

A New Paradigm for the Law of International Watercourses?*

Assoc. Prof. Dr. Erdem Denk**

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Introduction

Non-navigational utilisation of international watercourses¹ had started causing international disputes (and inter-State disputes in federal States) by the late nineteenth century,² as demand for these resources increased steadily after then. This naturally brought in numerous academic and official efforts that intensified particularly in the last quarter of the twentieth century as a natural result of increasing environmental concerns and studies following the 1972 Stockholm Declaration. Today we

* A preliminary version of the arguments put here is presented at, and published in, *the UNWC Global Initiative Symposium - The 1997 UN Watercourses Convention: What Relevance in the 21st Century*, 5-8 June 2012, University of Dundee, Scotland. See Denk, 2012. The author thanks to Prof. Owen McIntyre for his comments on that paper through email exchange. On the other hand, this study is partly based on the author's Ph.D. thesis submitted to the Cardiff Law School (UK) in January 2005 ("Relative Sovereignty over International Watercourses: Rights and Obligations of Watercourse States"). The author would also like to thank to his supervisor, Prof. Robin Churchill, as well as his external referee, Prof. Surya Subedi, for their invaluable comments and support.

** Ankara University Faculty of Political Science.

¹ Utilisation of international watercourses for navigational purposes is beyond the scope of the present study, and, therefore, the present study will refer to the non-navigational utilisation of international watercourses simply as "utilisation of international watercourses" for reasons of brevity and convenience.

² Such as the utilisation of the Rio Grande and Colorado in North America, of the Nile in North Africa, of the Rhine in Europe and of the Ganges and Indus in Southeast Asia.

have a specific set of rules governing this particular area of international law, which will be called “the law of international watercourses” throughout the present study. In this context, not only have various international instruments been signed at international, regional and even local levels, academic societies particularly such as the *Institut de droit International* (hereafter, IIL) and the International Law Association (hereafter, ILA)³ have also developed legal suggestions in this context. It is now generally accepted that much of these rules are somehow embraced and/or expressed in the 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses (hereafter, the 1997 UN Convention), which has entered into force in 2014.⁴ Finally, academic studies have also generated, and continue to generate, a huge and ever-broadening literature on this issue.⁵ In short,

³ For a compilation of previous ILA rules and principles, see ILA 1999. For an overall assessment of the contribution of the ILA to the law of international watercourses, see Bourne (1996).

⁴ This Convention is adopted by the UN General Assembly on 21 May 1997. 35 parties are required to bring it into force (Article 36/1) and, as this condition was met on 19 May 2014, the Convention entered into force on 17 August 2014. For a brief analysis of the possible reasons slowing down the ratification process, see Dellapenna, Rieu-Clark and Loures, 2013. Although many States, including Turkey, are not party (even signatory) to the Convention, some tend to see that the Convention “codifies existing customary law when clarifying the relationship between equitable and reasonable use and harm prevention – customary law that allows a balancing of the interests of all interested states through the pondering of all relevant factors” (Salman, 2013: 30). Some even argue that the Convention “is widely recognised as the most authoritative source of the international law governing the non-navigational uses of international watercourses” (Loures et. al.: 2013: 49-50). On the other hand, some claim that “despite entry into force, however, global support for the Watercourses Convention is weak, concurrent efforts to develop treaty regimes governing water resources create competition for resources and may obscure understandings of international water law, and the foundational principles of the Watercourses Convention remain ambiguous.” (Stoa, 2014: 1321 and 1333 ff.) It may therefore be concluded that the doctrine, let alone State practice, regarding the issue is still far from being clear-cut and well-established. As a matter of fact, even Loures et. al. who claim that the 1997 UN Convention enjoys a widely recognised authority, notes that entry into force shall not suffice and the Convention needs a wider participation (2013: 52).

⁵ Of an extensive literature on the topic, the following are of particular importance: Loures and Rieu-Clarke, 2013; Subedi 2002; McCaffrey 2001a; McCaffrey 2000; de Chazournes 1998; Fuentes 1998; Hey 1998; Bourne 1997; Tanzi, 1997; Fitzmaurice 1997; Utton 1996b; McCaffrey 1996; Nollkaemper 1996a; Wouters 1996; Dellapenna 1994; Nollkaemper 1993; Bruhacs 1992; Handl 1992; Nanda 1992; Teclaff, 1991; Lammers, 1984; Sette-Camara 1984;

utilisation of international watercourses has been widely handled in both academic and official realms.

This, however, does not mean that the law of international watercourses is now well settled and that there are no substantial and substantive legal problems. On the contrary, as will be elaborated on below, there are two major and contradictory approaches each of which has fundamentally different opinions regarding core legal issues of this specific area of international law. Indeed, while one school argues that the principle of equitable utilisation is the one that ultimately governs utilisation activities of watercourse States as it prevails over the principle of no-significant harm, the other argues the opposite. What is more, although international lawyers, as well as the International Law Commission (hereafter, ILC) who drafted the 1997 UN Convention, dwelt on these two fundamental principles and their relationship for a long time and put most of their efforts on settling the alleged conflict between them at the expense of not sufficiently dealing with other relevant problems, it is still hard to come across a clear answer regarding how the perceived conflict between these two principles is to be settled. A consensus between upstream and downstream States in particular and a globally acknowledged legal framework in general could not be secured despite all efforts. Thus, the legal/theoretical and practical stalemate, which has been experienced all along, has not been overcome yet.

It would be argued that this legal stalemate is an inevitable result of the paradigm followed, and adopted, by the academic as well as official circles, including the 1997 UN Convention. This mainstream approach, which will be called “the conventional paradigm” throughout the present study, is arguably not only legally groundless but also practically misleading, as it focuses mainly, if not only, on finding a middle way in between the competing interests of upstream and downstream States and thus shifts the point of concern and leads to a destructive tension, or at least a

Schwebel 1982; Gaja 1973; Sar 1970; Garretson et. al. 1967; Bains 1960-61; and Eagleton 1955.

vicious circle, in the law of international watercourses. Indeed, the conventional paradigm, by following “an inter-watercourse States approach”, either does not take many applicable environmental and related obligations of watercourse States into account notwithstanding recent developments in international environmental law or, when does so, handles the issue in such a way that such provisions become effectively inapplicable in the final analysis.

The present study would therefore call for a shift in paradigm in the Kuhnian sense. This is because, as will be demonstrated throughout the following pages, the deficits and the drawbacks of the conventional paradigm cannot be brushed away as acceptable levels of error, or simply ignored and not dealt with. The prevailing paradigm in this area must be changed and a new setting that makes an all-embracing legal framework properly addressing all relevant (environmental) problems at the same time possible should be constructed. In this context, after briefly recalling the two major opponent arguments and the reconciliation efforts in the first section, and laying out the practical and legal drawbacks of these approaches in the second, a shift in paradigm for the law of international watercourses would be called for in the third section. Then, in line with the paradigmatic shift called for, the legal framework governing the utilisation of international watercourses would be revisited and re-conceptualised in the fourth section. A brief criticism of the 1997 UN Convention would also be made therein, as it arguably falls short of addressing the issue adequately. Finally, the main pillars of the paradigm proposed would be underlined.

I. The alleged conflict between the principles of equitable utilisation and no-significant harm

As underlined above, as the utilisation activities started increasing and diversifying steadily, various disagreements have occurred between watercourse States

regarding their conflicting activities and the harmful effects caused. As a result, different legal approaches have been put forward by watercourse States right from the beginning. Nevertheless, it would not be an exaggeration to say that the alleged conflict between the principles of equitable utilisation and no-significant harm has always (“*mutatis mutandis*”) been the main problem occupying the agenda of academic and official studies.

As is well known, initially two absolutist doctrines, i.e., the Absolute Sovereignty Doctrine and the Absolute Integrity Doctrine, were defended by various authors and States almost up until the second half of the twentieth century. According to the former, which is also known as the Harmon Doctrine, and which is evidently an upstream point of view, every watercourse State has the absolute right to utilise international watercourses as it pleases, which effectively means that upstream States do not have any obligations towards downstream States. On the other hand, according to the Absolute Integrity Doctrine, which is evidently a downstream point of view, no watercourse State can change the natural integrity of international watercourses, which effectively means that upstream States would hardly be able to carry out utilisation activities without the consent of downstream States. Moreover, accordingly, downstream States will be free to utilise international watercourses as they please, as there are no downstream States to which the former may owe any obligation.⁶ The present study will not dwell on them anymore, as it was rightly concluded both in the literature and State practice long ago that these doctrines are far from reflecting the general understanding and practice of watercourse States.⁷

⁶ This is an unavoidable result of the way the utilisation of international watercourses is handled/conceptualized, that is to say “the inter-watercourse States approach” adopted, which is the main point the present study would focus on and criticise.

⁷ Schwebel 1982: 75 ff.; McCaffrey 1986: 110 ff.; Nollkaemper 1993: 29-30. For a detailed study which concluded in late 1960s that neither of these doctrines enjoyed international law status, see Lipper 1967: 18-23 In the meantime, for a valuable article which demonstrates that the Statement of the Attorney General of the USA, Judson Harmon, not only did not represent the previous and ongoing practices of the US, but also that the US had never pursued a policy

Be that as it may, the disagreement between upstream and downstream States has not ceased, but has simply taken a different appearance. Indeed, the two well-established fundamental principles governing the utilisation of international watercourses, i.e., the principles of equitable utilisation and no-significant harm, are now the “battle point” between upstream and downstream States. It is widely assumed and asserted that the principle of equitable utilisation, which requires watercourse States to utilise international watercourses equitably, and the principle of no-significant harm, which necessitates this to be enjoyed without causing significant harm to others, inevitably conflict. It follows that the prevailing one of these two conflicting and competing fundamental principles would govern the utilisation of international watercourses in the final analysis. So, while it is argued mainly by upstream States and their advocates that the principle of equitable utilisation prevails over that of no-significant harm, downstream States usually claim the opposite. It may therefore be argued that this is no more than a contemporary version of the disagreement between the two absolutist doctrines mentioned above. For, as a result of the widely shared contemporary understanding that both upstream and downstream States have some rights over international watercourses (i.e., restricted sovereignty) and that determining the exact scope of the right to utilise is subject to the prevailing fundamental principle, upstream States now defend the superiority of the principle of equitable utilisation in a way which is, in the final analysis, no more than a moderate version of the Absolute Sovereignty Doctrine. This principle, and its relation to the principle of no-significant harm, is formulated in such a way that upstream States effectively become almost free to go ahead with their plans in most cases. Likewise, downstream States now defend the superiority of the principle of no-significant harm in a way which is, in the final analysis, no more than a moderate version of the

consistent with his advice, see McCaffrey 1996. Also see Lammers who reaches a similar conclusion (1984: 278) after analysing the US practice in detail (1984: 260 ff.).

Absolute Integrity Doctrine. This principle, and its relation to the principle of equitable utilisation, is formulated in such a way that upstream States would hardly enjoy their right to utilise without the consent of downstream States in most cases. Thus, it had been virtually impossible to secure a legal consensus that would build up the milestones of a comprehensive legal framework.

Indeed, not only were most of the efforts during the ILC studies made on this issue, but all the Special Rapporteurs, States and authors attributed a very great importance to balancing these two “conflicting”⁸ principles. As a result, the literature was divided into two groups: One arguing that the principle of equitable utilisation prevails (or, to put it more correctly, should prevail) over the principle of no-significant harm, and the other arguing just the opposite.

The first group claims that “the test of legality is equity and reasonableness” (Bourne 1992: 83).⁹ Accordingly, the permissibility or legality of a utilisation activity which causes significant harm to other watercourse States should be determined by applying the principle of equitable utilisation, that is through the overall evaluation of relevant factors, including the harm caused merely as a factor. For example, “the test of pollution is, therefore, twofold: first, does the polluting activity cause... [significant harm]; and, second, is it inconsistent with the equitable utilisation of the waters of... [international watercourses]?” (ILA 1983: 536) So, accordingly, even significant water pollution could be justified, and, therefore, must be tolerated, if the activity itself is equitable, because the permissibility of even significant water pollution is, in the final analysis, governed by the principle of equitable utilisation. As Bourne puts it

⁸ While Fitzmaurice (1995: 368) claims that there is an inherent possibility of conflict between the principles of equitable utilisation and no-significant harm, Bourne (1992: 80) refers to “the apparent conflict between the two principles”. Similarly, Wouters (1996: 420) notes that “the conflict between the two principles is readily apparent”, and according to Handl (1992: 130), this is an “undeniably existing conflict”.

⁹ See generally Bourne 1996: 188; Bourne 1971: 124, and 126-7; Subedi 2002: 42-3; Wouters 1996: 438; and Nanda 1992: 186.

directly, “a State, therefore, may have to tolerate some harm, certainly some appreciable harm -and perhaps even serious harm- if it is necessary to achieve an equitable and reasonable result” (Bourne 1992: 92). Similarly, McCaffrey, presumably bearing particularly quantitative conflicts in mind,¹⁰ notes that “in the context of the watercourses, suffering even significant harm may not infringe the rights of the harmed State if the harm is within limits allowed by an equitable allocation” (McCaffrey 1986: 133). Finally, the ILC (1994: 47) notes

that the fact that an activity involves significant harm, would not of itself necessarily constitute a basis for barring it. In certain circumstances ‘equitable and reasonable utilization’ of an international watercourse may still involve significant harm to another watercourse State. Generally, in such instances, the principle of equitable and reasonable utilization remains the guiding criterion in balancing the interests at stake.

The reason for this approach is the apparent concern that the principle of no-significant harm is to the advantage of downstream States, and that giving possible precedence to this principle would lead downstream States to easily (or arbitrarily) hinder upstream activities. In McCaffrey’s words (1988-89: 509), “if the ‘no harm’ principle took precedence over that of equitable utilization the effect would be to freeze the development of many riparian States to international watercourses”.¹¹ Dellapenna (1994: 39) even argues that the principle of no-significant harm “ignores the reality of water usage [and it] logically... prohibits any meaningful use by an upper-riparian State, turning the principle into merely a variant form of the absolute integrity claim”. In short, this

¹⁰ For his example of a prototype conflict, see *infra* note 200 and corresponding text.

¹¹ See also Subedi (2002: 39 ff. (particularly 43-4)), where he criticises the policies of the World Bank which “mostly... favour larger and powerful riparians to the detriment of smaller and weaker upper riparian States”.

group¹² is, to say the least, anxious¹³ about the potential effects of a superior principle of no-significant harm as far as utilisation activities of upstream States is concerned.¹⁴ So it may well be concluded that this group is seeking to secure the “development”¹⁵ aspect of the sustainable development principle.¹⁶

On the other hand, the second group argues that the principle of no-significant harm should be given precedence, as it is the superior principle in utilising international watercourses.¹⁷ Accordingly, as no State has the right to exercise its sovereignty to the detriment of other watercourse States, an activity causing significant harm is *per se* inequitable, and, therefore, not allowed by international law. For example, Nollkaemper (1993: 68-9) suggests that

utilisation of an international watercourse is not equitable if it causes other watercourse States appreciable¹⁸ harm. In other words, in the event of pollution the equality of interests no longer applies;

¹² It must also be noted that particularly the ILA, although recently supporting an “integrated management” approach, has all along advocated the precedence of the principle of equitable utilisation. See, for example, Article IV and X of the 1966 Helsinki Rules, and *infra* note 29 for the approach of the 2004 Berlin Rules on Water Resources (hereafter, the 2004 Berlin Rules). See also Article 3, the 1961 Salzburg Resolution of the ILL (1961).

¹³ Bourne (1992: 80) notes that “to deem that every polluting use is *ipso facto* inequitable and unreasonable, whether or not it is in fact so, would seem to reflect an extreme and unwarranted concern for the environment and itself be unreasonable”.

¹⁴ In the meantime, Salman (2013: 29) argues that “the subordination of the no-harm rule to the principle of equitable and reasonable utilization does not really favour upstream riparians. Rather, the subordination aims to balance the interests of all riparians.”

¹⁵ Some writers even argue that the right of permanent sovereignty over natural resources including international watercourses, is *jus cogens*. Accordingly, since States are liable only for internationally wrongful acts and since customary international law does not impose a duty on them to prevent transboundary pollution, development interest, rather than environmental concerns and liability, prevail. See Hodges 1995. See also Fuentes 1998: 138 and particularly 144 for her interesting justification.

¹⁶ See also *infra* note 134-138 and corresponding text for another relevant aspect of the principle of sustainable utilisation.

¹⁷ Generally see McIntyre, 2012; Nollkaemper 1993: 72 ff; Nollkaemper 1996a: 57-8; Handl 1979: 45-6; and Rahman 1995-96: 24.

¹⁸ See *infra* note 185.

prevention of pollution which causes appreciable harm is a superior interest.

Handl (1979: 44) even argues that “customary international environmental law has evolved to the point of clearly outlawing State conduct which results in transfrontier pollution that entails extraterritorial environmental damage”. Similarly, Moermond and Shirley (1987: 146) also suggest that “whether a river use is lawful... is decided by a determination of the degree of the harm caused to a riparian State”.¹⁹

The apparent reasoning behind this approach is environmental concerns (arguably in addition to unspoken developmental concerns of downstream States). As Nollkaemper himself states (1993: 68), “in cases of threats to the environment, there are good arguments to prefer the no-appreciable harm rule to the principle of equitable use”,²⁰ and the superiority of the principle of equitable utilisation “should both on legal and policy grounds be rejected” (1993: 69).²¹ Furthermore, it would not be an exaggeration to argue that this group thinks that giving superiority to the principle of equitable utilisation would lead to the precedence of upstream States (as the principle of equitable utilisation is perceived to be mainly to the advantage of upstream States). So it may well be concluded that this second school is emphasising (at least as a discourse) the “sustainability” aspect of the sustainable development principle in order to support its view that the principle of no-significant harm is the prevailing one.

¹⁹ On the other hand, they add later on (158) that the principle of equitable utilisation does, contrary to the principle of no-significant harm, provide usable standards. So, accordingly, the principle of equitable utilisation, which embodies the harm caused to other riparian States along with many other factors, is “clearly more useful to resolving disputes”. Nollkaemper (2001) also argues that the “flexible” principle of equitable utilisation is more convenient than the “rigid” principle of no-significant harm in terms of dispute settlement. But cf. McCaffrey (1988-89: 510), who notes that this flexibility consequently means being “less clear”.

²⁰ See also Handl 1979: 45.

²¹ He also argues (68) that priority of the principle of equitable utilisation is no longer supported by treaty practice and in fact such an approach has been considered as inconsistent with present international law.

Naturally, this alleged conflict was dwelt on by the Special Rapporteurs of the ILC as well and the results of those studies can be seen especially in the 1991 and 1994 Draft Articles and eventually in the final text of the 1997 UN Convention. Indeed, while the 1991 Draft Articles gave precedence to the principle of no-significant harm,²² the principle of equitable utilisation was pointed to as the guiding principle in 1994 (ILC 1994: 47).²³ Especially the principle of due diligence introduced in the latter in order to ease this perceived conflict and help parties to compromise was seen as the “magic” formula²⁴ needed to settle the conflict between two principles.²⁵ Eventually, the final text of the 1997 UN Convention has formulated the relationship

²² Even Bourne (1992: 77) implicitly criticised Special Rapporteur Evensen for not “carefully” analysing the relationship between these two principles. According to him (83), “the test of legality is equity and reasonableness” and the 1991 ILC Draft Articles which give precedence to the principle of no-significant harm “changes the law”. Therefore, he severely criticises the 1991 Draft Articles and even argues (92) that “Article 7 [which gives precedence to the principle of no-significant harm]... should be seen as an aberration. There is merit in retaining it, but only with the addition of the exception clause... that would make the no appreciable harm rule subordinate to the principle of equitable utilization. Otherwise, it should be deleted. It is retrogressive, not progressive development of the law of international watercourses...”

²³ However, Wouters is of the view that the 1994 Draft Articles give precedence to the principle of no-significant harm and it is, therefore, “unlikely that States will embrace” it (1996: 437).

²⁴ See Article 7(2) in note 25 immediately below. See also draft Article 7(2) (ILC 1994: 46) and the relevant commentary (53).

²⁵ See also commentary to draft Article 21 of the ILA Revised Rules (Ninth Draft), where Sabel is quoted as suggesting a new formulation according to which “watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States” (ILA 2002: 52). This suggestion omits paragraph 2 of Article 7 of the 1997 UN Convention, which is believed to subordinate the principle of no-significant harm to that of equitable utilisation (ILA 2002: 51). According to Sabel, “the proposed obligation is not intended to replace or override the rule as to equitable utilization. They are, it is submitted, two equally valid rules. There is no intimation that the ‘no harm rule’ takes precedence over the ‘equitable distribution’ rule nor *vice versa*”. However, it is then noted that “there is of course the possibility of a conflict between the two rules. Such conflict will have to be resolved taking all factors into account in a similar fashion to a conflict as to uses where the rule is ‘no use of an international watercourse enjoys inherent priority over other uses’ (ILA 2002: 52). It is hard to see what the suggested difference is, as it is accepted that a conflict exists between these two principles which will (as has been conventionally suggested) “be resolved taking all factors into account in a similar fashion to a conflict as to uses where the rule is ‘no use of an international watercourse enjoys inherent priority over other uses.’” Moreover, the functions and meanings of the principles of equitable utilisation and no-significant harm, which are noted to be “two equally valid rules”, are not clarified at all, let alone their difference.

between the two fundamental principles, as well as the principle of due diligence, in such a way²⁶ that it is virtually impossible to find out how such a “magic” solution is secured. Arguably, as Benvenisti (2002: 167) also notes,

a real effort was made to square the circle and strike a balance between the two irreconcilable approaches in order to gain sufficient votes for the adoption of the Watercourse Convention. This, in fact, *was an effort to blur the distinction so that both camps would be able to claim victory. (emphasis added)*

Likewise, the Special Rapporteur McCaffrey (2000: 63-4) “acknowledges” that

perhaps, not surprisingly, the compromise formula arrived at in the U.N. negotiations is a bit like a buffet -there is something in it for everyone. No matter whether you are from the equitable utilisation or the ‘no-harm school,’ you can claim at least partial victory.²⁷

This has indeed been the case.²⁸ While Bourne (1997) argued that the 1997 UN Convention gave precedence to the principle of equitable utilisation,²⁹ Fitzmaurice (1997)

²⁶ Article 7: “1. Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States. 2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation”.

²⁷ Also see 1998: 20-1. McCaffrey, in his unpublished presentation at *the UNWC Global Initiative Symposium - The 1997 UN Watercourses Convention: What Relevance in the 21st Century*, 5-8 June 2012, University of Dundee, Scotland, noted that his opinion has not changed and the “inevitable conflict” in between the two basic principles is the main dilemma of the law of international watercourse. See McCaffrey, 2012.

²⁸ Cf. Salman who argues that, although “each group of riparians believe UNWC favors the other group” (2012: 295), “the view that the UNWC subordinates the no harm rule to the principle of equitable and reasonable utilization [is] endorsed by the ICJ in the Danube case” (296).

²⁹ The ILA, for example, notes in Article 16 of its 2004 Berlin Rules that watercourse States “shall refrain from and prevent acts or omissions within their territory that cause significant harm to another basin State *having due regard* for the right of each basin State to make equitable and

argued the opposite. However, McCaffrey (1998: 22) seems confident that Articles 7(1) and particularly 7(2) of the 1997 UN Convention, read together with Article 10(2),³⁰ “gives precedence to equitable utilisation over the no-harm doctrine”.³¹ Accordingly, the principle of due diligence arguably converts the no-significant harm obligation into a “diligence” matter, which in turn means that a watercourse State utilising an international watercourse equitably would be acting diligently, that is to say consistent with the requirements of the principle of due diligence.³² So, although the principle of equitable utilisation would not dominate the equilibrium in cases of significant pollution, in so far as the principle of due diligence “introduces considerations of ‘equity’ into the application of ‘no-appreciable harm’, the outcome could be the same as if that rule were made subject to the doctrine of equitable utilization” (McCaffrey 1988: 241).

The meaning and the function of the principle of due diligence will be discussed later on, but it should be immediately underlined that these two approaches

reasonable use of the waters. (emphasis added)” It is also noted that Article 8 of the 2004 Berlin Rules, which brings in a broad approach as to the general environmental obligations of watercourse States within both their own jurisdictions and beyond, “also is consistent with the principle of equitable utilization and rejects the proposition that pollution or other environmental harms can never be lawful” (ILA 2004: 18. See also Schwabach 1998: 275 ff; and Upadhye 2000). So, although the obligations of watercourse States for “national” and particularly “global” effects are referred to, the ILA is apparently of the view that in case of such harmful effects caused by equitable utilisation, the principle of equitable utilisation will be guiding (superior) rule.

