum flow. Pakistan's claim, in which it sought to preserve downstream flows, referred to the notion of minimum flow in order to prevent India's hydroelectric plant from diverting a quantity of the Neelum River's downstream flow that would affect Pakistan's agricultural and hydroelectric uses. India, for its part, stated that there would be a minimum environmental flow downstream of the planned plant at all times and that it would be of a certain amount[39]. The tribunal addressed the issue of environmental minimum flow on the basis of the 1960 Indus Treaty, to which India and Pakistan are state parties, and on the basis of customary international law by way of interpretation[40]. The tribunal considered the concept of minimum flow in an environmental context, speaking of the notion of minimum environmental flow[41]. It referred to the requirement of "the maintenance of a minimum flow downstream of the [concerned hydroelectric project] in response to considerations of environmental protection"[42]. While doing so, the tribunal took into account the various uses at stake, as well as the requirement to protect the environment.

The concepts of minimum flow and environmental flow are found in the context of the uses of watercourses and their associated legal obligations[43]. They are developing in international practice in the context of sustainable management of natural resources. While there is no specific definition of these notions, treaty practice provides some insights as to their meaning. They relate to the maintenance of a quantity of water in the main channel of a watercourse, as referred to in the Treaty on the Lesotho Highlands Water Project[44] or, more specifically, to an obligation to control water flow.

The allowance may be seasonal, as in the case of the 1995 Mekong River Agreement[45], or else perennial, as in the Treaty on the Cooperative Development of Water Resources of the Columbia River Basin

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[38] Indus Waters Kishenganga Arbitration (Pakistan v. India), available at *http://pca-cpa.org/showpage.asp?pag_id=1392* (accessed 2 August 2017).
The tribunal's final award of December 20, 2013 [hereinafter Kishenganga Final Award] followed from its partial award of February 18, 2013 [hereinafter Kishenganga Partial Award].

[39] Kishenganga Partial Award, par. 453.

[40] Reference was made to paragraph 29 of Annex 6 to the treaty, as well as to Article 31(3) (c) of the Vienna Convention on the Law of Treaties. Kishenganga Partial Award, par. 447.

[41] Kishenganga Partial Award, par. 453.

[42] *Ibid.*, par. 455.

[43] *Ibid.*, at pp. 24-25.

[44] Treaty on the Lesotho Highlands Water Project Between the Government of the Kingdom of Lesotho and the Government of the Republic of South Africa, Art. 6(9), (24 October 1986), available at *http://www.fao.org/docrep/W7414B/ w7414b0w.htm* (accessed 2 August 2017).

[45] Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin (5 April 1995, Chiang Rai, 2069 UNTS 3), Art. II(3), Apr. 5, 1995, ILM 34 (1995).

(1961)[46]. The notion of minimum flow can be linked to the need to ensure the availability of water for the needs of a downstream state, or for human and animal health considerations, as foreseen in the Water Charter of the River Niger Basin[47]. The parties to the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) adopted a resolution in 2002 stating that environmental "flows should normally follow the natural regime as closely as possible to maintain the natural ecology"[48] and recommended to undertake environmental flow assessments to mitigate socioeconomic and ecological impacts of large dams on wetlands. The Treaty Concerning the Integrated Development of the Mahakali River provides: "India shall maintain a flow of not less than 10 m3/s (350 cusecs) downstream of the Sarada Barrage in the Mahakali River to maintain and preserve the river eco-system"[49].

Interestingly, in the *Lake Lanoux* case referred to earlier, the minimum flow was considered in terms of the volume guaranteed for the downstream riparian population[50].

For its part, in *Gabčíkovo-Nagymaros*, the ICJ seems to have endorsed an approach that links the concept of human needs with the concept of minimum flow[51]. Hungary, in support of its claims concerning an ecological state of necessity, had argued that the risk of a reduced flow in the channel of the Danube (due to the installations in question) would be harmful to the aquatic ecosystem[52]. The Court stated: "With regard to the lowering of the riverbed downstream of the Nagymaros dam, the danger could have appeared at once more serious and more pressing, in so far as it was the supply of drinking water to the city of Budapest which would have been affected"[53].

When linked to the satisfaction of human needs, minimum flow can be understood as a tool to ensure the fulfilment of such needs. When

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[46] Treaty on the Cooperative Development of Water Resources of the Columbia River Basin (16 September 1964, 587 UNTS 19), Art. II(1).