³⁰ “In the event of a conflict between uses of an international watercourse, it shall be resolved with reference to articles 5 to 7, with special regard being given to the requirements of vital human needs”.

³¹ According to him (2000: 64), “the very existence of a second paragraph implicitly acknowledging that harm may be caused without engaging the harming state’s responsibility supports this conclusion. Also indicating a recognition that significant harm may have to be tolerated by a watercourse state are the numerous mitigating clauses in paragraph 2, especially the phrase ‘having due regard for the provisions of articles 5 and 6.’ -the two equitable utilization articles. Finally, the proposition that the ‘no-harm’ rule does not enjoy inherent preeminence is supported by Article 10 of the Convention, which provides that any conflict between uses of an international watercourse is to be resolved ‘with reference to articles 5 to 7’.

³² For example, see McCaffrey 2000: 64.

misconceives, or to put it more correctly misinterprets, the principle of due diligence. This principle basically obliges States to abide by their substantive obligations *when this is possible*, rather than somehow settling the alleged conflict between the principles of equitable utilisation and no-significant harm.³³ Be that as it may, even if this legal miscomprehension -which has inevitably come up to the agenda as a result of the mainstream inter-watercourse States approach- is ignored, one point is still clear: The “due diligence formula” has not produced an acceptable and viable solution for the perceived legal dilemma and hence the (academic as well as practical) crisis/stalemate we have been experiencing for a long time continues. Today, the only common understanding in the literature is the fact that these two schools do not share a common understanding as to the overall assessment of the so-called conflict between the principles of equitable utilisation and no-significant harm. They both retain their positions and, what is more, legal instruments, particularly the 1997 UN Convention, apparently give sufficient evidence to base their respective arguments on.

One point is clear, though: Neither of these groups succeeds in presenting more persuasive and acceptable criteria compared to the other. This is because, it will be argued, these two schools are just two different versions of the same understanding, as the only difference is the (political) preference made:³⁴ One prefers the precedence of the principle of equitable utilisation with special emphasis on the “development” aspect of the “sustainable development” concept, whereas the other, underlining the

³³ Hence, an equitable activity, which is just a way of enjoying an international right, i.e., right to utilise, cannot be deemed as a way of acting “diligently” and be an “excuse” for causing harmful effects. So, contrary to the arguments of some writers, the principle of due diligence (or a similar concept to the same effect) does not function in such a way that it “gives precedence to equitable utilisation over the no-harm doctrine” (McCaffrey 2000: 64) or *vice versa*. Furthermore, as these two are separate principles with completely distinct functions, neither of them can prevail over the other. See also the Conclusion.

³⁴ There are, nevertheless, some studies which imply/suggest that a paradigm shift is needed in the law of international watercourses. See, for example, Hey 1995. See also de Castro 2002. See also Subedi's remarks in *infra* note 116.

“sustainability” aspect of the same concept, prefers the superiority of the principle of no-significant harm.³⁵

The common understanding that characterises the basic premises of the arguments of both schools alike will be questioned below, but the drawbacks of these prevailing approaches should be elaborated on first.

II. Drawbacks of the conventional paradigm

In order to outline various drawbacks/risks that would inevitably occur if and when (both or either of) the two opponent schools are accepted to govern the utilisation of international watercourses, it may be useful to formulate these two schools as follows:

The first argues that significant harm will be tolerated if the utilisation activity itself is equitable. So, if a utilisation activity is determined to be “equitable” consistent with the relevant factors³⁶ then the principle of no-significant harm will not be applicable (*equitable utilisation* ⇒ *the principle of no-significant harm will be irrelevant*).

The second school contends that a significant harm-causing activity is itself inequitable. So, if a utilisation activity causes significant harm, it will almost automatically be inequitable (*significant harm* ⇒ *inequitable utilisation*).

These two approaches (would) inevitably lead, *inter alia*, to the following legal and practical drawbacks and risks.

First, since both approaches reduce the utilisation of international watercourses to a mere inter-watercourse States issue, a “competition” between upstream and downstream States becomes unavoidable. And in fact this is what we face today. While upstream States and their

³⁵ So, it would not be wrong to argue that while watercourse States previously favouring the absolute sovereignty doctrine (i.e., upstream States) have started favouring the principle of equitable utilisation, those favouring the restricted sovereignty doctrine (i.e., downstream States) have started favouring the principle of no-significant harm.

³⁶ But see section IV.B.2.b below.

advocates try to demonstrate that their activity is equitable, downstream States try to prove the opposite, i.e., that the activities of upstream States are causing significant harm. So, upstream States (would) put their whole effort into increasing the threshold of significant harm as much as possible, which may in turn lead to serious environmental damage.³⁷ As a result, the significant harm caused (would) apparently remain unregulated, which (could) cause serious problems. Likewise, downstream States (would) put their whole effort into decreasing the threshold of significant harm and (would) even argue that utilisation activities causing significant harm should be regarded as inequitable *per se*, which may/might in turn (possibly and arbitrarily) affect the development of international watercourses.³⁸ As a result, each of the approaches overemphasises either the “sustainability” or the “development” aspect of the sustainable development target,³⁹ which -albeit apparently accepted as the common cause by each party- ironically remains unachieved in many, not to say all, cases.⁴⁰

Second, while the first group applies the principle of no-significant harm mainly to the conflicts between actual uses of the water in different watercourse States,⁴¹ the second focuses mainly on water pollution.⁴² As a result, during the intense efforts made to find a middle way between these two interests, other (environmental)

³⁷ “In practice, responsibility for an internationally wrongful act will be refused because it will be held that the damage had not been significant [enough]”. Gehring and Jachtenfuchs 1993: 93.

³⁸ As seen above, Bourne (1992: 92), for example, argues that “a State... may have to tolerate some harm, certainly some appreciable harm -and perhaps even serious harm- if it is necessary to achieve an equitable and reasonable result”. See also Wouters 1996: 438.

³⁹ See also *infra* note 134-138 and corresponding text for another relevant aspect of the principle of sustainable utilisation.

⁴⁰ Furthermore, as Subedi (2002: 43-4) rightly underlines, this nature of being open to both interpretations increases the risk of strengthening the hands of “larger and powerful riparians to the detriment of smaller and weaker upper riparian States”.

⁴¹ For the classical example of the “prototype” international watercourse dispute McCaffrey suggests, see *infra* note 200 and corresponding text.

⁴² For example, see Nollkaemper 1993: 24-40.

obligations of watercourse States⁴³ will, to say the least, be neglected. So, obligations of watercourse States concerning, say, conservation of biodiversity, cultural heritage and relevant rights of human population would remain ungoverned. In short, it is quite wrong and misleading to reduce the utilisation of international watercourses to a matter of “equitable utilisation vs. water pollution”, whatever their importance may be.

Third, there may well be cases where watercourse States may somehow (explicitly or tacitly⁴⁴) reach a compromise as to harmful effects they caused to each other (as well as to the environment of a given international watercourse⁴⁵) or agree on a utilisation method which breaches the rights of third parties.⁴⁶ Likewise, “national” harmful effects may also be caused by watercourse States inconsistent with applicable rules of international law. Indeed, as will be demonstrated below, watercourse States do certainly have other obligations which are applicable even if the utilisation activities in question do not cause any

⁴³ That is to say, obligations deriving not only from the principle of no-significant harm but particularly from the notion of the common concern of humankind. See Chapter V below.

⁴⁴ Indeed, the waters of the Amu Darya and Syr Darya were used quite recklessly by their watercourse States for a long time with a some sort of tacit agreement which has caused serious environmental problems in the region. For further, see *infra* note 130.

⁴⁵ For example, all watercourse States may collectively agree on an individual or collective activity which exceeds the total equitable shares of the parties and encroaches upon the minimum stream flow.

⁴⁶ Similarly, they may act in a way that causes serious marine pollution and/or biodiversity problems and yet claim to be “legally” free, arguing that all watercourse States agreed on an equitable and reasonable utilisation method thoroughly consistent with the applicable law. For example, concerns have been raised by other watercourse States about possible harmful effects of the water projects of Namibia to the environment, particularly on the Okavango Delta in Botswana (Salman 2002: 158). Ultimately, the there relevant watercourse States (Angola, Namibia and Botswana) have formed a joint commission, i.e., the Permanent Okavango River Basin Commission (OKACOM) in 1994 “with the purpose of sustainable management of the river basin through the development and implementation of a comprehensive basin-wide management plan” (IRN n.d.). Similarly, “eight of the ten Nile riparians... do not recognise the 1959 Nile Treaty between Egypt and Sudan, alleging that those two countries have monopoly over the Nile” (Salman 2002: 158). Finally, China, notwithstanding the treaty signed in April 2002 regarding cooperation in data and information sharing, has not formally joined the Mekong Commission (which regulates the utilisation of the Mekong) and this causes a growing risk for new controversies and problems. See Wouters 2002: 137-8.

conflict or problem at all in between watercourse States. In other words, harmful effects of utilisation activities are not necessarily limited to those caused to other watercourse States. So, the obligations of watercourse States owed to “third” parties would not be properly addressed and guaranteed by either school, if not totally ignored/neglected in such a “balance of interest” approach.

Fourth, basing its arguments on either of these two groups, a watercourse State may well claim that an activity which does not cause significant harm to any other watercourse States (and even to third parties) should be accepted as equitable. This would not only be ill-founded, but more importantly misleading, because harmless activities may well be inequitable, and vice versa, as causing harm and being lawful are completely different issues.

Fifth, as a result of the common “inter-watercourse States” approach, both schools belittle, not to say ignore, the obligations of the (lowest) downstream State. It is, intentionally or unintentionally, presumed that the applicable (environmental) obligations of watercourse States are (mainly) owed by upstream States to downstream States, and, therefore, balancing this obligation by emphasising the right of upstream States (through the principle of equitable utilisation) has been perceived as of vital importance for the latter’s approval. It is true that obligations of watercourse States concerning marine pollution theoretically bind (lowest) downstream States as well, let alone the fact that they are also required not to cause no-significant harm to *other* (upper) watercourse States. However, since the latter is an exceptional possibility and, more importantly, since lowest downstream States may well have obligations concerning “national” (i.e., as to biodiversity, human populations and cultural heritage) and global effects (i.e., climate change) of their activities as well,⁴⁷ adopting a “balance of interests” approach would

⁴⁷ However, all the relevant instruments state that *all* States (therefore, including all watercourse States, be it the lowest downstream or upstream States) have an obligation not to cause significant harm beyond their territories. See generally Chapter V below.

apparently put such obligations issues out of the equilibrium which will in turn cause serious injustices.

To sum up, these two approaches have a serious potential for sowing the seeds of (future) problems and disputes. Indeed, most of the disputes we face today have such a character; e.g. downstream States argue that pollution-causing activities are inequitable, while upstream States perceive this as a violation of their right to utilise and even sovereignty. As a result, neither the harm caused is dealt with realistically, nor is the equitable utilisation of international watercourses realised fairly. Thus, it becomes almost impossible to establish a comprehensive legal framework accepted and supported by all parties, i.e., up- and downstream States, with the capacity to help solve ongoing disputes as well as addressing upcoming utilisation activities. What is worse, talking about other environmental obligations of watercourse States such as those concerning conservation of biodiversity, cultural heritage, climate change and so on, practically becomes of secondary importance (if not luxurious). What is more, as will be demonstrated below, these two approaches, as well as the alleged conflict between them, are legally unfounded as well. But the common understanding lying beneath them should be scrutinised and refuted first.

III. Call for a Shift in Paradigm

As is clearly seen, neither of the two schools can put forward more convincing legal reasoning supporting their respective arguments. The present writer is of the view that the main problem that leads to such practical drawbacks is rather *the* common understanding underlying them according to which the essential aim of the law of international watercourses is balancing the competing interests of upstream and downstream States.⁴⁸ Actually, it

⁴⁸ What is more, this approach "inevitably" brings about the widespread assumption that the principles of no-significant harm and equitable utilisation do inevitably conflict. As these two fundamental principles and the alleged conflict between them will be studied in detail later on,

is certainly true that the interests of upstream and downstream States may well conflict. As the use of water in one watercourse State has the capacity to affect other watercourse States directly,⁴⁹ watercourse States may see each other's utilisation activities as being to their disadvantage. It follows that balancing the competing interest of watercourse States may well be of importance especially in cases of dispute settlement. However, this potential for conflict, however important, is not, and in fact cannot be, the only/main topic dealt with by the law of international watercourses. Rather, utilisation of international watercourses has wide-ranging aspects and implications, and, therefore, cannot be reduced to a mere matter of balance of interests between watercourse States. Indeed, as will be demonstrated in due course, utilisation activities of watercourse States may cause harmful effects to "third" parties (as well as to other watercourse States),⁵⁰ which in turn means that international law would be relevant even if no dispute, conflict or even disagreement existed in between watercourse States.

Nevertheless, the conventional paradigm's main/central concern to balance mutual rights and obligations of watercourse States has been such central and decisive that not only have the fundamental principles of equitable utilisation and particularly no-significant harm been inadequately/insufficiently dealt with, but also "other" obligations of watercourse States are effectively put out of the equilibrium in the final analysis. The point of concern, in other words, has been shifted in a way that leads to a destructive tension, or at least a vicious circle, in the law of international watercourses. Consequently, particular obligations of watercourse States are either over-emphasised, or balanced out, at the expense, or for the sake, of others.

the present section shall focus on the said common understanding that has characterised almost all relevant studies and instruments in a fundamental way.

⁴⁹ See *infra* notes 169-171 and corresponding text.

⁵⁰ This is particularly/also the case regarding obligations of watercourse States for "national" and "global" harmful effects they cause. For further, see section V.B. below.

A demonstrative example which says too much about how fundamental principles of the law of international watercourses are misconceived and misinterpreted is the way the principle of no-significant harm is interpreted and implemented by relevant official and academic circles. As will be studied in detail in due course, this principle basically obliges States not to cause significant harm beyond their jurisdiction. So, *all* watercourse States, including the furthest downstream States, are obliged not to cause significant harm not only to other watercourse States but also to non-watercourse States and even the international community as a whole.⁵¹ However, a brief look at conventional studies immediately suggests that this general obligation of States for transfrontier harmful effects are, in cases of shared resources,⁵² particularly including international watercourses, immediately turned to an obligation only for harmful effects affecting “other” States sharing the same resource. For example, Rausching, in his ILC report titled “Legal Aspects of the Conservation of the Environment,” notes (1983: 168-9) that this obligation is, in cases of shared resources, owed to other States sharing the same resource, although earlier in the same report (159) he defines “transfrontier pollution” as “pollution... which has deleterious effects in the territory of *another State*”. Besides, the 1997 UN Convention, as well as all studies made in that context, obliges watercourse States “to prevent the causing of significant harm to *other* watercourse States” (Article 7).⁵³ In other words, the basic obligation concerning significant transfrontier harm, which is obviously applicable to all cases where “transfrontier” harm might be caused, suddenly, and in fact inexplicably and even incomprehensibly, transforms into an obligation owed merely to other States sharing the same resource, i.e., other

⁵¹ For relevant obligations of watercourse States, see generally the Chapter V below.

⁵² For further on “shared resource”, see *infra* note 86 and corresponding text.

⁵³ In fact, the ILC notes (1994: 114) that these “examples of significant harm that pollution may cause to a watercourse State or to its environment... [are] not exhaustive, but... [they are] provided for purposes of illustration only”. However, even this explanation apparently refers to harm “to a watercourse State or to its environment”, and, therefore, it is hard to accept that harmful effects suffered by “third” parties could be covered thereby.

watercourse States in the case of international watercourses. This is, it is presently argued, an inevitable result of the conventional paradigm which focuses on the mutual rights and obligations of watercourse States.

At this very juncture, one may argue that inadequate/insufficient regulations in this sense would not cause a big problem, as all international (environmental) obligations (be they part of the “law of international watercourses” or not) are generally binding on watercourse States anyway.⁵⁴ Accordingly, incorporating obligations generally arising from other areas of international (environmental) law into the law of international watercourses or a specific reference to them therein, is not necessarily required, although desirable, and this might be particularly true for the 1997 UN Convention, which is an instrument dedicated specifically to the utilisation of international watercourses. This is, arguably, simple because the law of international watercourses, as all specific areas of international law, does not, and in fact cannot, exist in isolation. So, even totally neglected obligations arising from general international (environmental) law would be binding, regardless of being duly incorporated into the law of international watercourses.

In fact, this is exactly what the present study suggests. Having said that, this argument, which sounds quite reasonable at first sight, is a bit problematic particularly given the fact that the shortcomings/defects of the 1997 UN Convention have a different character. The general framework of this Convention is formulated in such a way that generally binding obligations that are not (properly) incorporated into the 1997 Convention (and/so the law of international watercourses) are made effectively inapplicable in the final analysis.

In this context, recalling the very wording of the central substantive provisions of this Convention (i.e., Articles 5-7 on the principles of equitable utilisation and no-significant harm) would be of more than enough. These

⁵⁴ See also Birnie & Boyle 2002: 314-6.

Articles are indeed formulated in such a way that “other” obligations may easily be “balanced out” at the end of the day, because of the priority attributed to balancing the interests of upstream and downstream States (or, to put it another way, to these two principles).⁵⁵ For example, Article 10(2) of the 1997 UN Convention states that

[i]n the event of a conflict between uses of an international watercourse, it shall be resolved with reference to articles 5 to 7, with special regard being given to the requirements of vital human needs.⁵⁶

Likewise, Article 20, although somehow acknowledging the relevance of the biodiversity problem,⁵⁷ notes that the obligations imposed “should be kept in harmony with the general rule contained in article 7,” i.e., to prevent the causing of significant harm to *other* watercourse States.⁵⁸ This Article too limits the relevant obligation of watercourse States with harm caused solely to *other* watercourse States.⁵⁹

So, given the above-studied fact that the Convention, as well as the literature, assert that either of these two

⁵⁵ Undoubtedly, the lack of interest of non-watercourse States as well as of international public awareness may have also contributed to this result.

⁵⁶ The phrase, “special regard being given to the requirements of vital human needs” is a bit problematic, however. This is because “vital human needs” is most probably based on the cardinal human right to life, which has a non-derogable character (see Paragraph 40 -together with 37- of the General Comment on the Right to Water). So, it may easily be argued that States are obliged to give *priority* to vital human needs, i.e. a “minimum” amount of water that safeguards the very survival of human beings. Be that as it may, the clause “in the event of a conflict” is also misleading, as it may easily be interpreted in a way that, for example, gives green light to all watercourse States of a particular international watercourse to collectively agree on any project without giving any considerable, if any, attention to the “vital human needs” of people within the jurisdiction of any (or all) of the parties. Therefore, a wording such as the one the ILC did would be much more appropriate: “[i]n determining an equitable and reasonable use, States shall *first* allocate waters to satisfy vital human needs” (Article 14(1), the 2004 Berlin Rules). (emphasis added)

⁵⁷ See *infra* notes 234-238 and corresponding text.

⁵⁸ See also ILC’s Commentary on draft Article 22 (1994: 119-20).

⁵⁹ What is more/worse, it also neglects harmful effects caused to biological resources both within the State of origin’s and “third” parties jurisdictions. For further, see section V.B. below.

principles will prevail in the overall judgement,⁶⁰ it is obvious that “other” (specific) obligations of watercourse States would eventually be “balanced out/neglected”,⁶¹ as is the case even for “the requirements of vital human needs”. In other words, many obligations of watercourse States are either insufficiently incorporated/addressed (as is the case particularly for the principle of no-significant harm and obligations derived from it)⁶² or virtually ignored/neglected and/or remained out of the equilibrium in the final/overall judgement (as is the case for the notion of the common concern of humankind and obligations derived from it).⁶³ Once such an inter-watercourse States approach is employed,⁶⁴ “other” obligations of watercourse States would inevitably have some sort of a secondary, if any, importance/relevance.

In short, the shortcomings and inconsistencies of the conventional paradigm (particularly the 1997 UN Convention) cannot be accommodated/compensated with reference to the applicable principles and rules of wider international law. This is because it is not an inevitable result of practical convenience, i.e., this Convention's

⁶⁰ See generally Chapters I and II above.

⁶¹ This is exactly what had happened in the case of the ILC, which quotes the decision of a German Court in the *Donauversinkung* case as a guiding approach: “The interests of the States in question must be weighed in an equitable manner one against another. One must consider not only the absolute injury caused to the neighbouring State, but also the relation of the advantage gained by the one to the injury caused to the other” ILC 1994: 54.

⁶² Article 23 on marine pollution, for example, obliges watercourse States to “take all measures with respect to an international watercourse that are necessary to protect and preserve the marine environment, including estuaries, *taking into account generally accepted international rules and standards.*” (emphasis added) The phrase “taking into account” is clearly far from being obligatory as far as (general) obligations arising from the Law of the Sea are concerned (For further discussion where a much more appropriate provision of the 1997 UN Convention is also indicated, see *infra* notes 241-242 and corresponding text.

⁶³ As is the case for “vital human needs”, conservation of biodiversity, global climate change, and so on. For further, see generally section V.B. below.

⁶⁴ Arguably, even the layout of the 1997 UN Convention is also illustrative in this context: Specific substantive obligations of watercourse States (i.e., provisions relating to “Protection, Preservation and Management” are addressed (Part IV: Articles 20-26) only after procedural obligations (Part III: Planned Measures: Articles 11-19), whereas the principles of no-significant harm and equitable utilisation are regulated in Part II entitled “General Principles” (Articles 5-10).

limited space/goal. Neither is it a somewhat unavoidable result of a “compromise” among the parties. Such wordings, in other words, were employed not as a result of, say, an immense opposition. Rather, it was the “paradigm” adopted that made academic and official circles to discuss and address mainly, if not solely, the issues that concern mutual rights and obligations of watercourse States. “Other” issues, in other words, were simply not realised at all, let alone being addressed.

Be that as it may, this inter-watercourse States approach is inconsistent with the very logic and general principles of international law, as well. The law of international watercourses cannot be confined to those regarding the mutual interests and rights of watercourse States. This is basically because instruments/obligations “in the social and humanitarian field... [should] contain absolute obligations that are not subject to any considerations of reciprocity at all” (Simma 1984: 401). So, bearing in mind the latest developments in international environmental law and the understanding underlying it, environmental issues in general are exempt from the reciprocity rule. And in fact, the law of international watercourses in general and the 1997 UN Convention in particular also claim to address “the legal problems relating to the utilisation and use of international rivers”⁶⁵ and to have an “international framework”⁶⁶ character. The 1997 UN Convention, for example, itself expresses in its Preamble

the conviction that a framework convention will ensure the utilization, development, conservation, management and protection of international watercourses and the promotion of the optimal and sustainable utilization thereof for present and future generations...

⁶⁵ General Assembly Resolution 2669 (XXV) of December 8, 1970.

⁶⁶ It was proposed at the very beginning by the General Assembly that a possible convention on this topic should have a framework character (General Assembly Resolution 2669 (XXV) of December 8, 1970). In the end, the General Assembly once more emphasised in 1997 that “a framework convention on the law of the non-navigational uses of international watercourses” was adopted (General Assembly Resolution 51/229 of 21 May 1997).

It is therefore hard to say that the reciprocity rule may be relevant at any stage in the law of international watercourses thus defined, as it is inconsistent even with the role and goal of the 1997 UN Convention it itself declares, let alone the general logic and principles of (international) law.

So, the conventional paradigm, which mishandles the utilisation of international watercourses by reducing it to a mere matter of balance of interest and conflict resolution, suffers practical shortcomings and drawbacks as well as legal misconceptions (as will be elaborated on below). There are, in other words, more than enough anomalies in the Kuhnian sense which throw this scientific discipline into a stalemate (i.e., *state of crisis* in the Kuhnian sense), which cannot be maintained anymore.⁶⁷ Hence, the prevailing “worldview” (paradigm⁶⁸) in this area must be changed and a new setting should be constructed. The present study will therefore call for a shift in the paradigm and endeavour to suggest a new paradigm governing the law of international watercourses. In this context, it would be argued that it is well possible to provide an all-embracing legal framework that properly addresses all obligations of watercourse States at the same time, that is to say without over-emphasising, or balancing out, any applicable rules at the expense, or the for the sake, of any others.⁶⁹

This, it will be argued, requires to revisit the legal framework governing the issue and (if and where need arises) even reconstruct the applicable basic principles with an understanding that the sole function of the law of international watercourses is to cover and address all aspects of utilisation activities. And in fact the present writer is of the view that the two fundamental principles of equitable utilisation and no-significant harm are

⁶⁷ See particularly Chapters VI and VII of Kuhn' revolutionary book (1970).

⁶⁸ In his widely quoted excerpt, Kuhn (1977: 294) defines “paradigm” as “what members of a scientific community, and they alone, share.” See also Kuhn 1970: viii.

⁶⁹ What is more, it would be argued throughout the following sections that the fundamental principles of no-significant harm and equitable utilisation do not, and in fact cannot, conflict at all, contrary to what is conventionally assumed/asserted.

misconceived by these two schools both shaped and even inevitably manipulated by the prevailing inter-watercourse State approach. It would be argued and demonstrated that these two fundamental principles do not, and in fact cannot, conflict at all, as each of them has distinct functions and therefore operates at different stages of legal(ity) analysis. Since these points, which would establish the main pillars of the paradigm to be suggested here, require further and detailed inquiry, they will be examined in the following sections where the comprehensive legal framework governing the utilisation of international watercourses will be (re-)constructed stage by stage.

IV. The right to utilise international watercourses

A. The legal basis of the right to utilise: Territorial sovereignty

The theoretical basis of the right to utilise, that is to say, the legal concept that provides a State with the right to utilise, is the territorial sovereignty concept. Although this point is admittedly a bit risky/bothersome due to the legacy of absolutist doctrines as will be dwelled on below, it is nevertheless of critical importance to emphasise it, for it constitutes the first step leading to the legal framework to be reconstructed here.⁷⁰

As is well known, one of the fundamental elements⁷¹ of Statehood is having a certain territory⁷² on which a State

⁷⁰ It must be immediately and firmly emphasised that none of the legal stages has more or less importance and/or relevance than the others. Each and every stage constituting the legal framework suggested has equal value.

⁷¹ According to the Montevideo Convention on the Rights and Duties of States (1933), there are four conditions of being a State: permanent population, a defined territory, government, and the capacity to enter into relations with other States (for text, see ASIL 1934). See also Mugerwa 1968: 250.

⁷² Shaw (2003: 331) underlines that a legal person cannot be a "State" without territory. See also Brownlie 2003: 105-6.

exercises the functions of a State (jurisdiction)⁷³ over all things and persons to the exclusion of other States and within the limits drawn by international law (Huber 1963: 91 ff.).⁷⁴ So,

[t]here is no doubt that a watercourse State is entitled to make use of the waters of an international watercourse within its territory. This right is an attribute of sovereignty and is enjoyed by every State whose territory is traversed or bordered by an international watercourse. (ILC 1994: 29)⁷⁵

It is, in other words, it is this basic geographical fact that constitutes the legal basis of the right to utilise. It would otherwise be impossible to explain the legal basis of this right, and, most importantly, the reason why it belongs solely to watercourse States.⁷⁶ In fact, a close look at the literature suggests that the constitutive character of the territorial sovereignty concept is also recognised by States,⁷⁷ international judicial organs,⁷⁸ international law

⁷³ Cf. Brownlie 2003: 105-6. In other words, "the jurisdiction of a State over its territory is the basis of its activity". Bishop and Sahovic 1968: 313.

⁷⁴ See also Brierly 1936: 35 ff.

⁷⁵ See also Article IV of the Amazon Cooperation Treaty which notes that "each watercourse State has a right inherent in... [its] sovereignty..." (for text, see International Freshwater Treaties Database 1994-2005). There are in fact many other examples which are used, especially by those advocating the absolute sovereignty doctrine. Indeed, many upstream States have attributed great importance to adding such a wording to watercourse treaties, which in turn has caused an apparent reluctance in the recent literature to mention (territorial) sovereignty in this context. However, this does not change the basic fact that the territorial sovereignty concept provides the legal basis for the right to utilise international watercourses.

⁷⁶ Nevertheless, this theoretical basis is obviously not enough to establish the exact scope of the right to utilise for each party, as territorial sovereignty provides the legal basis to the right to utilise only in theory. The principle of equitable utilisation has a crucial importance in establishing this right in practice, as will be studied below.

⁷⁷ Bruhacs (1992: 41 and 48-9 (fn. 3-4)) notes that "territorial sovereignty of the watercourse States needs no special confirmation and constitutes no source of problems by itself as it is seen obviously from various international documents", and quotes some international treaties in this context.

⁷⁸ For example, see Arbitral Tribunal (1957: 120) for *the Lac Lanoux Arbitration*. Recently, the ICJ has also implicitly asserted the constitutive character of the territorial sovereignty concept in the

institutions⁷⁹ and authors.⁸⁰ For example, there is a long list of international treaties regarding the utilisation of international watercourses and they are all signed in between watercourse States,⁸¹ whereas a non-watercourse State has never been mentioned as a (natural) right holder. If nothing else, this fact is itself enough to demonstrate that the right to utilise is exclusive to watercourse States simply because it is based on the territorial sovereignty concept.⁸²

Having said that, it should be noted that most authors are reluctant to refer to the concept of sovereignty in this context. Presumably, and in fact evidently, this approach is not the result of an idea that the right to utilise derives from another principle or rule of international law. Rather, there is an apparent anxiety that States can use sovereignty as a basis for their extreme interests. In fact, if the notorious

Gabcikovo-Nagymaros Project (Hungary/Slovakia) Case. For text, see ICJ 1997: 56. Finally, the PCIJ, in *the River Oder Case*, inquired into the navigational rights of States over international watercourses, and, by stating that there is a community of interest among all riparian States, confirmed that the right to use the whole course (for navigational purposes) belongs merely to riparian States. See PCIJ 1929: 27 (*Territorial Jurisdiction of the International Commission of the River Oder*).

⁷⁹ The Inter-American Bar Association, at its Tenth Conference held at Buenos Aires in 1957, stated in Article I/1 that “every State, *having under its jurisdiction a part of a system of international waters*, has the right to make use of the waters thereof...” (emphasis added) (Laylin 1958: 4). Likewise, Article 2 of the 1956 Salzburg Resolution of the *Institut de droit International* states that “every State has the right to utilise waters *which traverse or border its territory*” (emphasis added) (IL 1961). Similarly, the ILA has also confirmed repeatedly that territorial sovereignty is the legal basis of the right to utilise international watercourses. According to Article IV of the 1966 Helsinki Rules, “each basin State is entitled, *within its territory*, to a reasonable and equitable share...” (emphasis added). The ILA defines “basin States”, which accordingly has the right to utilise international watercourses, as “a State the territory of which includes any portion of an” international watercourses (See Articles 10(1) and 3(3) of the 2004 Berlin Rules, respectively).

⁸⁰ Eagleton (1955: 1020 and 1021) notes that each watercourse State has sovereign (but not unlimited) control within its own boundaries.

⁸¹ The 1997 UN Convention also implicitly confirms the constitutive character of the territorial sovereignty concept. See Article 2(c), which defines “watercourse State” as “a State Party to the present Convention in whose territory part of an international watercourse is situated...”

⁸² Some writers do not include international watercourses among places subject to territorial sovereignty and classify them under a separate title (for example, see Brownlie 2003: 259 ff.; and Bishop and Sahovic 1968: 313). Nevertheless, they immediately note that this status is limited solely by the principle of freedom of navigation, and as far as other aspects are concerned, this limitation does not deny the territorial sovereignty of watercourse States over their parts of the watercourses flowing through their territories.

“absolute sovereignty” and “territorial integrity” doctrines are recalled,⁸³ this anxiety is perfectly understandable. Indeed, the “sovereignty” part of the territorial sovereignty concept is such over-emphasised that the constitutive character of this concept has been widely misused by downstream and particularly by upstream States for their own agendas. As a result, most studies do not dare mentioning this concept, let alone analyse it, as it brings in mind the legacy of absolutist doctrines that apparently endangers the conventional aspiration to safeguard a compromise between upstream and downstream States.

However, as clearly seen in a recent study, this reluctance has led to an argument according to which referring to the territorial sovereignty concept as the legal basis of the right to utilise is a “no longer defensible position” (Fuentes 1998: 130). It is argued (132) that the principle of equitable utilisation has a principal role in this context,⁸⁴ and even it is *the* decisive principle in the utilisation of international watercourses and all other applicable principles and rules, including particularly the principle of no-significant harm, are subject to it (Fuentes 1998: 129 ff.). These arguments will be discussed later on, but it must be immediately noted here that this approach, with due respect, is just another initiative to circumvent, and undermine the authority of, the principle of no-significant harm.

It is therefore vital to underline that the legal basis of the right to utilise (in theory) is the territorial sovereignty concept, and that omitting its constitutive character may well lead to approaches that are not only ill-founded but, more importantly, misleading. Having said that, one point must be immediately underlined, as it would otherwise pave the way for misunderstandings as is the case for the absolutist doctrines mentioned and strictly denied earlier. The legal basis provided by the concept of territorial sovereignty for the right to utilise is a *theoretical* one. That

⁸³ See supra notes 9-10 and corresponding text.

⁸⁴ The function of the principle of equitable utilisation will be studied below.

is to say, it only constitutes the legal basis for utilisation activities of watercourse States in theory. The exact scope of the right to utilise, namely respective rights of watercourse States, is still subject to determination and, as will be seen in due course below, the principle of equitable utilisation steps in at this very stage.

Finally, it goes without saying that territorial sovereignty is a restricted title, as all rules, principles, concepts, notions and institutions of (international) law. Since this restricted character in terms of utilisation of international watercourses will be further studied in the context of the obligations of watercourse States below, it shall suffice to note that it is to be exercised within the limits drawn by an ever-broadening legal framework of applicable rules and principles of (international) law. As the Permanent Court of International Justice (PCIJ) stated in its advisory opinion in the *Nationality Decrees in Tunis and Morocco Case*, “the question whether a certain matter is or is not solely within the jurisdiction of a State is an essentially *relative* question; it depends on the development of international relations” (PCIJ 1923: 24) (emphasis added). So, the more international society develops and the regulations of international law are established, the broader the scope of international law will be and the fewer unqualified rights States will enjoy within their respective territories.⁸⁵ It follows that the more “the law of international watercourses” develops the “narrower” the scope of the right to utilise will be.

Be that as it may, apart from, and in addition to, these theoretical limits that arise from general international law and that are in fact relevant generally for all legal concepts, the special characteristics of (the waters of) international watercourses places even further limits on territorial sovereignty enjoyed over international watercourses. This is because international watercourses are “shared natural

⁸⁵ Territorial sovereignty may therefore be defined as the total of rights given by international law to a State to exercise within its defined territory. See also Cassese 2001: 11-2.

resources”,⁸⁶ that is to say they extend across a boundary and are situated in more than one State’s territory.⁸⁷ So, since all watercourse States of a given international watercourse has the right to utilise in theory, this right in fact “expresses a correlative entitlement” (Nollkaemper 1993: 61) (the exact scope of which -as far as each watercourse State is concerned- is to be determined by the principle of equitable utilisation, as will be discussed below). The waters of an international watercourse, in other words, constitute a correlative whole, as they theoretically consist of the equitable shares of all watercourse States (and the minimum stream flow which is to be left in the course of the international watercourse, as will be discussed separately below). Therefore, although they are different from both global commons and the resources subject to a *condominium* of States, it is widely concluded that sovereignty over shared natural resources had some differences from sovereignty over national resources.

⁸⁶ Migratory species, adjacent coasts, mineral deposits, and enclosed and semi-enclosed seas, are generally referred to as “shared natural resources”. Notwithstanding the fact that the concept of “shared natural resources” has not been officially endorsed (Birnie & Boyle 2002: 115-6; and Sands 1995: 16), there are many instruments which implicitly confirm the relevance of this concept by limiting the rights of States over, *inter alia*, such resources. Various cases such as the *Trail Smelter*, *Lac Lanoux*, and *Barcelona Traction* cases are all important milestones in this process. Furthermore, the existence of the General Assembly resolutions and the studies of the UNEP themselves proves that the view that “shared” natural resources have some different legal status from natural resources situated wholly in a single State is widely shared. According to the definition adopted by the Governing Council of the UNEP in 1978, which follows a number of UN General Assembly resolutions, States do not have unlimited sovereignty over these resources. See the Draft Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilisation of Natural Resources Shared by Two or More States. For text, see UNEP 1978. On the other hand, neither these principles nor the UN General Assembly resolutions have given an example of “shared natural resources”. Yet, quoting the explanation of the Executive Director of UNEP, Birnie & Boyle point out that “river systems” are among the list of such resources (2002: 116). They also refer to a proposition which defines these resources as “an element of the natural environment used by man which constitutes a biogeophysical unity, and is located in the territory of two or more States” (2002: 116).

⁸⁷ International watercourses, “which means a system of surface waters and ground waters constituting by virtue of their physical relationship a unitary whole” (Article 2(a), the 1997 UN Convention) and “parts of which are situated in different States” (Article 2(b), the 1997 UN Convention), should be one of the best examples of “shared natural resources”.

Furthermore, international watercourses (arguably together with migratory species⁸⁸) have an even distinguishing characteristic: They are not stable like other shared natural resources such as, say, minerals. They are mobile and flow from one State's territory to another's and eventually to the sea. So, watercourse States have the right to utilise (the waters of) international watercourses while they are running through their territories.⁸⁹ A watercourse State, in other words, can exercise its sovereignty over the waters of an international watercourse only after they enter its territory and only until they leave its territory for another State or for the sea.⁹⁰ What is more, since the waters of international watercourses are, like all water components in the world, a part of the (global) hydrological cycle, watercourse States can utilise the waters of international watercourses evidently as long as they remain as such, i.e. as a component/part of these watercourse units. In short, as far as the waters of international watercourses are concerned, the right to utilise is a provisional⁹¹ one.

One can argue that, as international watercourses are continuously running/flowing entities, this provisional

⁸⁸ McCaffrey (1991a) also points out that international watercourses are more akin to migratory birds than mineral deposits.

⁸⁹ McCaffrey (1991b: 51) notes that "water is constantly in motion whether between gaseous, solid and liquid states or from the mountains to the sea. This fact would seem to mean that any attempt to confine water completely, or to bring it entirely under exclusive dominion and control would be an exercise in futility". See also Schwebel 1979: 146 ff. It is because of this that some have suggested that water, as a running body, cannot be subject to ownership, and therefore, to sovereignty. As this theoretical question is beyond the scope of the present study, it may suffice to note that, at least as far as the utilisation of international watercourses is concerned, the sovereignty over these resources means the utilisation right of watercourse States. See also Bruhacs 1992: 41; and cf. Benvenisti 2002: 176.

⁹⁰ According to Article 8/2 of the Additional Act to The Treaty of Bayonne of May 26th, 1866 between France and Spain, "flowing waters change jurisdiction at the moment when they pass from one country to the other..." Similarly, Article 8/1 of the same Act states that "all standing and flowing waters are subject to the sovereignty of the States in which they are located". Quoted in *The Lac Lanoux Arbitration* (Arbitral Tribunal 1957: 119-20). See also Olmstead 1967: 1.

⁹¹ The term provisional (without any further explanation, though) is first used by Bruhacs (1992: 42) by citing Kearney (1976: 272 and 286). Nevertheless, as Bruhacs' bibliography also confirms, the mentioned report is published in pages 184-91 of the relevant ILC Yearbook (1976 II/I). Be that as it may, such a phrase is not used in Kearney's Report.

nature is not important, or at least not so important as to be able to create any legal consequences. Since the importance/meaning/implications of this provisional character will be examined in the context of the legal basis of the obligations of watercourse States in due course, it shall suffice to note that this inter-connectedness is in fact is of particular importance, as it is the factual reason of the natural fact that effects of all utilisation activities carried out over one part of international watercourses are, however minor, bound to be carried to other components of the environment.

So, as utilisation activities of watercourse States have the capacity to have a wide-ranging list of environmental and related effects, they concern not only the State of origin but also all other watercourse States and even non-watercourse States and the international community as a whole in some cases. The theoretical framework of the limitations on the sovereignty of a watercourse State is drawn by the principle of no-significant harm and the notion of the common concern of humankind, as will be studied below. It shall therefore suffice to underline for the present that although there have always been debates on the scope and even existence of (some of) these rules and principles, it is nevertheless accepted, even by the most jealous States, that the right to utilise is subject to some limitations.⁹² In short, the territorial sovereignty to be exercised over international watercourses is a restricted title.⁹³

Consequently, States are required to exercise their rights arising from their territorial sovereignty (so, including their right to utilise) within the limits drawn by applicable rules and principles of international law. Moreover, the special characteristics of (the waters of) international watercourses are such important and determinant that

⁹² For various examples, see McCaffrey 1986: 109 ff.

⁹³ However, the explicit reference to this concept in the draft articles proposed by Schwebel in his Second Report (1980: 173-4) was deleted during the ILC studies, which, according to McCaffrey (1986: 103), did not signify any noteworthy difference.

affect the nature of territorial sovereignty exercised over international watercourses. The present study would therefore argue that the widely accepted “restricted sovereignty” concept is not properly satisfying, because it reflects merely one characteristic of the right to utilise and the other, i.e., its provisional character, is not duly represented. Sovereignty of watercourse States over international watercourses would therefore be called as “relative sovereignty”, bearing in mind the similar statement of the PCIJ cited above. *Relative*, because being *provisional* in this context means that the right is not “constant” or, to put it more correctly, “absolute” in the conventional sense of the word. Moreover, *restricted* points out that the exact scope and even meaning of the right to utilise is open to change and may well have different meanings over time.⁹⁴

B. The Legal Basis of Entitlement to a Certain Amount of Water: The Principle of Equitable Utilisation

Having concluded that it is the territorial sovereignty concept that constitutes the legal basis of the right to utilise and (therefore) that only watercourse States hold this right, one still has to continue dwelling on this right, for the said concept makes sense only in theory. The exact scope of each watercourse State’s right to utilise in practice is still subject to determination. Indeed, as underlined boldly earlier, since all watercourse States of a particular international watercourse have the right to utilise this resource and since (the waters of) international watercourses flow as a whole

⁹⁴ In the meantime, it was suggested during the studies of the ILC that the “international” character of watercourses is a relative, not an absolute, one. Accordingly, “to the extent that parts of the waters in one State not affected by or do not affect uses of waters in another State, they shall not be treated as being included in the international watercourse system” (ILC 1980: 108 cited in McCaffrey 1986: 89-90). This evidently ill-founded and misleading approach was abandoned by McCaffrey. On the other hand, one author defines the flexibility in applying the principle of equitable utilisation in particular cases as “relativity”. Hanqin 1992: 55. However, according to her, this should not mislead to an idea that the watercourses have a relative status. The “relative” character attributed to the sovereignty to be exercised over international watercourses in the present study obviously has nothing to do with these two approaches.

entity, it (both practically and legally) becomes inevitable to determine the respective shares of the parties. In other words, the title (i.e., the right to utilise), which is given to watercourse States only in theory thanks to the concept territorial sovereignty, is to be fully established. It follows that the exact scope of each State's right is still subject to further determination,⁹⁵ which would make it possible for watercourse States to exercise their respective utilisation rights in practice.

1. The function of the principle

Apart from the “absolutist” opinions suggested especially up until the mid-twentieth century, it has been accepted for a long time that the waters of international watercourses are to be allocated between watercourse States in such a manner that enables each watercourse State to exercise its right to utilise in an equitable way. Indeed, the fact the each watercourse State has the right to utilise an international watercourse does not (necessarily) mean that

each watercourse State is entitled to an equal share of the uses and benefits of the watercourse. Nor does it mean that the water itself is divided into identical portions. Rather, each watercourse State is entitled to use and benefit from the watercourse in an equitable manner. The scope of a State's rights of equitable utilization depends on the facts and circumstances of each individual case, and specifically on a weighing of all relevant factors. (ILC 1994: 29)

So, “from the perspective of history we can see that... [the principle of equitable utilisation] grew out of the requirement to share equitably the use of the waters of an international watercourse” (Utton 1996b 638). This approach is generally called the principle of “equitable

⁹⁵ See also Handl 1979: 43.

utilisation” or “equitable apportionment”.⁹⁶ This well established principle (ILC 1994: 25)⁹⁷ means that only a “certain amount” of water may be utilised by each watercourse State.⁹⁸ In other words, each watercourse State may exercise its utilisation right merely over its “equitable share”, which is (to be) determined consistent with the relevant features of the international watercourse concerned that will be studied immediately below. It follows that the principle of equitable utilisation governs the allocation of the quantity of water that each watercourse State may use, or, to put it another way, the quantitative scope of the right to utilise.⁹⁹

Thus, since this principle provides the legal basis of entitlement over a certain amount of water, it evidently relates to the *existence* of the right to utilise and thus has a complementary function as far as the legal basis of the right to utilise is concerned: While the territorial sovereignty concept provides the legal basis of the right to utilise in theory, this theoretical right is realised over a certain amount of water thanks to the principle of equitable utilisation.¹⁰⁰ It follows that, since the legal entitlement of any watercourse State over a certain amount of water is to

⁹⁶ As “equitable apportionment” associates a definite and final sharing, it will not be referred to in the present study. For the equitable shares of the parties may well change over time consistent with the changes in the features, and the development, of a particular international watercourse. For further, see section IV.B.3. below.

⁹⁷ Indeed, virtually all relevant instruments employ a provision about the principle of equitable utilisation. For example, see Article 5, the 1997 UN Convention; Article IV, the 1966 Helsinki Rules; Article 3, the 1961 Salzburg Resolution; and Article 12, the 2004 Berlin Rules on Water Resources (hereafter, the 2004 Berlin Rules) (for text, see ILA 2004). Even, as far back as in 1983, Evensen regarded the inclusion of the principle of equitable utilisation in his draft articles as being merely a codification of a well-established principle of customary international law (1983: 170). So did McCaffrey, who stated that there was “overwhelming support for the doctrine... as a general, guiding principle of law for the determination of the rights” of watercourse States (1986: 130).

⁹⁸ See also ILC 1994: 25-6; and Evensen 1983: 170.

⁹⁹ See also Utton 1996b: 638; and Lipper 1967: 41-2 and 44-5. A recent judgement of the European Court of Justice also implicitly acknowledges that quantitative and qualitative aspects of water management are subject to, and covered by, different rules. See European Court of Justice 2001 (particularly paragraphs 17, 40, 48 and 52). Also cf. Fuentes 1998: 130.

¹⁰⁰ The right to utilise has an obligation aspect as well. See section IV.B.4. below.

be (co-)determined by the principle of equitable utilisation, watercourse States cannot go ahead with any utilisation activity without duly applying this principle.¹⁰¹ Otherwise, they would obviously be carrying out an activity the legality of which is undetermined and this would be risky as the activity in question may well be inequitable.

Having said that, it should be immediately stressed that this does not give the principle of equitable utilisation a primary role, as has been argued recently (Fuentes 1998). According to Fuentes (129), for example, the principle of equitable utilisation is the legal basis of the right to utilise and it therefore has a constitutive, not an interpretative, function. In fact, she first rightly notes (130) that “prior to the establishment of an equitable regime for the utilisation of international watercourses there is only a generic right to participate in the sharing of the watercourse,¹⁰² but it is equitable utilisation which constitutes the basis of the specific right to certain volumes of water or the right to undertake certain activities on the watercourse”. However, a close look at her following arguments (regarding the factors to be weighed in determining the equitable shares of the parties and particularly the principle of no-significant harm) suggests that she attributes such a primary (or, constitutive) role to the principle of equitable utilisation that all applicable rules and principles, particularly the principle of no-significant harm, are said to be subject to the former. This argument is apparently ill-founded and misleading, as the principle of equitable utilisation does not have the capacity to establish the legal existence of the right to utilise on its own. Indeed, as Fuentes also acknowledges (130), it is the territorial sovereignty concept which provides the answers of these questions and a (non-watercourse) State cannot claim an equitable share simply by referring to the principle of equitable utilisation. Hence, she, in the final analysis, fails to explain why the right to utilise belongs solely to watercourse States.

¹⁰¹ For further, see section IV.B.3. below.

¹⁰² For a recent elaboration on the “participation” issue, see Behrmann, 2012.

So, although it is evident that the principle of equitable utilisation relates to the (legal) *existence* of the right to utilise and functions in this context, this is a somewhat complementary function. For this principle operates in realising the right to utilise already established in theory by the territorial sovereignty concept. In short, the fact that the principle of equitable utilisation relates to the existence of the right to utilise does not mean that this principle itself constitutes, or is sufficient to constitute, the right to utilise.