[47] Water Charter of the River Niger Basin 2011, available at *https://www.africanwaterfacility.org/fileadmin/uploads/awf/Projects/MULTIN-LAKECHAD-Water-Charter.pdf* (accessed 2 August 2017), Art. 11(1) (2008). See discussion in Leb, C., *Cooperation in the Law of Transboundary Water Resources*, Cambridge, Cambridge University Press, 2013, pp. 172-174.

[48] Resolution VIII.1, Guidelines for the Allocation and Management of Water for Maintaining the Ecological Functions of Wetlands, par. 28 (18-26 November 2002).

[49] *See* Treaty Concerning the Integrated Development of the Mahakali River, 12 February 1996, ILM 36 (1996), Art. 1(2).

[50] *Lake Lanoux Case (France v. Spain)*, § 6 at 19, 12 R.I.A.A. 281; 24 I.L.R. 101 (1957): none of the guaranteed users will suffer in his enjoyment of the waters (this is not the subject of any claim founded on Article 9); at the lowest water level, the volume of the surplus waters of the Carol, at the boundary, will at no time suffer a diminution; it may even, by virtue of the minimum guarantee given by France, benefit by an increase in volume assured by the waters of the Ariège flowing naturally to the Atlantic.

[51] *Gabčíkovo-Nagymaros Project (Slovakia/Hungary)*, ICJ Reports 1997, par. 55.

[52] *Ibid.*, par. 40.

[53] *Ibid.*, par. 55.

linked to environmental considerations, it can be understood as a tool to ensure sound environmental protection of transboundary watercourses.

5. THE NEED TO FOSTER THE RESOLUTION OF CONFLICTS OF USES AND THE GLOBAL HIGH-LEVEL PANEL ON WATER AND PEACE

As can be seen, the rule of international law can help settle conflicts of uses. Law in this context plays a role as a stabilizing tool, although its content needs to be strengthened. This can be seen in an acute manner when intersectoral conflicts arise.

This issue of intersectoral conflicts was at the heart of the work of the High-Level Panel on Water and Peace[54]. The Global High Level Panel on Water and Peace was established by fifteen UN Member States in Geneva on 16 November 2015. The fifteen Co-Convening Countries are, in addition to Spain and Switzerland, Cambodia, Colombia, Costa Rica, Estonia, France, Ghana, Hungary, Jordan, Kazakhstan, Morocco, Oman, Senegal and Slovenia who each appointed a Panel member acting in her or his individual capacities. The Panel was asked to study the nexus between water and peace and to make recommendations for water as an instrument of peace. It had two years to prepare its report and worked in cooperation with the relevant stakeholders, notably the UN, and to hold consultations with the intention of seeking inputs from experts, policy makers and other relevant actors in different parts of the world.

The trade-offs necessary between the various uses of water, such as agriculture, energy generation, mining, human consumption, and others, were highlighted. The Panel recommended that they are carefully considered, while respecting the needs of all those concerned. Since water management and transboundary water cooperation affects each of us as well as the environment, water governance has to allow all relevant stakeholders to participate in decision-making.

The need to involve concerned stakeholders in order to find the right balance is indeed crucial. There are various means for involving the public in the management of international watercourses. It is important in this respect to note the increasing role played by water associations[55]. The public can also be involved through hearings, briefings and working groups. Public participation and access to information are means by which awareness can be raised and support increased for water management policies[56].

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[54] *Global High-Level Panel on Water and Peace, A Matter of Survival* (September 2017).

[55] See S. SALMAN, *The Legal Framework for Water Users' Associations, World Bank Technical Paper No. 360,* Washington, D.C., World Bank, 1997.

[56] Such elements have been codified in the UNECE Conventions.

In addition, the growing body of human rights law provides for important governance parameters, including the protection of minorities and indigenous peoples, as well as procedural guarantees such as access to information and public participation. The emerging recognition of a human right to water is also worth noting in that respect as it permeates the law applicable to international watercourses[57]. It constitutes a vehicle for promoting equity among the various uses of international watercourses as well as for allowing public participation in water management issues.

[57] See S. MCCAFFREY, 'A Human Right to Water: Domestic and International Implications', *Georgetown Int'l Envtl. L. Rev.*, vol. 1, 1992.