Furthermore, arguing that all relevant rules and principles are subject to the principle of equitable utilisation would therefore also be legally ill-founded. For, as will be demonstrated below, the existence of a right and (once established) the way it is exercised are distinct legal matters and therefore governed by distinct rules and principles. It follows that any principle governing the *way* the right to utilise is exercised (i.e., the principle of no-significant harm) cannot be deemed to be subject (or subordinate?) to a principle governing the *existence* of this right (i.e., the principle of equitable utilisation), and vice versa. The principle of equitable utilisation simply functions in determining the exact scope of the right to utilise in practice, and -once established- it can only be exercised consistent with relevant rules and principles of international law like all legal concepts/rights, including the territorial sovereignty concept itself.¹⁰³ In short, this argument, which apparently endeavours to undermine the authority of the principle of no-significant harm by making it subordinate to that of equitable utilisation, is legally ill-founded and acceptable.

Another argument that should be scrutinised in this context is put forward by Nollkaemper. He suggests (1993: 64) that the principle of equitable utilisation is a procedural tool used to determine the “equitable” amount of water to be utilised by each watercourse State. Accordingly, the principle has a procedural nature, rather than being a substantive one, and this procedural nature prescribes a

¹⁰³ See Chapter V below.

technique that can be used in negotiations between concerned States in order to reach an equitable result. However, the function of this principle is not necessarily limited to such a technical nature providing a procedural tool to watercourse States in case of negotiations and/or disputes. On the contrary, it would be relevant even if there existed no dispute or disagreement between watercourse States. Indeed, since States can carry out only lawful activities, and since the legal entitlement to a certain amount of water can only be determined through the principle of equitable utilisation (as a complement to the territorial sovereignty concept, which is the theoretical basis of the right to utilise), watercourse States are bound to determine their equitable shares before going ahead with their utilisation plans. In short, the principle of equitable utilisation is a fundamental principle which governs the very existence of the right to utilise and therefore is not a technical tool.

2. The factors to be weighed in determining the equitable utilisation

a. General Remarks

Today it is generally accepted that all the relevant special characteristics and features of international watercourses should be taken into account in order to determine the equitable utilisation of these resources in practice. In this context, there are several factors which not only reflect relevant characteristics and features of international watercourses in general but also have the capacity to guide particular cases. Although various factors were suggested on various occasions, it could be easily argued that the first systematic and comprehensive proposal was made by the ILA in its 1966 Helsinki Rules.¹⁰⁴ Indeed, even the ILC and its Rapporteurs (Evensen 1983: 172-3; and Schwebel 1982: 99) have taken these Rules as the main point of departure for their studies, and the final

¹⁰⁴ Article V. For text, see ILA 1966. See also Article 13(2), the 2004 Berlin Rules.

text (Article 6, the 1997 UN Convention) is also, to a great extent, based on them. Additionally, some federal courts, especially in Switzerland, the USA, Germany and India, have also made important contributions when they were dealing with inter-State disputes.¹⁰⁵ In short, today we have a long list of factors suggested by various bodies to be weighed when determining equitable shares of watercourse States. Nevertheless, as the 1997 UN Convention implicitly agrees, any possible list of factors, including that of the 1997 UN Convention itself,¹⁰⁶ cannot be exhaustive, because it is not easy to exhaustively outline factors applicable to all international watercourses in different parts of the world which “differ from each other in respect of ecological, political, and geographical particularities... [So,] the practical application of the principle of equitable utilisation has to be determined on a case-by-case basis” (Fitzmaurice 1995: 365).¹⁰⁷

Having said that, there are a number of factors widely referred to in the literature and they will be outlined below. However, one point should be noted first: the factors to be weighed in a given case should be chosen according to their relevance in that particular case/international watercourse. As 1997 UN Convention (Article 6(3) also states

the weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are

¹⁰⁵ Some of these decisions (i.e., *Wurtemberg and Prussia v. Baden (Donauversinkung case)* (1927); *Kansas v. Colorado* (1907); and *Washington v. Oregon* (1936)) constitute examples of the first implementations in this subject and shed light on later developments, including particularly the 1966 Helsinki Rules. See also Bourne 1992: 86 (fn. 51); Fuentes 1996; and Bruhacs 1992: 155-6.

¹⁰⁶ In its introduction to the relevant factors, Article 6 state that equitable utilisation “requires taking into account all relevant factors and circumstances, *including...*” (emphasis added) Similarly, the Article V, paragraph 2 of the 1966 Helsinki Rules also state that “relevant factors which are to be considered, *include, but are not limited to...*” (emphasis added)

¹⁰⁷ See also ILC 1994: 42.

to be considered together and a conclusion reached on the basis of the whole.¹⁰⁸

Moreover, it is obvious that none of these factors are *sine qua non* and it will always be possible to ignore any of them in a particular case if it is necessary. The ILC (1994: 46) also underlines that “the weight to be accorded to individual factors, as well as *their very relevance*, will vary with the circumstances”. (emphasis added)

In short, the factors referred to most frequently in the literature and relevant international instruments are the following:¹⁰⁹ geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; the social and economic needs of the watercourse States concerned; the population dependent on the watercourse in each watercourse State; existing and potential uses of the watercourse; conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; and the availability of alternatives, of comparable value, to a particular planned or existing use.

It goes without saying that other possible factors proposed by authoritative bodies and authors which reflect the features and characteristics of international watercourses may also be relevant in a given international watercourse.¹¹⁰ Nonetheless, two relevant points need some further scrutiny: First, whether “the effects of the use or uses of the watercourses in one watercourse State on other watercourse States”¹¹¹ may be deemed to be a factor in this process. This is important, because inclusion of this alleged factor is arguably of key importance in understanding the

¹⁰⁸ See also Article V(1) and (3), the 1966 Helsinki Rules.

¹⁰⁹ Since the list of the 1997 UN Convention (Article 6(1)) generally includes all the important and most cited factors, this list will be referred to here but omitting the one on “the effects of the use or uses of the watercourses in one watercourse state on other watercourse states’ as a factor” for reasons that will be explained shortly.

¹¹⁰ See particularly draft article 8 proposed by Evensen in his First Report (1983: 171-2); and Second Report (1984: 111-2). See also Moermond and Shirley 1987: 150.

¹¹¹ Or a similar expression to this effect.

conventional paradigm. Second, “the minimum stream doctrine” should also be discussed separately, as it is widely ignored particularly when/where the principle of equitable utilisation is examined and rather dealt with (if, at all) in connection with environmental obligations of watercourse States.

b. “The effects of the use or uses of the watercourses in one watercourse State on other watercourse States” as a factor?

“The effects of the use or uses of the watercourses in one watercourse State on other watercourse States” is among the factors referred to in almost all relevant studies and instruments.¹¹² Although this is just one of the factors conventionally listed, one may easily argue that it is in fact *the* key factor that plays a crucial role in the “battle” between the two prevailing schools.¹¹³ Indeed, while the group which advocates the superiority of the principle of no-significant harm over that of equitable utilisation implies that “effects of utilisation activities over others” is the *decisive* factor in determining the overall legality of a given utilisation activity, the other group claims that it is simply *one factor*. So, the former apparently overemphasises the relevance of this alleged factor, whereas the latter apparently belittles it in such a sense that undermines the importance and even relevance of the principle of no-

¹¹² These studies base their arguments on the three municipal court decisions (two in the USA, and one in Germany) quoted in *supra* note 61.

¹¹³ Article 6(1)(d), the 1997 UN Convention. The representative of Bangladesh argued during the debates in the General Assembly’s Sixth Committee that this is “the first and most important criterion” basing his argument on Article 2 of the Inter-American Bar Association’s 1957 Resolution, which invites watercourse States to recognise “the right of each State to the maintenance of the status of existing beneficial uses...” (see text in Laylin 1958). This extreme provision is found “hardly compatible with the idea of equitable use” even by Handl (1979: 49-50), who is in fact in favour of inclusion of such a factor. According to him (49-50), “to hold otherwise would mean that a State which might succeed in prior appropriation of all the waters..., would have a valid legal defense [*sic*]”. Finally, cf. the 2004 Berlin Rules, which, in addition to quoting such a factor in Article 13(2)(d), refer to “the minimization of environmental harm” in Article 13(2)(i) as well. But see *infra* note 12 for the general attitude of the ILA.

significant harm which governs consequences of utilisation activities, namely such effects.

Arguably, resorting to this alleged factor seems an unavoidable result of the conventional paradigm, as it is believed to make it easier to reach a “fair” and “acceptable” compromise, i.e., balancing the loss on one side with a benefit gained by the other. However, although this concern is an understandable and even a respectful one, utilisation of international watercourses cannot be reduced to a mere matter of balance of interests. It is true that the “balance of interests” may be a political, practical and even judicial approach in dispute settlement in some cases. Courts, for example, may indeed seek acceptable solutions between the parties particularly in cases where either or both of the parties have various ongoing practices, i.e., utilisation activities.¹¹⁴ According to the decision of a German Court in the *Donauversinkung* case, which is “instructive” in the ILC words,

[t]he interests of the States in question must be weighed in an equitable manner one against another. One must consider not only the absolute injury caused to the neighbouring State, but also the relation of the advantage gained by the one to the injury caused to the other.¹¹⁵

¹¹⁴ And in fact this approach bases its legal approach basically on federal court decisions in the US and Germany cited in supra note 61. However, it is evident that the courts in question were also trying to settle a dispute between the parties and their (only) concern was to settle the disputes in question, not to find out a comprehensive legal framework that governs utilisation of international watercourses in general.

¹¹⁵ See *Wurtemberg and Prussia v. Baden (Donauversinkung case)* cited in ILC 1994: 54. See note 60 above for other cases referred to as the first cases applying this formula. See also Bourne 1992: 86 (fn. 51) and Brierly (1936: 159), who noted as far back as 1936 that “the practice of States, as evidenced in the controversies which have arisen about this matter, seems now to admit that each State concerned has a right to have a river system considered as a whole, and to have its own interests weighed in the balance against those of other States; and that no one State may claim to use the waters in such a way as to cause material injury to the interests of another, or to oppose their use by another State unless this causes material injury to itself”. For other obvious examples of such an assumption, see Fitzmaurice 1995: 365; Handl 1979: 45 and 46; and Nollkaemper 1993: 34-5 and 44-5.

Watercourse States indeed take “possible harmful effects” into account during negotiations in most cases and therefore possible solutions may well include reparation, possible payment of compensation, or other trade-offs and so on. However, as demonstrated earlier, the legal framework governing the utilisation of international watercourses cannot be reduced to a matter of dispute settlement,¹¹⁶ as it should be capable of governing the utilisation of international watercourses in general even if no dispute exists between the relevant parties. Dispute settlement is, however important, simply one of the issues arising in this context. Furthermore, even in cases of disputes, the legal status of the activities of the parties should be determined first consistent with the applicable legal framework. It is only after that that the parties, or the judicial body, can apply different dispute settlement methods which are not necessarily limited to legal ones. In other words, resorting to such solutions would only then be relevant, if indeed necessary, as courts, as well as the parties, are not bound to settle disputes merely in terms of the applicable legal framework.

In short, since utilisation of international watercourses cannot be reduced to an inter-watercourse State issue and/or a set of dispute settlement mechanisms, but rather governed by a comprehensive legal framework embodying all rights and obligations of all relevant parties, such an alleged factor based on an inter-watercourse States cannot be seen among legal criteria of the principle of equitable utilisation.

Apart from, or in addition to, this theoretical and general objection, the present study will argue and suggest that such a factor is legally irrelevant, as well. There are two basic reasons for objecting to such a factor: It is both impracticable and legally groundless.

First and foremost, if to recall briefly, the principle of equitable utilisation provides the legal basis of entitlement to a certain amount of water, and it therefore relates to the

¹¹⁶ See also Subedi (2002: 47), who notes that “the role of international law is bigger and broader than merely providing a mechanism for dispute resolution”.

very *existence* of the right to utilise (theoretically established by the territorial sovereignty concept). So, since the lawfulness of a particular activity should be determined at the time of its execution (at the latest) as stressed above, the factors (to be) weighed in determining the equitable shares of watercourse States should obviously be present at/by that time. However, the “effects” of utilisation activities, by definition, cannot be present then. It would, in other words, be both practically impossible and legally incorrect to decide on the lawfulness of an activity taking into account, *inter alia*, its consequences that may well occur years after.¹¹⁷ “The effects of utilisation activities on others” cannot therefore be a factor to be weighed, as it has nothing to do with the very existence of the right to utilise.

Moreover, the beneficiaries of the right to equitable utilisation and the potential sufferers of any (harmful) effect that might be caused are not necessarily the same. Although only watercourse States have the right to utilise international watercourses thanks to the territorial sovereignty concept, the (harmful) effects of their utilisation activities may be suffered not only by other watercourse States but also by “third” parties due to the special characteristics of (the waters of) international watercourses. This fact also supports the view that such a factor both practically and legally cannot be taken into account in determining equitable utilisation of international watercourses.

In short, “the effects of the use or uses of the watercourses in one watercourse State on other watercourse States” would be an impracticable and illogical “factor” and it would therefore be legally inappropriate and even groundless to count it among relevant factors to be weighed.

At this point, one might argue that although this would be true for pollution and other qualitative effects, the

¹¹⁷ This is, of course, not to say that watercourse States would not be responsible if and when they do not exercise their right to utilise within the limits of international law, that is to say if and when they cause harmful effects prohibited by international law when they are carrying out lawful activities. For further, see Chapter V below.

situation of quantitative “effects” would be different, because a quantitative/consumptive use in one watercourse State would almost *simultaneously* and directly reduce the amount of water available in the international watercourse in question. Although this possible objection seems reasonable at first sight, it suffers a serious legal deficit.

This is simply because to describe this as an “effect” would not be quite correct in the strict sense of the word, as otherwise it would effectively mean that the “affected” activity would enjoy some sort of international status/protection and that the “affecting” activity would be held as a potentially unlawful one. However, legally speaking, the effects of activities on others would legally be relevant only once a watercourse State actually began to exercise its “right” to utilise *its share*. The ICJ states (1970: 47) in the *Case Concerning Barcelona Traction, Light and Power Company, Limited*, that

evidence that damage was suffered does not ipso facto justify a diplomatic claim. Persons suffer damage or harm in most varied circumstances. This in itself does not involve the obligation to make reparation. Not a mere interest affected, but solely a right infringed involves responsibility...

So, in order to talk about the “effects” of a particular utilisation activity as one of the factors in the sense to implicitly or explicitly grant some sort of legal value/status to it, it must first and foremost be ensured that the “effect” concerned does not relate to an “interest”, but to a “right”. That is to say, it must be deduced and concluded that the watercourse State conducting the activity in question is encroaching upon the equitable share of the “affected” State. For only a use which is recognised as a “right” by international law, i.e., an equitable activity, can benefit from legal protection against violations. Indeed, the State of origin may well be exercising its right to utilise over its respective equitable share, which would in turn mean that a “harm” to others is not the case.

This right-interest difference is indeed very crucial, as not all quantitative “effects” caused in other watercourse

States but only those on established “rights” can be taken into account by international law.¹¹⁸ Otherwise, watercourse States would be encouraged to act illegally with the expectation of legal protection in case of being “harmed” in the future,¹¹⁹ and, more importantly, to make a *fait accompli*, which contradicts the very character of (international) law that it should be fair and foreseeable. Regarding the utilisation of international watercourses, for example, this would “have the effect of encouraging States to race to the river, or to develop first, so that the State first to develop would inevitably be harmed by significant projects upstream” (McCaffrey et. al. 1990: 234-5).¹²⁰ Nevertheless, the correlative rights of watercourse States

¹¹⁸ Bourne and Fuentes also use a similar terminology, as they make a differentiation between “factual harm”-“legal injury/damage”. Notwithstanding this, there is a crucial difference between their approaches and that suggested here. Bourne basically argues that “factual harm” caused by water pollution would not enjoy any legal protection in cases where the utilisation activity in question is equitable (1992: 84 ff.). So, he advocates the superiority of the principle of equitable utilisation, as will be discussed below. Fuentes, on the other hand, claims that the principle of no-significant harm “cannot be construed as protecting the ‘integrity’ of the watercourse as such, but as protecting each State’s share of the benefits of the watercourse” (1998: 138). So, she challenges the relevance and even the legal existence of the principle of no-significant harm. It is hard to subscribe to these approaches, simply because of the fact that transfrontier “harm”, which is outlawed when it is “significant”, at the same time constitutes a “(legal) injury”. When it is not “significant”, it would not constitute a “legal injury” and would not “merit” international legal protection.

¹¹⁹ In the course of the development of the principle of no-significant harm, relevant instruments have referred to harm, damage and injury in various contexts (for this rather practical inconsistency, see Crawford et. al. 2001: 971). It may be concluded that while “injury” indicates the “legal wrong”, harm and damage are (interchangeably) used to explain the material/moral effect caused. However, some writers imply that the inconsistency in relevant international instruments/studies regarding the harm-damage difference undermines the authority of the principle of no-significant harm (for example, see Bourne 1992: 84 ff.; and Fuentes 1998: 135 ff.) But cf. Handl 1992: 129-30; and McCaffrey (1986: 133-4) where he concludes that such a distinction is not meaningful at all. The present study will use “harm” in this context, as it seems that it is widely used in the literature, not to mention the fact that the widely acknowledged principle of no-significant harm employs it. Be that as it may, the 1997 UN Convention employs the phrase “possible adverse effects” in the context of the obligation to notify. However, its difference from “significant harm” is not spelt out at all, except the explanation of the difference between “significant” and “adverse”. (ILC 1994: 75-6.) It is, therefore, hard to understand whether “harm” and “effect” are used interchangeably or rather attributed different meanings, which would have certainly required further explanation.

¹²⁰ It seems that this concern of McCaffrey made him suggest (and support) the superiority of the principle of equitable utilisation.

over international watercourses are, as demonstrated above, accommodated via the principle of equitable utilisation and “first come, first use” cannot be applicable at all.

At this point, one may argue that the present suggestion, by omitting the “effects” factor from the list, ignores the “shared” character of these resources and “equity” in their utilisation. Accordingly, if the effects on the utilisation activities of other States were excluded from the list, States might ignore the existing activities of other watercourse States which would in turn be vulnerable to new activities.

However, the present suggestion does not in any way mean that the existing activities of watercourse States should be omitted from the list. Indeed, “existing and potential uses of the watercourse” would, as one of the factors, have a crucial role in this context. Thanks to this factor, the total amount of water (to be) used in all existing and planned activities would be taken into account in determining the respective equitable shares of the parties, which means that all means for attributing the necessary value to existing activities as well as the new/planned ones would be provided. One should simply take, *inter alia*, this factor into account throughout the determination process, and, since the respective equitable shares of the parties are determined at the end, compare the figures and find out which activity is/would be (and to what extent) lawful/equitable. So, it would be perfectly possible to see whether any of the parties exceeded/was going to exceed the limits of its equitable share. It follows that, in case of conflicting/competing activities, either the “affected” or the “affecting” activity would be equitable/legal.¹²¹ Thus, while the “duty” and/or obligation aspect of the right to utilise would be applicable in the former, no legal value would be attributed to the “affected” activity in the latter.

In short, taking into account all existing activities and planned/new ones, not the “effects” of the former on the

¹²¹ Any activity may well be found to be partly equitable and partly inequitable. In such cases, the lawfulness/unlawfulness would obviously be relevant only for that particular part.

latter, or *vice versa*, would be sufficient to practically, legally and fairly establish the equitable shares of the parties and thus watercourse States which (wholly or partly) exceeded its equitable share will be easily identified.¹²² So, States cannot ignore the existing activities of other watercourse States (or seek automatic legal protection for theirs) but are simply required to determine the respective equitable shares of watercourse States before granting any value to any existing activities.

To sum, it is impossible to accept that “the effects of the use or uses of the watercourses in one watercourse State on other watercourse States” (or similar expressions) constitute a “factor” to be evaluated in determining the equitable shares of watercourse States, because this alleged “factor” is not only theoretically groundless, but also inapplicable. Emphasising this point is of crucial importance, because this factor occupies a key role in understanding the conventional wisdom which, as a result of its inter-watercourse States approach, assumes that the principles of no-significant harm and equitable utilisation inherently conflict.

c. The minimum stream flow doctrine

As is seen in the preceding pages, there is no doubt whatsoever that the right to utilise belongs solely to watercourse States thanks to the territorial sovereignty concept, and the exact scope of this right of each watercourse State is determined by means of the principle of equitable utilisation. There arises a crucial question: Do the above-mentioned facts mean that *all* waters flowing in an international watercourse are subject to the utilisation right of watercourse States? In other words, does the whole of the annual flow of an international watercourse consist of the “equitable shares” of the parties, or is there a specific (i.e., minimum) amount of water which is not subject to the

¹²² For further, see Conclusion.

utilisation rights of watercourse States and which is immune from all utilisation activities?

In fact, minimum stream flows have been neglected in practice in most cases, and, more importantly, this, in practice, leads to, or is fed by, an assumption¹²³ that “all” waters flowing in international watercourses are “usable”.¹²⁴ As Postel (1997: 85) puts it,

modern water development has adhered to a fairly simple formula: estimate the demand for water and then build new supply projects to meet it. It is an approach that largely ignores concerns about equity, the health of ecosystems, other species, and the welfare of future generations.

As a result, the beds of, for example, the Colorado, Indus, Nile and Ganges have dried up at various times, which has caused devastating problems not only in these watercourses but also on dependent components of the environment.¹²⁵

¹²³ Even the assumption that the equitable utilisation obligation is owed merely to other watercourse States itself shows that authors as well as official bodies ignore the minimum flow obligation presently examined.

¹²⁴ Indeed, there are examples where the parties of some international watercourses shared the entire annual flow without putting aside any amount of water to flow into the sea. For example, according to the 1996 Treaty between India and Bangladesh on the water of the Ganges, the flow of the lean season is entirely apportioned between the parties by Article II (together with Annexes I and II). Similarly, the Indus Water Treaty of 1960 between Pakistan and India also apportions the entire waters of the tributaries of the watercourse. Sudan and Egypt, the two lowest States of the Nile, apportioned the entire flow in 1959 (interestingly, even the title of the treaty signed between Sudan and Egypt (then the United Arab Republic) is “Agreement on the Full Utilisation of Nile Waters”. (emphasis added) Finally, the annual flow of the Euphrates has also been (indirectly) apportioned by Turkey, Syria and Iraq. First, Turkey accepted to release 500 cubic meters of water per second to Syria by the 1987 Protocol (for text, see *Resmi Gazete* 1987). Two years after that, Syria and Iraq agreed to share the waters coming from Turkey 42 % - 58 %, respectively (see Article 1, Joint Minutes Concerning the Provisional Division of the Euphrates Waters Between the Republic of Iraq and the Arab Republic of Syria, 17 March 1989. For other examples, see Wolf 1999. For texts, see International Freshwater Treaties Database 1994-2005.

¹²⁵ See generally Wilson 1994; Pitt et. al. (2000); Goldenman 1990: 788; and McCaffrey 1999-2000: 326. See also Clifford’s article (1995) where he analyses the related problems of the Montana Region; the article of Ellis on problems faced in the Columbia and Snake Rivers (Ellis 1996); and Postel’s article for a general evaluation of all relevant cases including the Ganges,

Nevertheless, recent studies and instruments increasingly employ provisions to the effect that a minimum amount of water should be left in the mainstream of (international) watercourses. Watercourse States, in other words, are *not* entitled to (collectively or individually) utilise all waters carried by international watercourses and the total use of all watercourse States of a given international watercourse cannot exceed a certain amount of water adequately determined according to the characteristics of each international watercourse.¹²⁶ In other words, the flow of each international watercourse must also include an adequate minimum amount of water that is to flow into the sea. In their comprehensive article, Utton & Utton (1999) call this obligation the “minimum stream flow doctrine” and legal basis of this doctrine is not only based on a logical/factual reality, but also deduced from a wide range of rules and principles of general international (environmental) law.

First and foremost, the special characteristics of the waters of international watercourses constitute the factual basis of such an obligation. As noted above, waters flowing in international watercourses are an inseparable part of a global common, i.e., the global hydrological cycle,¹²⁷ and they have a substantial function in the operation of this cycle. It is hard to think about a naturally operating global hydrological cycle without the functioning contact between the freshwater on continents and the sea, secured particularly through the adequate emptying of international watercourses into the sea. Moreover, this global common, as

Nile and Colorado (1997: 85 ff.). See also Nollkaemper (1996b: 152-60) for related problems faced in the Rhine; and Sanchez (1996-97) for similar problems faced in Mexico after the completion of *El Cuchillo Dam* especially with the effect of drought.

¹²⁶ So, one of the factors referred to above, namely “geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character,” are of paramount importance in determining the relevant “minimum stream flow” for each particular international watercourse.

¹²⁷ McCaffrey, having defined the role of waters of international watercourses in the global hydrological cycle (1999-2000: 333-4), even argues that that cycle entitle, in his terminology, “hydrologically-disadvantaged States” (336) to a fair share. Accordingly, “at least the water that evaporates from the high seas is a *res communis* and should be allocated equitably among the peoples of the world” (336).

all global commons, does not belong to any State but belongs to the international community as a whole, and the international community as a whole in general, as well as all States in particular, have rights over this cycle. Undoubtedly, the global hydrological cycle itself, not its components in their various forms situated in different parts of the globe such as the waters flowing in international watercourses, is the global common. So, the mentioned right of the international community as a whole relates to this very cycle and its proper operation. Nevertheless, logic suggests that this right would unavoidably extend to all its components in accordance with their role and function in the operation of the global hydrological cycle. So, needless to say, the right of the international community as a whole over the waters of international watercourses is strictly limited by the role of these waters in the operation of the global hydrological cycle. In other words, it would only be valid as far as the operation of this global cycle is concerned, because sustainable uses of water is defined as “the use of water that supports the ability of human society to endure and flourish into the indefinite future *without undermining the integrity of the hydrologic cycle* or the ecological systems that depend on it” (Gleick et.al. 1995 cited in MacDonnell 1997: 100). (emphasis added) As a result, it may well be concluded that watercourse States are obliged not to hinder the natural contact between components of the global common, as well as its natural operation. This, obviously, first and foremost requires an adequate amount of water to be allowed to empty into the sea.

Before proceeding any further, it must be immediately clarified that the rights of non-watercourse States and the international community as a whole have a different character from those of watercourse States. For while the latter enjoy a positive right, i.e., the right to “utilise”, the former is a negative one, i.e., the right to be immune from all violations. In other words, while watercourse States have the right to use the waters of international watercourses in accordance with international law, non-watercourse States and the international community as a whole only have the right to have an adequate amount of water unused and

released into the sea. This part of the total flow therefore is not subject to any utilisation activity whatsoever of any (watercourse or non-watercourse) State, any institution, or any organisation.

Be that as it may, “although the international law in this area is less explicitly articulated” (Utton & Utton 1999: 36), there are a considerable number of well-established rules and principles of international law, as well as general principles of law, which (implicitly) oblige all watercourse States to keep an adequate amount of water flowing into the sea (7, 12 and 36). In this context, first, the widely, if not unanimously, accepted¹²⁸ concept of sustainable utilisation provides ample evidence to deduce a minimum stream flow obligation.¹²⁹ It is beyond question that, as far as international watercourses are concerned, the first thing to be done in terms of sustainability is to keep watercourses “alive”,¹³⁰ because, “a right to use a resource has little

¹²⁸ “The concept of sustainable development is... a principle accepted not merely by the developing countries, but one which rests on a basis of worldwide acceptance... [It is]... a part of modern international law by reason not only of its inescapable logical necessity, but also by reason of its wide and general acceptance by the global community... It has also been expressly incorporated into a number of binding and far-reaching international agreements, thus giving it binding force in the context of those agreements.” (Weeramantry 1997: 94-5. On the legal character of the sustainable development concept, see Birnie & Boyle 2002: 122-4; Sands 1995: 13-4, and 198 ff. But cf. Fuentes 1998.

¹²⁹ As Judge Weeramantry (1997: 94-5) also clearly underlines, this principle obliges States to develop (exploit, utilise and so on) their natural resources in a sustainable manner and both these aspects of this concept are of equal value/importance and neither of them should be neglected or sacrificed to the other in any circumstances.

¹³⁰ Indeed, it would suffice to recall the catastrophes occurred, especially in the Aral Sea, as a result of “development” projects carried out. The entire flows of the Amu Darya and Syr Darya watercourses in Central Asia were used, especially in the 1980's, for agricultural purposes, and virtually no water reached the Aral Sea, their terminus, in those years. The situation was not very different in other years since the 1960's with very little water emptying into the Aral Sea. As a result, dramatic decreases were seen in its volume (by 75 %) and in its area (by 50 %) by the early 1990's which caused catastrophic problems. Generally see Kotlyakov 1991; Postel 1997: 86; and Nilsson and Berggren 2000: 788-9. The California Supreme Court also ordered in 1983 that a minimum level be maintained in the Mono Lake (See Utton & Utton 1999: 11). Likewise, having noticed the urgent dangers caused by virtually consumed rivers, the Washington Department of Ecology adopted emergency rules for determining the minimum amounts for the survival of fish populations (Ellis 1996: 308). In addition, the UNEP (2001) has recently urged Turkey, Syria, Iraq and Iran regarding the serious environmental problems that occurred in the Mesopotamia. For further discussion, see especially Ellis 1996:

meaning unless it carries with it at least a minimal assurance that the resource will not be destroyed” (Clifford 1995: 128).¹³¹ Moreover, sustainable utilisation of river and sea resources, such as various fish populations in particular and the dependent components of the environment in general, also requires a continuous flow of water.¹³² It would therefore be concluded that this principle provides sufficient basis for obliging watercourse States to keep international watercourses alive and to protect them as functioning natural systems.¹³³

Likewise, the principle of no-significant harm in general also requires watercourse States to maintain a minimum flow. Regarding water pollution, for example, it is beyond question that “water quality standards... require the imposition of minimum stream flows”,¹³⁴ because nothing could be more polluting than a dried-up riverbed.¹³⁵ In other words, “too little flow... may intensify water pollution”.¹³⁶ The waters of international watercourses may, for example, be polluted as a result of decreasing amount of water which

301-2 and 305; Wilson 1994: 261-2; Clifford 1995: 117, 128 and 129; MacDonnell 1997: 100; Postel 1997: 88-9; Pitt et.al. 2000; and Rinehart 1993-94: 212 and 216.

¹³¹ For a detailed study on “international instream flows” which analyses the relevance of the Convention on International Trade in Endangered Species (hereafter CITES), see Wilson 1994: 264-5. For the text of this Convention which has 171 parties as of October 2007, see <www.cites.org>. See also Ellis 1996: 305.

¹³² As MacDonnell wisely put it (1997, 99), “sustainable use suggests that human uses of water should take the minimum amount necessary to accomplish their purposes. Reducing the gap between the amount of water withdrawn from ground and surface water resources for human use and the amount that never returns to these sources might be an example of a sustainable use policy objective. Such an approach is important not only to allow water to continue to serve broader system needs (such as ecosystem maintenance), but also to accommodate other direct human uses of water.

¹³³ See also Clifford 1995: 117; and MacDonnell 1997: 99.

¹³⁴ Washington Supreme Court 1993 cited in Rinehart 1993-94: 212. This fact is clearly recognised by the Convention for the Protection of the Rhine Against Chemical Pollution, for example, which refers (Article 1(2)(c)) to the function of minimum flow in “the preservation of the self-purifying capacity of water”. For text, see International Freshwater Treaties Database 1994-2005.

¹³⁵ As Schwebel also states (1982: 162), minimum flows are necessary for the dilution of pollutants. See also Utton & Utton 1999: 29. McCaffrey also confirms in his Fifth Report that reduced flow may hinder the adequate scouring of the riverbed (1989: 124).

¹³⁶ ILA 1978: 221.

effects the proper functioning of the self-purifying character¹³⁷ of international watercourses.¹³⁸ Pollution, in other words, may be caused as a result of quantitative activities/changes *per se*. In short, the obligations of watercourse States concerning water (and even marine) pollution could be hardly fulfilled (Utton & Utton 1999: 30-1) if an adequate amount of water is not left/reserved in the riverbed.

Besides, various rules and principles of the Law of the Sea (especially those regarding land-based marine pollution)¹³⁹ do also support the minimum stream flow doctrine, as watercourse States can (hardly) fulfil their relevant obligations with dried-up riverbeds, deltas, and estuaries. This is simply because “the biological integrity of the stream influences the biological integrity of the receiving marine environment. A loss of stream flow could therefore adversely affect the biological integrity of a stream, resulting eventually in the degradation of any marine environment into which such a stream empties” (Utton & Utton 1999: 15). Finally, however vague it might be, the general obligation to protect international watercourses and dependent components of the environment,¹⁴⁰ including particularly biological resources, also requires a minimum flow. Indeed, “preservation of fisheries and other aquatic life, the protection of estuaries through the balancing of the marine-river interface, and the maintenance of river channel integrity” would otherwise be impossible (Utton & Utton 1999: 9). Relevant obligations may well be expanded but one point is for sure: Environmental and related obligations of watercourse States could not be fulfilled properly without

¹³⁷ That is to say, the “ability of water to cleanse itself... through its flowing motion” or interaction with the air. See Schwebel 1982: 149.

¹³⁸ For example, as Utton notes (1992: 211), “the consumptive uses of water [of the Colorado River] reduced the amount of water available for dilution, which in turn raised the salinity of the river” (211). See also Lammers 1984: 360; and Nanda 1992: 188. For further discussion whether quantity can be separated from quality scientifically, see *infra* note 249-255 and corresponding text.

¹³⁹ See *infra* notes 204 and 205.

¹⁴⁰ Generally see Teclaff 1991; and Korhonen 1996.

an adequate amount of water being allowed to flow into the sea.¹⁴¹

The minimum stream doctrine indirectly deduced from, *inter alia*, the foregoing rules and principles is now being explicitly employed by a growing number of international instruments.¹⁴² These include the 1964 Agreement between the USSR and Finland,¹⁴³ the 1995 Mekong Agreement,¹⁴⁴ the 1996 Mahakali River Treaty between India and Nepal,¹⁴⁵ the 2002 Framework Agreement on the Sava River Basin,¹⁴⁶ the 2002 Interim Agreement on the Incomati and Maputo Watercourses,¹⁴⁷ and the Luso-Spanish Treaty of 1997.¹⁴⁸ Int would therefore be concluded

¹⁴¹ It may even be argued that the controversial theory of “inter-generational equity” may also be seen as supportive of the minimum stream flow doctrine. According to this theory, States have the responsibility not to jeopardise the interests and rights of future generations whilst utilising their resources (see also MacDonnell, 1997: 98). Regarding the controversial nature of this theory, see Birnie & Boyle 2002: 89-91.

¹⁴² Early examples include some decisions of the Washington Supreme Court, US, which explicitly confirm and apply this doctrine. Wilson noted in 1994 that the notion of instream flow rights was about twenty years old (1994: 256. See also Ellis 1996: 304). See also Clifford (1995); Postel (1997); MacDonnell (1997); Rinehart 1993-94; and Utton & Utton 1999: 149.

¹⁴³ According to Article 3, the “parties shall ensure that the main fairways of frontier watercourses are kept open for the free flow of water and for transport, timber floating and the passage of fish”. For text, see International Freshwater Treaties Database 1994-2005. See also Utton & Utton 1999: 12.

¹⁴⁴ Article 6 states that the parties shall, except in cases of historically severe droughts and/or floods, cooperate in the maintenance of flows of “not less than the acceptable minimum monthly natural flow during each month of the dry season” (For text see International Freshwater Treaties Database 1994-2005). Utton & Utton add (1999: 14) that “signatory States are therefore obliged to forsake usage if such usage would divert water needed to protect minimum stream flows, even if such use would have otherwise been reasonable”.

¹⁴⁵ Article 2 states that “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”. For text, see International Freshwater Treaties Database 1994-2005.

¹⁴⁶ Article 11(a) states that sustainable use would require “water in sufficient quantity and of appropriate quality for the preservation, protection and improvement of aquatic eco-systems (including flora and fauna and eco-system natural ponds and wetlands)”. Cited in ILA 2002: 60.

¹⁴⁷ Article 9(3)(b) speaks of “the need to ensure water of sufficient quantity and with acceptable quality to sustain the water-courses and their associated ecosystems” See also Article 6 (3). Both cited in ILA 2002: 60.

¹⁴⁸ See particularly Article 16. See also Article 6 of the Additional Protocol. See text in Vlachos and Correia (ed.) 2000. For further discussion, see Utton & Utton 1999: 12 ff. See also 3(4) of

that the minimum stream flow obligation is being explicitly recognised by the wider international community as well.¹⁴⁹

As a consequence, watercourse States are simply required to bear in mind that the process of determining the equitable utilisation of international watercourses necessitates taking the minimum stream flows as one of the factors weighed up.¹⁵⁰ So, waters flowing in an international watercourse consist of two parts: The minimum stream flow, determined specifically for each particular international watercourse in accordance with all its relevant characteristics; and the remaining part, which is subject to the utilisation rights of watercourse States.

Finally, regarding the relevant amount of water, the main criterion for minimum flows is directly connected to the *raison d'être* of this obligation: It should be enough for guaranteeing the uninterrupted operation of the global hydrological cycle and for maintaining the watercourse and its ecosystem. To this effect, the special characteristics and all the relevant features of each international watercourse

the Revised Protocol on Shared Watercourses, SADC; and Article 3(1)(c) of the 1999 Convention on the Protection of the Rhine. For texts, see International Freshwater Treaties Database 1994-2005). On the other hand, the 1996 Treaty between India and Bangladesh on the Ganges, which guarantees a minimum flow for Bangladesh, the downstream country, does not address, the issue of minimum flows to protect the Ganges delta (Postel 1997: 88) in particular, and its ecology in general.

¹⁴⁹ See Article 15(2) of the 2004 Berlin Rules which refers to "water necessary to assure ecological flows or otherwise to maintain ecological integrity or to minimize environmental harm". The ILA (2002: 60), in its commentary to draft Article 25 of the ILA Revised Rules (Ninth Draft) refers to (Article 25 of) the 1997 UN Convention among instruments embodying a minimum stream flow obligation. However, neither this Article nor the ILC, in its commentary, mentions minimum stream flow. Article 25 of the 1997 UN Convention, which is entitled "Regulation", states: "1. Watercourse States shall cooperate, where appropriate, to respond to needs or opportunities for regulation of the flow of the waters of an international watercourse. 2. Unless otherwise agreed, watercourse States shall participate on an equitable basis in the construction and maintenance or defrayal of the costs of such regulation works as they may have agreed to undertake. 3. For the purposes of this article, "regulation" means the use of hydraulic works or any other continuing measure to alter, vary or otherwise control the flow of the waters of an international watercourse".

¹⁵⁰ It may even be argued that the minimum stream flow must be determined first and put aside before the equitable shares of watercourse States are determined individually or collectively.

should be taken into account in determining minimum¹⁵¹ stream flows. So, “ecological flows require considering seasonal variation and other attributes that mimic natural patterns of flow”. Obviously, this amount will vary according to the dry and wet seasons and/or years (Postel 1997: 88), yet it must be enough for guaranteeing the minimum flow specifically in dry years (1997: 88-9).

3. Determining equitable utilisation

The procedure by which the equitable shares of the parties are to be determined is also of vital importance, as it plays a central role in the presently suggested paradigm.

First and foremost, since the principle of equitable utilisation provides the legal basis of entitlement to a certain amount of water and thus relates to the *existence* of the right to utilise (theoretically established by the territorial sovereignty concept), watercourse States are evidently obliged to duly apply it before they carry out utilisation activities. Indeed, it is beyond question in (international) law that the lawfulness of a particular activity should be determined/judged at the time of its execution (at the latest).¹⁵² It follows that any watercourse State that goes ahead with a utilisation activity without/before duly determining its equitable share would presumably be carrying out an activity the legality of which is undetermined.¹⁵³

¹⁵¹ The ILA (2004: 29), on the other hand, prefers the term “ecological flows”, rather than “minimum flows”, as the goal is “to preserve the ecological integrity of the aquatic environment”. See also *supra* note 12.

¹⁵² Similarly, in case of self-defence, for example, the legal basis of entitlement to self-defence is being attacked without provocation. In exercising this right, States are expected to abide by relevant limitations of international law, the “proportionality” principle being the most important limitation in this context. Nonetheless, if a State, whilst exercising its right to self-defence, does not act proportionately, the existence of its right to self-defence is not affected. However, that State would certainly be responsible for not conducting its right to self-defence consistent with international law, namely proportionately.

¹⁵³ This does not necessarily mean that such an activity would be unlawful and illegal, though.

In this context, the question of the procedure for determining the equitable shares of the parties arises. A watercourse State might in theory unilaterally determine its equitable share, as it intends to carry out a utilisation activity. This is because, international watercourses are not *condominium*, and are subject to, however relative,¹⁵⁴ territorial sovereignty of watercourse States. However, it must be underlined that, due to the internationally shared character of these resources, it would be at its own risk to unilaterally determine its equitable share without any sort of cooperation with other States, particularly bearing in mind the difficulty of determining the minimum stream flows individually.¹⁵⁵ Moreover, since determining one's own equitable share also has an international aspect,¹⁵⁶ that is to say since equitable shares of other watercourse States (as well as the minimum stream flows) are also at stake, watercourse States cannot act alone in determining their equitable shares. Furthermore, the procedural obligations imposed on watercourse States¹⁵⁷ because of these very

¹⁵⁴ See supra notes 86-94 and corresponding text.

¹⁵⁵ The special and complex nature of international watercourses and the dependent components of their environment require watercourse States to act very closely with others in realising the principle of equitable utilisation. This is a direct result of the shared nature of international watercourses to be studied below.

¹⁵⁶ Cf. the *Anglo-Norwegian Fisheries Case*, where the ICJ underlined that "the delimitation of sea areas has always an international aspect; it cannot be dependent merely upon the will of the coastal State as expressed in its municipal law. Although it is true that the act of delimitation is necessarily a unilateral act, because only the coastal State is competent to undertake it, the validity of the delimitation with regard to other States depends upon international law" (ICJ 1951: 132). See also the *Fisheries Jurisdiction Case* (ICJ 1974: 22), where the Court repeated this approach.

¹⁵⁷ Procedural obligations share a general character as far as their rationale is concerned: They, as a whole, have a remarkable and even vital role in the proper fulfilment of substantive obligations of watercourse States. Indeed, any watercourse State wishing to utilise its equitable share within the limits drawn by international law cannot reasonably do this without sharing data and information with others and without other forms of full cooperation conducted with goodwill, as is required by procedural obligations (For a similar approach, see Okowa 1996: 277-8). Furthermore, procedural obligations do have another remarkable common feature: They constitute a comprehensive framework, that is to say, each procedural obligation becomes relevant and functions in relation to the previous procedural obligation(s) and paves the way for the following one(s). Each of them, in other words, complements previous one(s), and constitutes the legal and practical basis for the following one(s). For example, consultation

concerns also make it virtually impossible for watercourse States to act unilaterally. Indeed, procedural obligations not only give watercourse States the opportunity to share relevant data and information, but also put them in such a position that they cannot ignore the concerns of other watercourse States of which they become aware. It can therefore be argued and concluded that this is rather a collective obligation of the watercourse States. So, especially in the case of comprehensive negotiations and agreements, all watercourse States of a certain international watercourse are collectively obliged to simultaneously take this obligation into account and not to abuse the global character of that international watercourse.¹⁵⁸

Finally, it must be noted that the principle of equitable utilisation, by definition, has some sort of inter-temporal character. It is not applied once and for all, as its (practical) application is subject to changes over time. Every new attempt to utilise a particular international watercourse, or to make amendments to an existing utilisation activity, may require give rise to the need to determine the current equitable shares of the parties. To put it another way, the principle of equitable utilisation may be relevant in new utilisation attempts, which means that relevant factors are to be evaluated each time the need arises. It then follows that existing activities, which were not adequately evaluated in due course, would not enjoy any (“inherent”) priority, and, therefore, any legal protection.¹⁵⁹

would -if need arises- normally take place upon notification and would normally lead to negotiation. Similarly, it would be hard for any watercourse State to properly fulfil its obligation to notify without previously conducting an EIA; and consultation and even negotiation processes would be relevant in cases where potentially affected State(s) raise concerns following the notification they receive. In short, each and every particular procedural obligation has a crucial function as far as the proper fulfilment of other procedural obligations is concerned (as well as relevant *substantive* obligations).

¹⁵⁸ Admittedly, as Hardin (1968) put it decades ago, States are (more) inclined to over-use global commons. See also Clancy 1998; and Clifford 1995: 132 ff.

¹⁵⁹ It may even be unlawful due to the obligation aspect of the principle of equitable utilisation. For further, see the duty/obligation aspect of the principle of equitable utilisation to be studied immediately below. See also section IV.B.2.b. below.

4. The nature of the principle: both a right and an obligation

As underlined earlier, all rights in law have their own limits, because being recognised and defined by (international) law automatically means being limited. It follows that a right inherently includes the “duty” not to exceed its limits whilst exercising it. As Judge Huber stated in *The Spanish Zone of Morocco Claims Case* in 1925, “responsibility is the necessary corollary of a right. All rights of an international character involve international responsibility”.¹⁶⁰ In short, since the existence of a right automatically means being subject to limitations, not to exceed these limits is the “duty” aspect of the right concerned. States are expected to abide by these limits and to refrain from any over-utilisation. Furthermore, since international watercourses are shared resources since the right to utilise “expresses a correlative entitlement” (Nollkaemper 1993: 61), watercourse States have not only the right to utilise their shares equitably but also to do this equitably.¹⁶¹ This is simply because “no one State is entitled to more than its fair share” (Utton 1996a: 153).

In other words, since the waters of an international watercourse consist of the equitable shares of all the watercourse States (together with the minimum stream flow, which is to be left in the course of the international watercourse¹⁶²) and therefore the equitable shares of all watercourse States constitute a correlative whole, watercourse States do not only have the duty not to exceed the limits of their respective equitable shares, they are also obliged not to encroach upon the equitable shares of other

¹⁶⁰ For text, see RIAA 1925: 615.

¹⁶¹ Utilisation activities of watercourse States affect the *object* of similar or other relevant rights of other States, respectively. In other words, watercourse States, whilst carrying out activities over international watercourses, utilise not only their “own” natural resources, but also of other relevant States “at the same time”.

¹⁶² The minimum stream flow doctrine will be discussed separately below.

watercourse States and/or the minimum stream flow.¹⁶³ If any State does not do so, that is if a watercourse State utilises an amount of water which exceeds its equitable share, this over-utilisation would constitute an *ultra vires* act, as it goes beyond the limits of the right given. This is the duty aspect of the right to utilise international watercourses.

One may argue that the duty and obligation aspects of the right to utilise are identical and therefore it would not be necessary to refer to them separately. Indeed, the ILC for example underlines that the principle of equitable utilisation has an obligation aspect as well as a right aspect and notes that the equitable utilisation right also means the obligation not to exceed the limits of the equitable utilisation right, “or, in somewhat different terms, not to deprive other watercourse States of their right to equitable utilisation” (ILC 1994: 26).¹⁶⁴

This approach is a bit problematic, however. These two aspects of the right to utilise may well have different meanings and functions and therefore should be separately underlined. For a watercourse State may well encroach upon the equitable shares of other watercourse States (or the minimum stream flow) without exceeding its own equitable share. For example, a watercourse State equitably utilising a particular international watercourse may pollute

¹⁶³ No State can exercise its rights deriving from territorial sovereignty over a place or person which is not subject to its sovereignty.

¹⁶⁴ In fact, a similar proposal was discussed in the early stages of the ILC studies (McCaffrey 1986: 133-4). Besides, there are some authors who also refer to the obligation aspect of the principle of equitable utilisation (Bourne 1992: 67; and Nollkaemper 1993: 61-2). However, a close look at international instruments, literature and State practice, immediately suggests that the interest in this obligation is a very superficial one, as the “no-significant harm” formula was accepted for both equitable utilisation obligation on one hand and pollution and other environmental problems on the other which in turn caused the confusion and “conflict” we witness now. This approach confuses the main functions of the two fundamental principles, and, more importantly, creates chaos in the name of a “balance of interests” approach (for example, see Fitzmaurice 1995: 365), which is misleading. In short, it is hard to find any study referring to this obligation whilst analysing a dispute or even in hypothetical examples, let alone analysing utilisation activities in terms of it. In other words, the interest in theoretical studies suddenly disappears in practice.

the waters of that watercourse in such a way¹⁶⁵ that it not only breaches its obligations arising from the principle of no-significant harm but also makes it virtually impossible for other watercourse States to enjoy their equitable utilisation rights and/or the minimum stream flow left in the watercourse effectively useless.¹⁶⁶ That watercourse State, which does not breach its “duty” not to exceed its equitable share, nevertheless breaches its “obligation” not to encroach upon the equitable shares of other watercourse States and/or the minimum stream flow. So, although any watercourse State exceeding its equitable share would at the same time be encroaching upon either the equitable shares of other watercourse States or the minimum stream flow, the latter may well be the case without breaching the former.

It is therefore of vital importance to separately underline the two aspects of the principle of equitable utilisation: The right to utilise international watercourses equitably consists of both a duty (i.e., not to exceed one’s respective equitable share) and an obligation (i.e., not to encroach upon others’ equitable shares and the minimum stream flow) aspect which are not necessarily one and the same thing. In short, the principle of equitable utilisation has a dual character: it not only expresses a right of, but also imposes an obligation on, watercourse States.

V. Legal basis of the obligations of watercourse states regarding the way the right to utilise is exercised

As concluded earlier, all rights are to be exercised consistent with all (ever broadening) relevant/applicable rules and principles of international law. So, once legally established thanks to the territorial sovereignty concept and

¹⁶⁵ This might be the case especially with hazardous and/or nuclear activities.

¹⁶⁶ In other words, equitable (lawful *per se*) actual utilisation activities of watercourse States may well result in, for example, significant water pollution.

the principle of equitable utilisation, the right to utilise should also be exercised within the limits of applicable law. Specific obligations of watercourse States are beyond the scope of the present study the main goal and task of which is to study the theoretical problems of the law of international watercourses.¹⁶⁷ It shall therefore suffice to focus mainly on the legal framework governing obligations of watercourse States, that is to say on the legal principles and notions on/from which specific obligations of watercourse States base/derive. The present study, in other words, examine the theoretical basis of “liability’ [of watercourse States] for ‘lawful activities’” (Brownlie 1983: 50).¹⁶⁸

But, before proceeding any further, one point should be underlined first.

As noted elsewhere, the special characteristics of (the waters of) international watercourses are of particular importance and even decisive role in understanding the applicable legal framework. This is particularly true for finding out the theoretical/factual reasons of all (existing and potential) applicable obligations the obligations governing the way the right to utilise is exercised.

First of all, ecologic units, such as international watercourses, consist of “living and non-living components that are interdependent and function as a community... Thus, an external impact affecting one component of an ecosystem causes reactions among other components and may disturb the equilibrium of the entire ecosystem...” (ILC 1994: 99-100 (footnotes omitted)) So, since harmful consequences would first and foremost affect the immediate environment and/or the vicinity of international watercourses, utilisation activities may well cause harmful effects within the territory/jurisdiction of the State of origin.

¹⁶⁷ The wide-range of specific obligations of watercourse States would be pointed at if/when need arises.

¹⁶⁸ For the conceptual discussion on whether to talk about “liability for injurious consequences arising out of acts not-prohibited by international law” or “prevention of transboundary harm from hazardous activities”, see *infra* note 248.

Second, as Sands concisely puts it (1995: 16),

[m]any natural resources and their environmental components are ecologically shared. The use by one State of natural resources within its territory will invariably have consequences for the use of natural resources and their environmental components in another State. This is evident where a river runs through two or more countries, or living resources migrate between two or more sovereign territories.

So, as a result of the mobility of (the waters of) international watercourses,¹⁶⁹ the effects of utilisation activities are “directly” felt by other States (i.e., coastal States as well as other watercourse States). “Directly”, because, unlike stable resources where the consequences of the activities carried out in relation to them can affect third parties *only* via external factors,¹⁷⁰ such as wind or rain, that is “indirectly”, this is not necessarily the case in case of international watercourses. The effects (negative or positive) of utilisation activities carried out over one part of international watercourses are, however minor, bound to be carried to other places. This is simply because of the fact that the effects of utilisation activities, however minor, become part and even “component part” of the waters of international watercourses¹⁷¹ and flow to the sea with them.

¹⁶⁹ See supra notes 88-94 and corresponding text.

¹⁷⁰ On the other hand, since different parts of adjacent coasts or mineral deposits exist side by side, the effects of the activities carried out over them are not “carried” with them towards a certain side or part, but have an interactive character, which makes it easy to collectively take legal and practical measures unlike international watercourses. Indeed, while the parties are inclined to ignore the harm caused as it is far away in the latter, States are much keener in taking relevant measures against such “common” problems affecting them all in the former. The number of agreements on regional seas (signed particularly under the auspices of the UNEP) demonstrates this fact best. Regarding international watercourses, this undoubtedly paves the way to misuse, particularly by upstream States, which makes downstream States more suspicious even about the principle of equitable utilisation, let alone the territorial sovereignty concept.

¹⁷¹ The 1997 UN Convention (Article 21(1)) defines “water pollution” as any detrimental alteration in the *composition or quality* of the waters of an international watercourse which results directly or indirectly from human conduct”. (emphasis added)

Furthermore, since (the waters of) international watercourses are part of the global hydrological cycle and even the wider global environment, that is to say since they somehow interact with other (hydrological/environmental) components in different parts of the world, effects of utilisation activities may well be carried “indirectly” to “irrelevant” areas. Indeed, it is now a well known scientific fact that harm caused to one medium (natural resource) may be transferred to another as a result of the interconnectedness between different components of the world environment which is called “cross-media pollution”.¹⁷² In terms of utilisation of international watercourses, this interconnectedness¹⁷³ may play an important role with regard to harmful effects carried not only to the marine areas,¹⁷⁴ but also to remote places.¹⁷⁵ This is particularly true in cases of chemical and especially nuclear pollution of the waters of international watercourses due to the “migrating waste” and “migrating radioactivity” (Woodard 1999: 745).¹⁷⁶ So, not only (the waters of) international watercourses and the coastal areas they empty into, but also dependent/related environmental and other components (i.e., biodiversity and human populations) both in the vicinity of international watercourses and even in

¹⁷² See generally Teclaff and Teclaff 1987; Hohmann 1994; ILA 1981; and ILA 1985. The notion of “cross-media pollution”, however, raised considerable discussion. As noted by the ILA (2004: 17), a general anxiety still exists whether to incorporate this matter into the international watercourse law, as it is noted that “[y]et all pollution is cross-media pollution”. However, when it is recalled that marine pollution from international watercourses is now explicitly addressed by the law of international watercourses notwithstanding the fact that it is also a form of cross-media pollution, disregarding other possible forms of cross-media pollution would be groundless, provided that the link is scientifically established.

¹⁷³ As Eckstein (1998) notes, “water at its various stages in the cycle, and in its various shapes and forms, is interrelated and un-severable from the cycle. Where a component of the cycle is impacted in terms of either quality or quantity, or both, it is bound to affect other component parts of the cycle.” See also Sette-Camara 1984: 189.

¹⁷⁴ See also Hohman 1994: 537; and ILA 1985: 230 and 231

¹⁷⁵ The cross-media effects caused to international watercourses from other media (such as acid rain) are not relevant here, as only utilisation activities and their effects are covered by the rules relating to utilisation of international watercourses. Cf. ILA 1983: 534-5.

¹⁷⁶ The “migrating radioactivity” in Central Asia which caused serious health problems in humans (as well as some marine mammals in the White and Barents Seas) is an obvious example (See Woodard 1999: 746).

remote areas,¹⁷⁷ may well be affected by the activities carried out over these resources.¹⁷⁸

In short, the special characteristics of (the waters of) international watercourses show that harmful effects of utilisation activities of watercourse States may well be felt within their own jurisdictions, in other watercourse States, and in “third” parties. Hence, emphasising the “mobility” of the waters of international watercourses has a paramount importance in understanding/explaining the exact nature of this right.¹⁷⁹

As a consequence, the applicable legal framework should be drawn bearing these facts in mind and in a way that (potentially) covers all possible harmful effects and specific obligations that may arise. Now, we can proceed to studying the general principles/notions of international law that governs the way the right to utilise is exercised

A. The principle of no-significant harm

The principle of no-significant harm is arguably the foundational principle of international environmental law. It asserts that all States have a general obligation not to cause significant harm beyond their respective territories whilst exercising their rights deriving from territorial sovereignty. Utilisation of international watercourses is one of the most important areas for the application of this fundamental principle, as any utilisation activity of any watercourse

¹⁷⁷ The interconnectedness between different water resources might carry significant harm to States not party to the international watercourse concerned. For instance, it is noted that there is an indirect link between the Rhine and Danube which are flowing into the North and Black Seas, respectively (Woodard 1999: 746).

¹⁷⁸ This is especially true in cases of leakage from the nearby storage of hazardous wastes as was the case in the former Soviet Union (generally see Woodard 1999), accidents, as was the case in the 1986 Sandoz Accident by the Rhine (generally see de Villeneuve 1996: 451; Nollkaemper 1996b: 153, and 156-7), or leakage from plants, as was the case in the leakage from Baia Mare to Danube (generally see Schwabach 2000: 432).

¹⁷⁹ The special characteristics of the waters of international watercourses affect also the obligations of watercourse States as to the way this right is exercised. See generally Chapter V.

State might always cause “transfrontier” harmful effects due to the special characteristics of these internationally shared resources examined earlier. “Transfrontier” harmful effects as such can result from different utilisation activities (e.g. agricultural, industrial or hydrological use), can occur in different forms (e.g. pollution or other environmental degradation) and can affect different components of the environment (e.g. the waters of international watercourses,¹⁸⁰ the marine environment,¹⁸¹ biological resources and the biodiversity,¹⁸² cultural heritage areas,¹⁸³ human populations¹⁸⁴ and other components of the environment (partly or wholly) dependent on these resources). It therefore goes without saying that all watercourse States have the responsibility to exercise their utilisation right (over their respective equitable shares) in

¹⁸⁰ It is beyond doubt that water pollution, together with its environmental implications, is the most common harmful effect of utilisation activities carried out over international watercourses. Environmental effects of water pollution may range from the adversely affected lawful utilisation activities of other watercourse States to harm to biological resources and human populations even in “third” parties, as well as other watercourse States. This is because of the fact that each (international) watercourse constitutes an “ecological unit [that] consist[s] of living and non-living components that are interdependent and function as a community” (ILC 1994: 99-100). For relevant obligations of watercourse States, see *infra* notes 214 and 237 and corresponding texts.

¹⁸¹ For relevant obligations of watercourse States, see *infra* note 204-205.

¹⁸² International watercourses, especially estuaries and areas called hotspots, are very rich in terms of biodiversity in general and fish species in particular. Besides, various land species, particularly migratory species, are dependent on (the waters of) international watercourses in order to continue their life cycle properly. Hence, the biological resources of, or dependent on, international watercourses are potentially vulnerable to possible adverse effects of various utilisation activities of watercourse States. Generally see World Commission on Dams 2000a. For relevant obligations of watercourse States, see *infra* note 206.

¹⁸³ Although it has attracted more international attention in recent years, it has been witnessed for a long time that utilisation activities of watercourse States may cause harmful effects to cultural heritage areas and even destroy them. In this context, utilisation activities such as water diversion and especially water storage (dam reservoirs) projects are particularly destructive. Indeed, filling the dam reservoirs may seriously damage and quite often destroy cultural heritage areas situated under/around the reservoir areas (generally see World Commission on Dams 2000a: 116-8. For a detailed study, see Brandt and Hassan 2000). For relevant obligations of watercourse States, see *infra* note 206.

¹⁸⁴ As international watercourses are now used more intensively than ever, possible effects may even be remarkably important as far as human life and well-being are concerned. In this context, basic/vital water needs, health problems (basically due to water pollution) and problems regarding human settlements are of particular importance.

such a way that no significant¹⁸⁵ transfrontier harm is caused.

While some authors (i.e., Moermond & Shirley 1987: 146) argue that the “good-neighbourliness” concept is the legal reason lying behind this basic principle, others point to the “prohibition of abuse of rights” principle in this context (Nollkaemper 1993: 29). Whatever the original reason/motivation was, now “it is beyond serious argument that States are required by international law” (Birnie & Boyle 2002: 109) not to cause significant transfrontier harm. Indeed, this principle, generally called¹⁸⁶ *sic utero tuo ut alienum non laedas* (one should not use one’s property in such a way as to harm others) or shortly *sic utero*, is now widely recognised (Birnie & Boyle 2002: 311)¹⁸⁷ as an independent principle in a process that effectively started with the 1972 Stockholm Declaration,¹⁸⁸ one of the most important milestones of international environmental law. Moreover, Principle 2 of the 1992 Rio Declaration, Article 3 of the 1992 Convention on Biological Diversity and the Preamble of the 1992 UN Framework Convention on Climate Change¹⁸⁹ (the last two being among the most widely ratified international instruments with some 190 parties) all repeat verbatim Principle 21 and thus confirm it “as a statement of

¹⁸⁵ The principle of no-significant harm, as its name suggests, is not relevant in all cases of transfrontier harm, but only in cases of a certain degree of harm where transboundary harmful consequences turn into unlawful effects. Some writers -such as Schwebel (1982: 91 ff.), Nollkaemper (1993: 35 ff) and Bourne 1992: 80-1)- used the expression “appreciable” in this context. However, “significant” has been widely used recently, including by the 1997 UN Convention, and, therefore, will be preferred in the present study as well. The ILC (1994: 18) defined the expression “significant” as “capable of being established by objective evidence and while not being trivial in nature, it need not rise to the level of being substantial”. So, “*de minimis* effects” are excluded (Schwebel 1982: 100).

¹⁸⁶ See Schwebel 1982: 92; McCaffrey 1988-89: 509; and Handl 1979: 43.

¹⁸⁷ See Article 7, the 1997 UN Convention; Article 2, the Convention of the Protection and Use of Transboundary Watercourses and International Lakes (hereafter, the 1992 Helsinki Convention); Article X(1)(a)(b), the 1966 Helsinki Rules; and Article 16, the 2004 Berlin Rules. The ILA notes (2004: 23) in its relevant Commentary that “there actually is little controversy over whether th[is] principle... is part of customary international law”.

¹⁸⁸ “Declaration of the United Nations Conference on the Human Environment”. For text, see Ecolex 1998-2006.

¹⁸⁹ For texts, see Ecolex 1998-2006.

contemporary international law” (Birnie & Boyle 2002: 110). So (Sands 1995: 241),

there can be no question but that Principle 21 reflects a rule of customary international law, placing international legal constraints on the rights of States in respect of activities carried out within their territory or under their jurisdiction. (emphasis added)

The ICJ has also firmly concluded in its Advisory Opinion in the *Legality of the Threat or Use of Nuclear Weapons Case* that

[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control *is now part of the corpus of international law relating to the environment.*¹⁹⁰ (emphasis added)

Furthermore, specifically as concerns the utilisation of international watercourses, the Special Rapporteurs of the ILC studied this principle in detail in their reports¹⁹¹ and concluded that its existence and binding character is today beyond doubt.¹⁹² The 1997 UN Convention, as a result, has employed a specific article (Article 7) confirming that the principle of no-significant harm is now a settled rule of the law of international watercourses. Finally, most writers also confirm the generally binding character of this principle.¹⁹³ So, as there can be no question but that Principle 21 reflects a rule of customary international law (Sands 1995: 241), the present study will not dwell on this matter any more. Nonetheless, although the principle of no-significant

¹⁹⁰ See ICJ 1996: 241-2. See also ICJ 1997: 41 for the *Case Concerning the Gabčíkovo-Nagymaros Project*.

¹⁹¹ Especially see Schwebel 1982: 91 ff.; McCaffrey 1986: 133 ff.

¹⁹² For example, see Article 7 of the 1997 UN Convention; and Article 2 of the 1992 Helsinki Convention.

¹⁹³ See Schwebel 1982: 92; McCaffrey 1988-89: 509; Nollkaemper 1993: 24-5; Subedi 2002: 38 and 40; McCaffrey 1998: 20. But see Wouters (1996 and 2002: 117) and particularly Fuentes (1998: 139 ff.).

harm is now a part of the corpus of international law, its function and nature require some further study.

1. The function of the principle

In fact, it is now a well-established common understanding that the principle of no-significant harm relates to the *way* States exercise their territorial sovereignty and their rights deriving from such sovereignty. It, in other words, governs the way *prima facie* lawful activities are exercised. A close look at relevant international instruments confirms this suggestion.

There are two basic documents referred to in almost all studies examining the principle of no-significant harm. The first is the arbitral decision in the *Trail Smelter Case* in which the Tribunal applied this principle with regard to transfrontier environmental effects of fumes produced by a smelter in Canada which caused harm in the US. According to the Tribunal (ASIL 1941: 716),

under the principles of international law... no State has the right to use or permit the use of its territory *in such a manner* as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.¹⁹⁴ (emphasis added)

As obviously seen, the only concern of the Tribunal is the harmful “effects” that may be caused whilst the right to use one’s territory is exercised. Indeed, only the harm caused by the fumes is dealt with and its relation to the actual activity, i.e., the legal status of the fume-producing

¹⁹⁴ The Tribunal states that “the nearest analogy is that of water pollution”, and quotes some decisions on water pollution together with air pollution in its introduction of the above-mentioned judgement (714 ff.). So, it is beyond doubt that this case is highly relevant to our topic and underpins the fact that the principle of no-significant harm is applicable to the transfrontier environmental “effects” of various State activities, including utilisation of international watercourses.

activity in the smelter in question, is not referred to at all. Likewise, Principle 21 of the Stockholm Declaration, which may easily be called the “manifesto” of international environmental law,¹⁹⁵ states that

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control *do not cause* damage to the environment of other States or of areas beyond the limits of national jurisdiction. (emphasis added)

This basic document too deals with *effects* caused beyond State’s territory (and does not deal with the actual activities themselves.¹⁹⁶) Besides, many relevant international instruments employ the principle of no-significant harm in the context of harmful effects caused by various activities. The Espoo Convention on Environmental Impact Assessment in a Transboundary Context,¹⁹⁷ the 1992 Helsinki Convention,¹⁹⁸ and eventually the 1997 UN Convention¹⁹⁹ all talk about harmful effects of various activities, and demonstrate that the principle of no-significant harm deals with the harmful effects/impact of

¹⁹⁵ For the normative character and enforceability of this Declaration, see Birnie & Boyle 2002: 38-40.

¹⁹⁶ In cases where a utilisation activity cannot be carried out without causing significant transboundary effect, the principle of no-significant harm would still govern the consequence, i.e., the harmful effect caused. For further, see *infra* notes 249-253 and corresponding text.

¹⁹⁷ According to Article 1, “the Parties shall, either individually or jointly, take all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental *impact* from proposed activities”. (emphasis added) For text, see International Freshwater Treaties Database 1994-2005.

¹⁹⁸ “Transboundary impact” is defined in Article 1(2) as “any significant adverse *effect* on the environment resulting from a change in the conditions of transboundary waters caused by a human activity, the physical origin of which is situated wholly or in part within an area under the jurisdiction of a Party, within an area under the jurisdiction of another Party”. (emphasis added)

¹⁹⁹ Article 7 states that “watercourse States shall, in utilising an international watercourse in their territories, take all appropriate measures to prevent the *causing* of significant harm to other watercourse States”. (emphasis added)

territorial activities. Finally, the definition of water pollution widely shared also confirms the fact that the principle of no-significant harm governs the *way* the right to utilise is exercised. Accordingly, water pollution is a factual matter which refers to qualitative alteration in the nature and composition of water, regardless of the activity causing it (but, certainly provided that a human conduct is in question). Emphasis, therefore, is put on the fact of being polluted (i.e., *the consequence*), rather than the activity (i.e., *the cause*) causing pollution. The ILC also states that “the definition does not refer to the means by which pollution is caused, such as by the ‘introduction’ of substances, energy, etc. into a watercourse. It requires *only* that the ‘detrimental alteration’ *results* from a ‘human conduct’” (ILC 1994: 111) (emphasis added). The ILA also defined water pollution as “any detrimental change *resulting* from human conduct in the natural composition, content, or quality of the waters of an international drainage basin” in Article IX of the 1966 Helsinki Rules (emphasis added); and as “any detrimental change in the composition or quality of waters that *results* directly or indirectly from human conduct” in Article 3(16) of the 2004 Berlin Rules. (emphasis added)

Underlining this basic function of the principle of no-significant harm once more has been deemed necessary here, because, although most authors merely quote the *sic utero* principle and presume that this is enough to understand and apply this principle without any further examination, some authors who study it in detail explicitly or implicitly apply it mainly, if not only, to quantitative conflicts between the utilisation activities of different watercourse States (as well), and, to say the least, belittle its function in terms of transfrontier environmental effects. It may even be argued that the general understanding in this context assumes and suggests that quantitative conflicts between new and existing activities are governed by the principle of no-significant harm as well as the principle of equitable utilisation. Actually, the fact that almost all academic and official efforts in this area have been devoted for accommodating these two principles is itself enough to confirm this. For example, according to McCaffrey (1998:

20-1), the prototype international watercourse dispute arises when

upstream State A has not significantly developed its water resources because of its mountainous terrain. The topography of the downstream States on the watercourse, B and C, is flatter, and they have used the watercourse extensively for irrigation for centuries, if not millennia. State A now wishes to develop its water resources for hydroelectric and agricultural purposes. State B and C cry foul, on the ground that this would *significantly harm their established uses*. How should the positions of State A, on the one hand, and State B and C on the other -either of which seems unreasonable on its face- be reconciled?²⁰⁰ (emphasis added)

However, as stressed earlier, the principle of equitable utilisation (together with the concept of territorial sovereignty) governs actual utilisation activities of watercourse States, that is to say the very *existence* of the right to utilise. Furthermore, in cases of quantitative conflicts, any negative “effect” of a new activity over an existing one would be either inequitable and governed by the duty and/or obligation aspects of the principle of equitable utilisation or deemed irrelevant in a legal(ity) analysis that protects only rights of watercourse States, not their interests.²⁰¹ So, the above-mentioned hypothetic example is an irrelevant one, as such quantitative conflicts, which relate to the legal existence/status of the utilisation activities concerned,²⁰² have nothing to do with the principle of no-significant harm, which relates to the *way* the (already established) right to utilise is exercised.

²⁰⁰ See also Nollkaemper (1993: 68-9) who suggests that “utilisation of an international watercourse is not equitable if it causes other watercourse States appreciable harm”.

²⁰¹ Quantitative “effects” of a new activity over an existing one therefore cannot be evaluated as a factor in determining the equitable utilisation of international watercourses. For further, see section IV.B.2.b. above.

²⁰² This may produce confusion about whether utilisation activities and their harmful effects can be treated separately. For further discussion, see *infra* notes 251-253 and corresponding text.

2. The nature of the principle

As emphasised above, all basic instruments leading to this general principle refer to harm caused “to the environment of other States or of areas beyond the limits of national jurisdiction”.²⁰³ It follows that the principle of no-significant harm is applicable in all cases where an actual activity of a State causes (or might cause) significant *transfrontier* harm. This theoretical fact is particularly important as far as the utilisation of international watercourses is concerned and a close look at this point is therefore inevitable.

a. All forms of transfrontier harmful effects are covered

First, watercourse States would, by definition, be responsible for *all* forms of significant harmful effects they may cause beyond their territories. It follows that this principle, theoretically, covers not only already known and recognised cases of “transfrontier” harmful effects, but also others, as science develops and the understanding of the international community evolves. In other words, it provides a legal framework also for new cases of transfrontier harmful effects, particularly for those about which specific rules are yet to be developed. Thus, watercourse States would be responsible also for previously unknown/unnoticed significant transfrontier harmful effects.

If we have a quick look at the development of this principle, it is immediately noticeable that this has indeed been the case from the very beginning. For instance, although water pollution was almost the only concern of many authors a few decades ago (i.e., Bruhacs 1992: 194 ff.), it is absolutely impossible today to sustain the idea that it is the only form of transfrontier harm watercourse States

²⁰³ Principle 21, the 1972 Stockholm Declaration. For text, see Ecolex 1998-2006.

may cause whilst exercising their right to utilise. We today know very well that utilisation activities may cause other kinds of transfrontier harmful effects as well. It was, for example, noticed years ago that (international) watercourses were a very, in fact *the* most, important source of land-based marine pollution and all States, therefore watercourse States as well,²⁰⁴ have various obligations in this context.²⁰⁵ More recently, watercourse States have specific obligations governing other possible transfrontier harmful effects of utilisation activities. These particularly include, *inter alia*, obligations concerning conservation of biodiversity²⁰⁶ and cultural heritage²⁰⁷ thanks to scientific findings and

²⁰⁴ The 1982 UNCLOS is certainly the main instrument to be looked at in this context. This Convention entered into force in 1994 and has 155 parties as of 7 August 2007 (<www.un.org/Depts/los/reference_files/status2007.pdf>) and its relevant provisions are binding not only on the parties to this global convention, but also on all States as it is part of customary international law. Birnie & Boyle noted in 1992 (254-5) that “the degree of acceptance of these various treaties and the consensus expressed by States in negotiating the environmental provisions of the 1982 UNCLOS suggest that although this agreement is not in force, its articles on the marine environment are supported by a strong measure of *opinio juris* and represent in certain respects an agreed codification of existing principles which have become part of customary rule”. Besides, “Agenda 21 endorsed the view that the provisions of UNCLOS on protection and preservation of the marine environment reflect international law” (Sands 1995: 294).

²⁰⁵ Part XII of the 1982 UNCLOS Convention is dedicated to the “protection and preservation of the marine environment” and consists of a variety of rules on different aspects of the issue, including land-based marine pollution. Articles 194(1) and 207(1) are of particular relevance and importance in this context, as they oblige States to prevent, reduce and control pollution of the marine environment “from any source” and “from land-based sources, *including rivers, estuaries, pipelines and outfall structures*”, respectively (emphasis added)

²⁰⁶ The most important relevant global instrument in this area is the 1992 Biodiversity Convention, which is ratified by 190 parties as of September 2007 (<www.cbd.int>) It “has thus become one of the most widely ratified of all environmental conventions” (Birnie & Boyle 2002: 568). This Convention, specifically regulates the protection and use of biological resources and -as a comprehensive global instrument- covers diversity within and between all species and of all ecosystems, that is to say virtually all biological resources (see Article 2). The basic obligation it imposes on States²⁰⁶ is the conservation and sustainable use of biological diversity (Article 1) in areas within the limits of their respective national jurisdictions in the case of components of biological diversity, and within the area of their national jurisdictions or beyond the limits of national jurisdiction in the case of processes and activities, regardless of where their effects occur (Article 4).

²⁰⁷ Regarding the “transfrontier” aspect of the issue, the 1972 World Heritage Convention obliges States “not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage... situated on the territory of other States Parties to this Convention” (Article 6(3)). So, in accordance with this specific version of the principle of no-

increasing global awareness. These separate specific obligations, which are -at least to some extent- based on the principle of no-significant harm,²⁰⁸ would obviously be applicable in relevant cases consistent with the *lex specialis* rule.²⁰⁹

Nevertheless, other forms of “transfrontier” harmful effects, including the recently (and even not yet) noticed ones, which are not regulated by specific obligations either because their nature does not necessitate a specific rule in addition to the general principle of no-significant harm or because specific rules dealing with them are yet to be developed due to the lack of (sufficient) international awareness/commitment, are still governed by this basic principle. Moreover, although some specific and particularly regional obligations/standards may not be binding on different parts of the globe, the principle of no-significant harm has a universal application. So, such harmful effects would not remain ungoverned thanks to this principle, which provides sufficient theoretical basis regarding all sorts of “transfrontier” harmful effects. This point is of crucial importance, because limiting potential harmful effects to water pollution and even to pollution-related problems would simply give the impression that other transfrontier harmful effects are not governed adequately (or even at all) by international law, and, therefore, that international law is required to present some additional evidence in order to establish the international responsibility of States for such effects.

significant harm, watercourse States are required not to cause harmful effects to world heritage areas in “transfrontier” areas. Likewise, the 1992 Helsinki Convention (Article 1(2)) also obliges its parties not to cause “transboundary impact” to “historical monuments... [which] also include effects on the cultural heritage”.

208 The other relevant legal basis (for harmful effects not of “transfrontier” nature) is the notion of the common concern of mankind, which will be examined immediately below.

209 In the meantime, obligations of watercourse States concerning water and/or marine pollution do not necessarily overlap with those concerning biological resources. Indeed, for example, dam walls and reservoirs affect/hinder “biological linkages” which may cause harm to species that migrate between upstream and downstream areas, including estuaries and even the sea, and that cross international watercourses throughout their lifecycle.

b. Transfrontier harmful effects *caused to all States* are covered

Second, as this principle relates to the “transfrontier” effects caused, obligations arising therefrom would be relevant for significant effects caused to *all States* that may be affected. It follows that this obligation may well be owed *not only to other watercourse States but also to non-watercourse States and even to the international community as a whole*. In fact, draft Article 2(c) of Draft Articles on the Prevention of Transboundary Harm (ILC 2001) defines “transboundary harm” as “harm caused in the territory of or in other places under the jurisdiction or control of a State other than the State of origin, *whether or not the States concerned share a common border*”. (emphasis added)

This is a result of the special characteristics of (the waters of) international watercourses. As studied and concluded earlier, international watercourses are shared natural resources, which are not only spread to the territories of two or more States but also a part of the global hydrological cycle (including the marine environment) in particular and the wider global environment in general. So, utilisation activities of watercourse States may well cause transfrontier effects on human settlements, human needs and cultural heritage areas “in other States or of areas beyond the limits of national jurisdiction”. It follows that, although harm caused to other watercourse States has always been the main concern, “third” parties may also suffer from various utilisation activities of watercourse States. Needless to say, the principle of no-significant harm, by definition, constitutes the general obligation, as well as providing the theoretical/legal basis for such harmful effects, in such cases. This point is particularly underlined here, not only because this principle and specific obligations (basically) derived from it would not necessarily overlap in all cases, but also because the above-mentioned fact that some specific obligations/standards may not be binding on some watercourse States whereas the principle of no-significant harm has universal application.

c. Transfrontier harmful effects caused by all watercourse States are covered

Third, it goes without saying that this obligation may be owed *by any watercourse State, including the lowest downstream States*. First, as is widely underlined in the literature mainly in order to “convince” upstream States that the principle of no-significant harm does not work merely against their interests, downstream activities may also cause certain upstream harms.²¹⁰ But, more important than this somewhat exceptional fact, many forms of transfrontier harmful effects that may be suffered by “third” parties may also be caused by the lowest downstream States, such as harmful effects to the marine environment (which have been referred to in most of the recent studies) and particularly to various biological resources. Finally, lowest downstream States would be responsible for the cross-media effects of their utilisation activities in remote areas as well.²¹¹ In short, the lowest downstream States as well are responsible for any significant “transfrontier” harmful effect they might cause.

In short, all watercourse States, including the lowest downstream States, have the obligation not to cause significant transfrontier harm whilst exercising their utilisation rights, because the obligation of watercourse States is “not to cause significant transfrontier harm”, not “not to cause significant transfrontier harm to other watercourse States”. In other words, since the harmful effects of an activity might always extend to any part of the globe depending on the kind and degree of the harm, and since the validity and/or existence of this obligation have, as seen above, nothing to do with the (location or position of the) affected State(s) vis-à-vis the State of origin, this obligation may obviously be owed *by any watercourse State*

²¹⁰ See also Schwebel 1982: 101-2.

²¹¹ See supra note 172.

to any other State (watercourse or not) and even to the international community as a whole.

Finally, the approach of the 1997 UN Convention²¹² should also be briefly touched upon, as it falls short of adequately reflecting/addressing this principle, as well as specific obligations deriving from it. In fact, Articles 28 (“harmful conditions and emergency situations”²¹³) and 29 (“international watercourses and installations in time of armed conflict”) in fact address obligations owed to “third” parties, as well as other watercourse States. However, apart from these provisions (which impose procedural obligations for emergency situations and obligations for extra-ordinary times where non-watercourse States are (also) concerned, respectively), it is hard to see any substantive obligation imposed on *all* watercourse States regarding harmful effects they may cause to *all* States, i.e., “third” parties, as well as to other watercourse States. Indeed, not only Article 7 that embodies the principle of no-significant harm but also other relevant articles (i.e., Article 21 on water pollution, Article 22 on introduction of alien and new species) do all oblige watercourse States solely for harmful effects caused to *other* watercourse States.²¹⁴ As Chircop (1997: 182) also (rightly)

²¹² For the importance of this Convention, see *supra* note 4.

²¹³ Article 28 is the only provision which explicitly refers to obligations owed to non-watercourse States. But this is only for *emergency situations* “that results suddenly from natural causes, such as floods, the breaking up of ice, landslides or earthquakes, or from human conduct, such as industrial accidents”.

²¹⁴ For a relevant provision, see *infra* note 236 and corresponding text. But cf. Article II, Athens Resolutions of the ILL (1979), which talks about the “duty” of watercourse States not to cause harm “beyond their territories”. See also draft Article 1 proposed by Hohmann in *Buenos Aires Report* (ILA 1985: 231), according to which “States... shall refrain from transferring, or allowing the transfer of,... [water] pollution to land, air or other natural resources in such a way to cause substantial injury beyond their territory”. Besides, Article 2(4) of the 1992 Helsinki Convention also states that “measures [for the prevention, control and reduction of water pollution] shall not *directly or indirectly result in a transfer of pollution to other parts of the environment*”. (emphasis added) However, Article Article 1(2) of this Convention governs only “transboundary impact... within an area under the jurisdiction of *another Party*”. Finally, the ILA also notes (2004: 7-8) that “the obligation to minimize environmental harm does not depend upon the harm arising in a transboundary setting. This broader obligation in turn derives from general international environmental law... [M]any... documents speak in terms of transboundary environmental harm, yet the general obligations of sustainability and, for example, of the protection biodiversity or to preserve wetlands are not so limited. These and

concludes, the principle of no-significant harm concerns only the watercourse States according to the 1997 UN Convention.²¹⁵

Such a narrow-minded approach is far from adequately employing the principle of no-significant harm, as it clearly contradicts the very logic of the principle of no-significant harm itself. Furthermore, it is inconsistent with the very key role the 1997 UN Convention has. One may argue that such a watercourse States-oriented approach would be understandable to some degree, though not acceptable, for bilateral and regional agreements or academic publications dealing with particular disputes between two or more watercourse States. Since basically the mutual positions of the parties are primarily of interest in such situations and since the only goal is to settle a dispute rather than to provide a comprehensive legal framework that would govern utilisation of international watercourses across the globe, it would be plausible for the parties (or authors) to focus merely on the mutual obligations of the parties.

For example, the 1992 Helsinki Convention, as a regional convention, employs such a wording. It is applicable only in case of “transboundary impact”²¹⁶ arising from “any significant adverse effect on the environment... within an area under the jurisdiction of another party” (Article 1(2)). This Convention “explicitly excludes impacts of a global nature and therefore concentrates on impacts of a local or subregional character in the ECE region” (Bosnjakovic 1998: 56). Moreover, it also excludes impacts of a regional character where they relate to non-party States in the region. In other words, this Convention -maybe

other obligations apply within a state as well as across boundaries and imply an obligation to minimize environmental harm both within and without the responsible state”. But see supra note 12 for the general attitude of the ILA.

²¹⁵ See also Nollkaemper (1996a: 63 (fn. 104))

²¹⁶ The “transboundary impact” definition of this Convention is quite broad and progressive. See supra note 198.

understandably but definitely not justifiably- limits its area of application²¹⁷ as a result of its regional character.²¹⁸

Having said that, it is hard to understand the reason why a global instrument such as the 1997 UN Convention employs such a narrow approach. A global “framework” convention, which claims to govern the utilisation of international watercourses in general across the globe, not in a particular region, should have covered all relevant rights and obligations of all States, however “minor” or “exceptional” they might be.²¹⁹ And in fact this Convention is charged to address “legal problems relating to the use of international watercourses”²²⁰ (so, not only those relating to the mutual rights and interests of watercourse States). Moreover, it is open to participation by not only *all* States (namely, non-watercourse as well as watercourse States) but also relevant international organisations.²²¹

²¹⁷ But Article 9(3) and (4) of the Convention has a very sound regulation regarding the situation of third parties in the case of marine pollution: “(3). In cases where a coastal State, being Party to this Convention, is directly and significantly affected by transboundary impact, the Riparian Parties can, if they all so agree, invite that coastal State to be involved in an appropriate manner in the activities of multilateral joint bodies established by Parties riparian to such transboundary waters. (4). Joint bodies according to this Convention shall invite joint bodies, established by coastal States for the protection of the marine environment directly affected by transboundary impact, to cooperate in order to harmonize their work and to prevent, control and reduce the transboundary impact”.

²¹⁸ Article 7 of the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, which is generally accepted to be one of “the most comprehensive” agreements (Birnie & Boyle 2002: 315), also holds the parties responsible only for harmful effects caused to other watercourse States, as it speaks of “substantial damage to one or more riparian States from the use of and/or discharge to water of the Mekong River” (for text, see International Freshwater Treaties Database 1994-2005).

²¹⁹ The General Assembly Resolution 2669 (XXV) of December 8, 1970, which recommends that the ILC should take up the study of the law of the non-navigational uses of international watercourses, noted that it “considered that it was desirable to initiate preliminary studies on the legal problems relating to the utilisation and use of international rivers”. The phrase “the legal problems relating to the utilisation and use of international rivers” should obviously be understood in an ever-broadening context.

²²⁰ The General Assembly (UN 1970), “recommends that the International Law Commission should, as a first step, take up the study of the law of non-navigational uses of international watercourses with a view to its progressive development and codification”.

²²¹ According to Article 34, this “Convention shall be open for signature by all States and by regional economic integration organisations”. According to Article 2(3)(d), “regional economic integration organisation” means an organisation constituted by sovereign States of a given

So, it must be once more underlined that the reason why a blind eye is turned to the theoretical framework drawn by the principle of no-significant harm (and the notion of the common concern of humankind) is arguably the inter-watercourse States approach adopted.²²²

B. The notion of the common concern of humankind

As underlined several times earlier, watercourse States are obliged to exercise their right to utilise within the ever-broadening limits of international law. The principle of no-significant harm, which obliges watercourse States not to cause significant transfrontier harm, is, as demonstrated above, the fundamental principle of international environmental law that governs the way the right to utilise is exercised. So, it is the main principle that identifies the limits of the right to utilise and thus the territorial sovereignty concept as far as utilisation of international watercourses is concerned.

Yet this does not mean that it is only the “transfrontier” harmful effects of their activities for which States have international responsibility. Indeed, various harmful effects, which were supposed to have nothing to do with international law, are now increasingly falling into the realm of international law. International environmental law does indeed deal with a number of environmental problems regardless of whether they factually have a “transfrontier” character or not. The notion of the common concern of humankind provides the theoretical basis for such problems. This notion has in fact evolved long ago as a result of changing international understanding, and, in this context, being a matter of international concern is now

region, to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorised in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it”. The General Assembly also “invites States and regional economic integration organizations to become parties to the Convention” (General Assembly Resolution 51/229 of 21 May 1997).

²²² For full discussion, see Chapter II above.

being increasingly seen as sufficient for international regulation in some cases even though the concerned harmful effect does not have any “transfrontier” character at all. The motivation behind such obligations is not to hold States responsible for the harm they might cause beyond their territories (as is the case for the principle of no-significant harm). Rather, States are held responsible for other (non-transfrontier) effects which are accepted to be a matter of international concern. This is for two reasons: States may cause harmful effects which are not “transfrontier” at all or cannot be identified as “transfrontier” in the strict sense of the word.

First, it has been recognised that States might also have international responsibility for “national” harmful consequences of their activities. In other words, States may be held internationally responsible for the harmful effects (of their actual activities) that factually occur wholly within their own territories. Indeed, a growing number of international instruments are being signed which deal with environmental issues previously seen as a matter of sovereignty, and, as a result, a growing number of “national” harmful effects are now subject to international law. Accordingly, issues “on the international agenda... [that has been] the legitimate object of international attention, overriding the reserved domain of domestic jurisdiction or the possible contention that it relates to matters solely within the exclusive sovereignty of individual States” (Boyle 1991: 11). Similar expressions may be found in conventions on the conservation of biodiversity, wetlands of international importance,²²³ cultural heritage,²²⁴ human rights²²⁵ and so

²²³ See particularly the 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the Ramsar Convention). The very name of the Convention itself demonstrates that it is the notion of the common concern of humankind that (implicitly) provides the legal basis for these obligations. Moreover, Article 2(2) talks about the “international significance [of wetlands] in terms of ecology, botany, zoology, limnology or hydrology”. Article 5 of this Convention talks about “wetland[s] extending over the territories of more than one Contracting Party or where a water system is shared by Contracting Parties”. So, it is clear that the definition of “wetland” employed covers international watercourses in general and deltas and estuaries in particular. Nevertheless, it must be immediately indicated that the Convention, although widely ratified, is binding only for (watercourse) States which are party to it, as it requires specific action. As of 11 January 2007, there were 154 Contracting

on. These global conventions signed by a huge amount of States across the globe all give each and every State “a legal interest, or standing, in the enforcement of rules concern[ed]” (Boyle 1991: 11). The reason behind this progressive development is the understanding that even “national” harmful effects might cause international concern as they damage the ecological balance in that region or raise an issue which is accepted to be of international concern, or, to use the generally accepted terminology, a common concern of humankind.

In short, the fact that both the activity and its harmful consequences have taken place within a single State does not necessarily mean in every case that international law has nothing to do with the harm caused. Harmful effects caused, say, to biological resources, cultural heritage and human populations situated within the territories of watercourse States are the most important examples which may give rise to international responsibility.²²⁶

Second, again consistent with the progressive development of international (environmental) law in recent decades, various obligations have been imposed on States

Parties, and 1634 sites had been designated for the List of Wetlands of International Importance. See text and other relevant documents at the official website of the Convention (<www.ramsar.org>). Having said that, the Ramsar Convention, albeit quite vaguely and loosely, imposes general obligations with regard to wetlands that are not designated as such. According to Article 4, for example, “[e]ach Contracting Party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, *whether they are included in the List or not*, and provide adequately for their wardening”. (emphasis added)

²²⁴ Conservation and protection of cultural heritage areas that are of international importance came onto the international agenda quite a long time ago and, as the Preamble of the 1972 World Heritage Convention states, “parts of the cultural... heritage are of outstanding interest and therefore need to be preserved as part of the world heritage of mankind as a whole”. Accordingly, as “deterioration or disappearance of any item of the cultural... heritage constitutes a harmful impoverishment of the heritage of all the nations of the world,” its protection and conservation is of international concern.

²²⁵ Regardless of whether they explicitly refer to it or not, it is obvious that it is the notion of the common concern of humankind that underlies instruments that establish, and protect, basic human rights of human populations living in national jurisdictions.

²²⁶ As stressed above, these obligations do also have a transfrontier aspect, as harmful effects might also be caused to biodiversity, cultural heritage and human populations situated in transfrontier areas.

regarding global (or non- or extra-territorial) issues as well. Protection of the global atmosphere and climate change in fact has a unique character in this respect, because the atmosphere, and therefore the global climate, is indeed neither something which might be subject to territorial sovereignties of States nor a global common situated beyond national jurisdictions. Rather it, with its unique character, extends all over the world, and, as a global integral entity, consists of areas both within and outside of the land, sea and air territories of States. Its protection is, therefore, a unique obligation, as any harm to it cannot be categorised either as a form of “transfrontier” harm or “national” harm of international importance. So, the protection of atmosphere, which extends all over the globe, and climate change related problems, are “common concern[s] of humankind”.²²⁷ So, all States have the general obligation to protect the global atmosphere and the global climate and this responsibility would be relevant in all activities that may have harmful effects on them. It follows that watercourse States are also bound by this obligation, as, according to recent scientific findings, some forms of utilisation activities, particularly building dam reservoirs, have the potential to emit GHGs.²²⁸ The invaluable studies and analyses of the World Commission on Dams (2000b and 2000c) should be particularly mentioned here, as it has clearly shown that this is indeed the case. So, although this aspect of the issue “has received superficial treatment compared with other subjects” (Rosa & dos Santos 2000:

²²⁷ Preamble, the UN Framework Convention on Climate Change (hereafter, 1992 UNFCCC). See also Preamble of the 1992 Convention on Biological Diversity. For texts, see Ecolex 1998-2006.

²²⁸ The main source of GHG emission from dam reservoirs is the “bacterial decomposition (both aerobic and anaerobic) of organic matter and other processes in tropical water reservoirs [which produces] both CO₂ and methane (CH₄)” (Rosa & dos Santos 2000: 2 and 43). While principally CO₂, CH₄ and nitrogen gas (N₂) is emitted by the decomposed flooded biomass on the bottom of the reservoir (anaerobic decomposition), only CO₂ and N₂ are emitted in aerobic decomposition. N₂ is also generated by denitrification and by decomposition of amino acids (Rosa & dos Santos 2000 : 22). Besides, “emissions from decaying forest biomass will be supplemented from decay of organic matter which enters the reservoir from rivers and streams that feed it, from soil organic matter, and from macrophytes that grow in the reservoir. So, “there is no justification for claiming that hydro [sic.] does not contribute significantly to global warming and climate change” (Rosa & dos Santos 2000: 45 and 48.).

43) in relevant scientific studies, particularly in the studies of the Intergovernmental Panel on Climate Change, emissions from such sources too should be taken into account whilst determining the emission limits of States. It follows that particularly watercourse States party to such instruments would be bound to take into account the amount of emissions from dams as well when determining and/or calculating their GHG emission targets/quotas.²²⁹

Before proceeding any further, one point must be clarified. It is true that most, if not all, of these obligations are also valid for national watercourses and that obligations that may arise from the notion of the common concern of humankind have nothing to do with the “international” character of international watercourses.²³⁰ Yet this does not, and in fact cannot, mean that watercourse States (party to international watercourses) are exempt from other relevant basic international obligations not specifically created for the utilisation of international watercourses. Any international watercourse is, first and foremost, a “watercourse” and all watercourse States, whether party to an international watercourse or a national one, have basic environmental obligations imposed by international law. The relevant basic environmental obligations of States would not cease to be binding if the concerned effect was caused as a result of an activity carried out in respect of an international watercourse. On the contrary, such obligations are valid for all activities and a differentiation between national and international watercourses in that sense is not possible at all. Any obligation imposed by international law would cover all relevant activities carried out within the territories or under the jurisdiction of any State and this will naturally cover the utilisation activities of watercourse States carried out over their parts of international watercourses. Thus, there is no impediment whatsoever to conclude that international obligations conventionally not affiliated to the utilisation of

²²⁹ See, for example, the requirements of Articles 3(3) and 7(1) of the Kyoto Protocol.

²³⁰ Birnie & Boyle therefore note that “a sharp division between international and non-international watercourses becomes much more difficult to maintain” (2002: 316).

international watercourses might well be studied in the context of the international obligations of watercourse States, as watercourse States might always breach them.

Finally, the approach of the 1997 UN Convention²³¹ should also be briefly looked at, as it falls short of adequately reflecting/addressing this notion, as well as specific obligations deriving from it. At least to the knowledge of the present writer, the 1997 UN Convention (as well as most of the basic instruments and studies on the law of international watercourses²³²) does not explicitly refer to the notion of the common concern of humankind. Almost all obligations arising from this notion, such as those concerning human populations, cultural heritage, global climate change and even biodiversity are indeed unaddressed to a great extent.²³³

In fact, some regulations of the 1997 UN Convention may be evaluated to this effect. Article 20 of the 1997 UN Convention is clearly the main/general provision to be looked at in this context. Accordingly, “watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses”. The ILC (1994: 99-100) defines the “ecosystem of an international watercourse”²³⁴ as

²³¹ For the importance of this Convention, see *supra* note 4.

²³² Article 8 (on minimisation of environmental harm) of the 2004 Berlin Rules seemingly addresses such issues. See *supra* note 29. But cf. *supra* note 12.

²³³ For a study that specifically notes that “the UN Watercourses Convention does not, for example, address climate change or other hydrological dynamics [so] that may necessitate review of existing agreements”, see Stoa, 2014: 1369 (fn. 239).

²³⁴ The ILC (1994: 98-9) notes that the expression “ecosystems of international watercourses” is “utilized by the Commission because it is more precise than the concept of the ‘environment’ of a watercourse. The latter term could be interpreted quite broadly, to apply to areas ‘surrounding’ the watercourses that have minimal bearing on the protection and preservation of the watercourse itself. Furthermore, the term ‘environment’ of a watercourse might be construed to refer only to areas outside the watercourse, which is of course not the intention of the Commission. For these reasons, the Commission preferred to utilize the term ‘ecosystem’ which is believed to have a more precise scientific and legal meaning. Generally, that term refers to an ecological unit consisting of living and non-living components that are interdependent and function as a community” (footnotes omitted).

an ecological unit consisting of living and non-living components that are interdependent and function as a community. In ecosystems, everything depends on everything else and nothing is really wasted. Thus, an external impact affecting one component of an ecosystem causes reactions among other components and may disturb the equilibrium of the entire ecosystem... It goes without saying that serious interferences can be, and often are, brought about by human conduct... The obligation to protect and preserve the ecosystem of international watercourses addresses this problem... (footnotes omitted)

The ILC (99-100) clearly recognises the interdependence between living and non-living components of international watercourses, and underlines that any external impact affecting one component of the ecosystem of an international watercourse might cause reactions among others and might disturb the equilibrium of the entire ecosystem. Watercourse States are therefore required to “shield the ecosystems of international watercourses from harm or damage” (100). The ILC (100-1) notes that while “the duty to protect” refers to protecting ecosystems from a significant threat of harm, “the obligation to preserve... applies in particular to freshwater ecosystems that are in a pristine or unspoiled condition”. In short, one may well argue that this provision, coupled with the sustainable utilisation principle employed in Article 5 (100), addresses possible “national” (as well as transfrontier and global) harmful effects of utilisation activities.

It is, however, not possible to reach a satisfying conclusion about the exact scope of Article 20, as it may be construed and understood in two different ways: It, as Birnie & Boyle argue (2002: 314.), either imposes a “general obligation to protect ecosystems, regardless of any transboundary impact”, or provides “merely a chapeau to” the following articles on transboundary harmful impacts and therefore “internal environmental protection” is not covered. It is indeed hard to understand what the intention of the 1997 UN Convention is and one even gets the impression that the ILC refers simply to “transfrontier”

biodiversity effects caused in other watercourse States,²³⁵ not those that occur within the territories of the State of origin.²³⁶ So, “the 1997 UN Convention is ambiguous, and possibly even confused, in the scope and depth of its commitment to watercourse ecosystem protection” (Birnie & Boyle 2002: 314). Therefore, having a look at the following articles may be of some help.

Article 21 on water pollution, for example, addresses obligations concerning “pollution of an international watercourse that may cause significant harm to *other watercourse States or to their environment*, including harm to human health or safety,... or *to the living resources of the watercourse*”.²³⁷ (emphasis added) So, although “the environment, including human health or safety, or the living resources of the” State of origin (and “third” parties) too may be affected from pollution, the 1997 UN Convention does apparently not impose any obligation in this context, let alone global implications.

Likewise, Article 22 obliges watercourse States only “to prevent the introduction of species, alien or new, into an international watercourse *which may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States*”. (emphasis added) So, the only article of the 1997 UN Convention which explicitly relates to biodiversity of international watercourses openly neglects, not to say ignores, the basic biodiversity obligations imposed by international law, i.e., to conserve the diversity of biological resources situated within their own jurisdiction and to use them in a sustainable way.

²³⁵ For a similar approach, see Article 7, the 1995 Mekong Agreement.

²³⁶ The situation is no different when it comes, for example, to vital human needs: Only vital needs of human populations living in the territories of “other” watercourse States are taken into account.

²³⁷ On the other hand, the 1992 Helsinki Convention has a broader ambit than the 1997 UN Convention, as it obliges its parties not to cause “transboundary impact”, which includes harm to “flora and fauna” (Article 1(2), to *another* party, not necessarily only to “riparian States” (Article 2(1)).

In short, following Articles fall short of demonstrating what the exact scope and effect of Article 20 might be.²³⁸

This approach evidently limits the scope and efficiency of Article 20 and supports the suggestion that this Article is in fact intended to provide “merely a chapeau to” the following articles on transboundary harmful impacts and therefore “internal environmental protection” is not covered (Birnie & Boyle 2002: 314). It is therefore hard to accept that the 1997 UN Convention employs, to say the least, adequate provisions regarding obligations for “national” harmful effects consistent with the notion of the common concern of humankind. To repeat the central argument of the present study once again, this insufficient attitude is an “inevitable” result of the prevailing inter-watercourse State approach, rather than legal considerations and/or uncertainty.

At this very junction, one may argue that, since the notion of the common concern of humankind and specific obligations based on it are recently developed rules of international law all details, as well as exact relevance, of which are yet to be settled, it would be a bit unfair to criticise this Convention adopted in 1997 for such a shortcoming. Even if this objection may have some credit to some extent at first sight, the general attitude of this very Convention (as is seen in the context of the principle of no-significant harm as well) suggests that this might not be the case.

First and foremost, issues such as conservation of wetlands and biological resources (in States' own jurisdictions) have been on the agenda for a long time. And in fact the ILC, in its Commentaries to Article 20, quotes various international agreements, which include provisions concerning the protection of the ecosystems of international

²³⁸ But for a paper that, by referring to Article 31(3)(c) of the 1969 Vienna Convention on the Law of Treaties, argues that an interpretative mechanism for the integration of the obligation to preserve freshwater ecosystems is well possible, see Lee, 2012.

watercourses²³⁹ (and which thus relate to the conservation of biological resources). Yet particularly two of the most relevant instruments have not been mentioned/referred to at all: The Biological Diversity Convention, which was under negotiation starting from 1988 and entered into force in 1993 (Birnie & Boyle 2002: 568), and the 1972 Ramsar Convention.²⁴⁰ The same comments may, *mutatis mutandis*, be repeated as to other provisions on the obligations of watercourse States particularly concerning conservation of cultural heritage and human populations within their jurisdictions.

Or, alternatively, if it was thought that general provisions regarding “other” issues would suffice, this might/should be done consistent with international law. Indeed, many specific instruments adopted particularly in recent years prefer referring to (i.e., recall, consider, bear in mind and so on) applicable obligations (or relevant instruments) they do not directly address.²⁴¹ The (Preamble of the) 1997 UN Convention, which is supposed to be a global instrument aimed to comprehensibly address the utilisation of international watercourses, however does not follow such a course of action, either, as it does not refer at all to most of the applicable obligations that are not conventionally seen as part of the law of international watercourses. In fact, Article 29 of the 1997 UN Convention, which regulates “international watercourses and installations in time of armed conflict”, is written with such an understanding, as it talks about “the protection *accorded by the principles and rules of international law applicable in international and non-international armed conflict*” (emphasis added). However, such a course of action has not

²³⁹ The examples quoted include, *inter alia*, the 1968 African Convention on the Conservation of Nature and Natural Resources, the 1972 Stockholm Declaration, the 1982 UNCLOS, the 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources, and the 1988 ECE Declaration on Conservation of Flora, Fauna and their Habitats, as well as various regional watercourse agreements. See ILC 1994: 103-9.

²⁴⁰ See *supra* note 223.

²⁴¹ Article 87(1) of the 1982 UNCLOS, for example, states that “freedom of the high seas is exercised under the conditions laid down by this Convention *and by other rules of international law*”. (emphasis added)

been preferred with regard to many other substantive obligations of watercourse States. A general reference, say, in the Preamble, to the fact that rights in respect of international watercourses would be exercised in accordance with the present Convention and other relevant/applicable rules of international law might have been more than sufficient. The present writer is of the view that these instances of “negligence” themselves say too much as to the general attitude (i.e., the inter-watercourse States approach adopted) of the ILC and watercourse States.²⁴²

Conclusion: A Proposed Paradigm

As noted at the very outset, although there are numerous valuable studies in the literature on the law of international watercourses, it is hard to say that the main features of this specific area of international law is now well-settled. The law of international watercourses is in fact in a state of crisis that cannot be maintained anymore. Recently emerging relevant principles and rules of general international (environmental) law are not, or in fact cannot be, adequately addressed/answered/reflected. Obligations owed (in addition to other watercourse States) to non-watercourse States and the international community in general are either not recognised at all, or, if this is the case, the main/central concern to balance mutual rights and obligations of watercourse States has been such central and decisive that such provisions are effectively put out of the equilibrium in the final analysis. Furthermore, this conventional paradigm, as a result of the inter-watercourse States approach it adopts, “inevitably” leads to an assumption according to which the fundamental principles of no-significant harm and equitable utilisation do inevitably conflict. This, in practice, means that rules governing actual utilisation activities and their (harmful) consequences are bound to be contradicting and even

²⁴² For full discussion, see Chapter III above.

competing issues, which in turn leads to ignoring/neglecting rules governing either of them in the final analysis. Such a watercourse States oriented approach cannot obviously be maintained anymore, as the law of international watercourses does not function in isolation from other (ever increasing and broadening) applicable rules of international law.

In short, the conventional paradigm evidently perceives, conceptualises, interprets and implements basic issues of the law of international watercourses in a rather problematic way, as it shifts the point of concern and leads to a destructive tension, or at least a vicious circle, in the law of international watercourses. It, in other words, evidently falls short of explaining, and adequately studying, this specific area of international law.

So, since the legally “unsustainable” conventional paradigm cannot be maintained anymore, a shift in paradigm in the Kuhnian sense is required. Changing this inter-watercourse States approach would not only make it possible to incorporate, and/or duly refer to, applicable rules and principles of general international (environmental) law into the law of international watercourses, but also to eliminate the misperceived conflict between the fundamental principles of no-significant harm and equitable utilisation. The main pillars of the proposed paradigm can be briefly outlined as follows:

First and foremost, since the law of international watercourses do not exist and function in isolation from the general framework of international (environmental) law, watercourse States would obviously be obliged to abide by all applicable rules, not only those conventionally assumed to make up the law of international watercourses. These wide-ranging obligations are based on, or derived from, two main principles/notions: The principle of no-significant harm and the notion of the common concern of humankind. In this context, the basic obligation not to cause significant transfrontier harm covers not only harmful effects caused to other watercourse States, but also those caused to “third” parties, however exceptional such effects might be. Relevant specific obligations include, *inter alia*, those concerning

water and marine pollution, conservation of biodiversity, human populations and cultural heritage. Furthermore, watercourse States also have obligations for the harmful effects of their utilisation activities that are not “transfrontier” in nature (in the strict sense of the word), thanks to the notion of the common concern of humankind. In this sense, obligations for “national” harmful effects (i.e., those concerning biodiversity, cultural heritage and human populations) and those for “global” effects (i.e., those concerning global climate) are of particular relevance.

Be that as it may, the conventional assertion/assumption that the principles of equitable utilisation and no significant harm do inevitably conflict is not only legally groundless but practically misleading. As demonstrated in due course, these two fundamental principles do not, and in fact cannot, conflict at all, as they are rather complementary principles that govern distinct legal matters: While the principle of equitable utilisation provides the legal basis of entitlement to a certain amount of water (by complementing the territorial sovereignty concept that provides the legal basis of the right to utilise in theory) and thus relates to the very *existence* of the right to utilise, that of no-significant harm (together with the notion of the common concern of humankind) governs transfrontier harmful effects of actual (namely, *prima facie* lawful) utilisation activities and thus governs the *way* this (already established) right is exercised.²⁴³ So, since the existence of a right and (once established) the way it is exercised are distinct legal matters, these two principles, which evidently function at distinct, and consecutive, stages of legal(ity) analysis, do not and in fact cannot conflict. They are rather complementary and consecutive principles.²⁴⁴

In the meantime, it must be immediately noted that relevant obligations do “not make... [watercourse States] an absolute guarantor of the prevention of harm” (Birnie &

²⁴³ Generally see sections dedicated to these principles above.

²⁴⁴ It follows that any of the two cannot be deemed to be either subject, or subordinate, to the other.

Boyle 2002: 112).²⁴⁵ Rather, consistent with the principle of due diligence,²⁴⁶ States are basically obliged to *take all appropriate measures* (Article 7(2), the 1997 UN Convention) or to use *best available technology/best practicable means* (Birnie & Boyle 2002: 113) whilst utilising international watercourses, that is to say comply with their substantive obligations (only) *when this is possible*. Indeed, the only function of this well-settled general principle of international environmental law, which is a “standard of conduct” (Birnie & Boyle 2002: 112), is to observe an obligation with good will. So, this principle would be of relevance in deciding whether an individual (substantive and/or procedural) obligation had been duly abided by consistent with all relevant conditions and requirements for its proper fulfilment. It follows that this principle does not give States the opportunity to (mis)use it as an excuse in order to get away with their inequitable activities and/or harmful effects they cause contrary to international law. Otherwise, it would mean that States might well refer to this principle in order to deflect criticism and relevant legal sanctions, and, most importantly, the effectiveness and even meaning of the substantive obligations imposed on States would be undermined.

²⁴⁵ The ILC also notes (2001: 391-2) that “the duty of due diligence however is not intended to guarantee that significant harm be totally prevented, if it is not possible to do so”.

²⁴⁶ The final text of the 1997 UN Convention (Article 7(2)) states that watercourse States are obliged to “*take all appropriate measures* to prevent the causing of significant harm”. (emphasis added) So, it employs the term “take all appropriate measures” instead of the expression “due diligence” used in 1994 Draft Articles. As McCaffrey also notes, “the deletion of ‘due diligence’... and its replacement with the words ‘take all appropriate measures’ is merely saying the same thing in different words” (2000: 63). The present study will also use the expression “due diligence”, as it is widely used in the literature. But cf. commentary to Article 21, ILA Revised Rules (Ninth Draft), where Sabel is quoted (ILA 2002: 52) as suggesting that the expression “‘to take all appropriate measures’ is less absolute than the 1991 ILC draft which demanded that ‘watercourse States shall utilize an international watercourse in such a way as not to cause...’ The phrase ‘appropriate measures’ as used in the 1997 Treaty [*sic.*] is, it is felt, to be preferred to the phrase ‘due diligence’ of the 1994 ILC Draft which appears to be a phrase more appropriate to the rules of liability” (ILA 2002: 52). The ILA, on the other hand, notes in Article 16 of its 2004 Berlin Rules that watercourse States “shall refrain from and prevent acts or omissions within their territory that cause significant harm to another basin State *having due regard* for the right of each basin State to make equitable and reasonable use of the waters.” (emphasis added)

Be that as it may, any watercourse States otherwise breaching its obligations arising from the principles of equitable utilisation and no-significant harm will face different legal consequences. As is well known, breaching any principle and/or rule of international law would constitute an internationally wrongful act and the wrongdoing State would be internationally responsible for the wrongdoing in question. The relevant responsibility of watercourse States, in other words, would be determined consistent with the obligation in question. So, as the wrongfulness differs according to which one of the two principles is breached, the international responsibility, and, therefore, legal sanctions applicable, would also differ.

For example, the obligation of a watercourse State that breaches its equitable utilisation duty and/or obligation would be to abandon (or at least mitigate) that wrongfulness, that is to say the inequitableness in question. Thus, if a watercourse State exceeds its equitable share (i.e., equitable utilisation duty) and/or encroaches upon the share of others' or the minimum stream flow (i.e., equitable utilisation obligation), it would be required either to abandon its actual use of the water in question or revise it in a way that reduces it to an amount within the limits of its equitable share.²⁴⁷ Likewise, a watercourse State breaching its obligations deriving from the principle of no-significant harm (or the notion of the common concern of humankind) would legally be required to abandon (or at least mitigate) that harmful effect, as these concepts simply point to the unlawfulness of the harmful effects caused.²⁴⁸

²⁴⁷ In cases where the inequitableness is caused by only encroaching upon others' share and/or the minimum stream flow as a result of, say, heavy pollution (i.e., equitable utilisation obligation), the necessary step to be taken would obviously be to abandon or mitigate this pollution to a level which no longer made the waters of international watercourses effectively unusable.

²⁴⁸ See also Commentary to draft Article 1, Draft Articles on Prevention of Transboundary Harm (ILC 2001: 382). However, as is well known, the studies of the ILC on the "Liability for Injurious Consequences Arising out of Acts Not-Prohibited by International Law" have met considerable controversy and many writers have rejected the necessity of such a separate topic as the ILC has already been studying "State Responsibility". See Boyle 1990; and Birnie & Boyle 2002: 181 ff. Cf. Akehurst 1985. Although the ILC continues its studies under the title of "Prevention

However, the fact that the harm caused should certainly be abandoned/mitigated does not necessarily mean that international law requires watercourse States to abandon their (equitable, that is to say lawful *per se*) actual use. Indeed, it is the harmful consequence which constitutes the “wrongful act”, and, therefore, the obligation would only be for that particular “wrongful act”, i.e., the transfrontier, “national” or global harmful effects caused. An equitable, that is lawful, activity can also cause significant harm and since the actual use itself will be lawful, the State of origin will only have the responsibility for the consequence, i.e., the harm caused contrary to international law (Quentin-Baxter 1980: 263). So, it would be possible to continue carrying out lawful *per se* utilisation activities, provided that these harmful effects were adequately mitigated/abandoned. Watercourse States, in other words, would be allowed to continue carrying out significant harm-causing activities if they abandon the harm caused or at least mitigate it below the threshold of “significant” harm.²⁴⁹

It goes without saying that if the harm is inherent in the actual use of the water or inseparable from it, this would make it unavoidable to take some substantial measures, including (wholly or partly) abandoning the actual use itself. However, this practical necessity does not change the basic fact that the responsibility applicable is for the harm caused, and not for the actual use which is to be abandoned or revised merely because it is the only (available) measure to take to abandon/mitigate the harmful effect in question, not because it itself is wrongful.

of Transboundary Harm from Hazardous Activities” now as a result of objections made to, and the uncertainty regarding the State liability-responsibility division, it still deals with “activities not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences” (draft Article 1, Draft Articles on Prevention of Transboundary Harm). Moreover, the title of the ILC study on State Responsibility is “Draft Articles on Responsibility of States for Internationally *Wrongful Acts*”. (emphasis added) For an overview of the ILC studies on this topic, see generally Crawford et. al. 2001.

²⁴⁹ But cf. draft Article 9 of the ILC Montreal Rules on Water Pollution in an International Drainage Basin, where (1983: 545) it is stated that “in case of a breach of a State’s international obligations relating to water pollution... that State shall cease the wrongful conduct and shall pay compensation”.

However, one could object to such a separation between “conduct” (i.e., actual use of the water) and “consequence” (i.e., harmful effect caused), arguing that they are not separable in most circumstances and that there are no clear-cut lines between them. Other kinds of State activities are obviously beyond the scope of the present study, but this separation may well be possible in utilisation activities.²⁵⁰ Indeed, in many cases it would be possible to abandon or mitigate harmful effects without abandoning the actual use of the water itself, provided that it is equitable, i.e., lawful. For example, in irrigation activity, water pollution can be mitigated without abandoning such activity by using different techniques such as filtering, using the self-purifying character of water by mixing drainage waters with fresh water in downstream reservoirs, and so on, thanks to developing technology. Similarly, even small revisions in, say, dam projects may well mitigate (potential) effects to biodiversity, human populations and cultural heritage. In other words, such harmful effects may well be abandoned or at least mitigated through different methods without abandoning the actual use of the water in question.

Having said that, one can still argue that such a separation between an actual use of the water and its harmful effects is not, and cannot be, possible for all kinds of harmful activities. It is certainly true that there are cases where transfrontier harmful effects are seemingly inherent in the actual activity.²⁵¹ However, as noted above, since the responsibility would still be in theory for the consequence, the State of origin would actually be required to abandon (or at least mitigate) the harmful effect even in those cases, and the practical necessity to abandon/revise the actual activity (in order to abandon/mitigate the harm caused) does not change this basic fact. In fact, this practical problem may well encourage watercourse States to develop new techniques that make it possible to mitigate/prevent

²⁵⁰ Lammers, for example, says (1992: 136) that he “always ha[s] difficulty in understanding... [such a difference between quality and quantity], because in... [his] view it is an artificial distinction” Generally see 135-8 for a relevant discussion.

²⁵¹ Such as some forms of environmental harm caused by large dam operations.

harmful effects caused by utilisation activities without abandoning the actual activity itself. Thus, harmful effects that are currently perceived as inherent in the actual activity may also be separated in the future thanks to developing technology. Therefore, this theoretical difference between respective functions and sanctions of the principles of equitable utilisation and no-significant harm must be boldly underlined and duly reflected in relevant rules of international law, as it will, *inter alia*, lessen tension and competition between the parties. As a result, not only would equitable utilisation activities not be hindered (as is the case where the principle of no-significant harm is preferred as the guiding principle), but transfrontier harmful effects would not remain unregulated (as is the case where the principle of equitable utilisation is preferred as the guiding principle).

In short, watercourse States would thus have the opportunity to develop techniques which could allow them to continue carrying out their actual utilisation activities (lawful *per se*), a point which has not been taken into consideration by the conventional paradigm. Furthermore, this theoretical nuance might also have considerable importance during dispute settlement, particularly including possible solutions such as reparation, possible payment of compensation or other trade-offs.

And this is precisely what the “sustainable development” principle seeks to fulfil, for otherwise either development or sustainability would be sacrificed for the sake of the other in many cases. Indeed, the sustainable development principle seeks to “reconcile economic development with protection of the environment”,²⁵² and it should not be (ab)used in such a way which gives a green light either to environmentally harmful development projects or efforts to arbitrarily hinder development projects.²⁵³

²⁵² *Case Concerning the Gabčíkovo-Nagymaros Project*, ICJ 1997: 78.

²⁵³ Judge Weeramantry (1997: 95) notes in his separate opinion in the *Case Concerning the Gabčíkovo-Nagymaros Project* that “recognition of the [sustainable development] concept

It may therefore be concluded that the conventional argument that these two principles inevitably conflict is a rather groundless one and the two schools scrutinised above are, in the late Prof Utton's words (1996b: 639-40), simply "mixing apples and oranges". Indeed, Utton also suggests separating the principles of no-significant harm and equitable utilisation, as he notes that while the former has its historical roots in transboundary pollution, the latter governs the allocation of water quantity.²⁵⁴ So, accordingly, it would be possible to "tidy up" (641) the confusions which have arisen due to "mixing the apples and oranges" (639). However, he immediately notes (639, fn. 23) that "admittedly it is not easy to separate quantity from quality scientifically". To him, "for example, diversion and consumptive use may reduce the quantity of water available for the dilution of salts thus affecting the salinity and thus quality of water".

Therefore, it seems that he himself also thinks that mixing the apples and oranges is inevitable. This is because he, with due respect, confuses the "cause" and "consequence" in science and law. It is beyond doubt that, in his example, the consumptive utilisation of the waters of an international watercourse is the activity causing the qualitative harm, i.e., pollution. In other words, in his example, the cause is a quantitative problem and its consequence is a qualitative one. Since "pollution" is generally defined as "any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct" (Article 21(1), 1997 UN Convention), it evidently relates to "consequence", not cause. Hence, in determining pollution, and therefore the applicability of the principle of no-significant harm, its source (i.e., cause) is irrelevant

could... fairly, be said to be worldwide". For the legal status of this principle, see also Birnie & Boyle 2002: 95-7.

²⁵⁴ It must be noted that Utton, in the final analysis, also follows the conventional paradigm, as he takes the issue in a mere inter-watercourse States equilibrium. For example, in his article written as a recommendation to the ILC regarding environmental concerns, he suggests (1992: 214) the water quality related article of the UN Convention be adjusted to read "and avoid appreciable harm in or to the territories of *other watercourse States*". (emphasis added)

(once it is established that it is some form of human conduct).²⁵⁵ Therefore, in his example, as the consumptive utilisation of a watercourse State is “human conduct”, there is no obstacle to evaluating it as a pollution-causing activity. So, provided that such an activity is equitable, it would be quite “easy to separate quantity from quality scientifically”. Indeed, if the diversion or consumptive use itself is equitable, the State of origin would not have responsibility for its actual activity consistent with the principle of equitable utilisation. Yet it would certainly be responsible for the pollution caused under the principle of no-significant harm. As a result, it would be obliged to take the necessary steps to mitigate the pollution below the applicable threshold, including possible abandonment of the diversion in question. However, as underlined above, this would not be as a result of the principle of equitable utilisation, but simply the principle of no-significant harm. In short, it may indeed well be possible for an inequitable activity not to cause any (transfrontier, global or “national”) significant harm whatsoever, and for a significant harm-causing activity to be equitable.

To sum up, the present study endeavours to put forward a new framework within which the law of international watercourses can be addressed comprehensively and consistent with (that is to say, not in isolation from) other specific areas of international (environmental) law. The primary aim of the legal framework outlined here is not to address and settle watercourse disputes (as is the case for the conventional paradigm), but to comprehensively regulate the utilisation of international watercourses regardless of any dispute that arises between watercourse States. Arguably, such constructed legal framework that governs all relevant and applicable rules, principles, obligations and duties of watercourse States would ease the legal and practical stalemate we have been

²⁵⁵ The ILC states (1994: 111) that “the definition does not refer to the means by which pollution is caused, such as by the ‘introduction’ of substances, energy, etc., into a watercourse. It requires only that the ‘detrimental alteration’ results from a ‘human conduct’”. See also *supra* note 198 and corresponding text.

witnessing all along. It would hopefully legally encourage all watercourse States, be they upstream or downstream, to settle international watercourse disputes, as arguably the first stage of a successful dispute settlement procedure is to put forward (and/or clarify) the applicable legal framework accurately and fairly. More importantly, as it stands for comprehensively regulating the utilisation of an international watercourse before a conflict arises, *all* obligations of watercourse States owed to *all* potentially affected States (including non-watercourse States and the international community as a whole, as well as other watercourse States) in relation to *all* harmful (namely, “national”, transfrontier and global) effects they may cause contrary to international law are duly taken into account, and no right or obligation of watercourse States are neither overestimated nor underestimated at the expense of any other.

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