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The Practice of Shared Responsibility in relation to Land-Based Marine Pollution

Yoshifumi Tanaka
University of Copenhagen

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The Practice of Shared Responsibility in relation to Land-Based Marine Pollution

Yoshifumi Tanaka[*]

1. Introduction

Land-based pollution contributes approximately 80 per cent of marine pollution[1] and represents the most serious source of marine pollution.[2] As exemplified by the Minamata Disease, which endangered the lives of coastal communities because of a methylmercury compound that was discharged from a chemical plant in Japan, land-based pollution is a serious source of threats to human health and marine ecosystems.[3] Harmful substances arising from land-based activities run into the oceans via three main sources: (i) from the coast, including from outfalls discharging directly into the marine environment and through run-off; (ii) through rivers, canals of other watercourses, including underground watercourses; and (iii) via the atmosphere.[4] Shared responsibility concerning land-based marine pollution may arise where the marine environment was polluted by harmful substances discharged from multiple states.

In this regard, one may take the river Rhine as an example. The Rhine has been seriously polluted with organic substances, such as chloride, heavy metals and other chemical pollutants. Given that serious pollution of the Rhine may affect a healthy environment of the North Sea, it was hardly surprising that problems associated with the pollution of the Rhine were first raised by the Netherlands, the major victim of the pollution, during a session of the Central Commission for

[*] Professor of International Law, with Specific Focus on the Law of the Sea, Faculty of Law, University of Copenhagen. The research leading to this chapter has received funding from the European Research Council under the European Union's Seventh Framework Programme (FP7/2007–2013)/ERC grant agreement n° 249499, as part of the research project on Shared Responsibility in International Law (SHARES), carried out at the Amsterdam Center for International Law (ACIL) of the University of Amsterdam. All websites were last accessed in December 2014.

[1] UN General Assembly, 'Oceans and the Law of the Sea: Report of the Secretary-General', UN Doc. A/59/62/Add.1 (18 August 2004), 29, para. 97.

[2] The present writer examined this issue in the following article: Y. Tanaka, 'Regulation of Land-Based Marine Pollution in International Law: A Comparative Analysis between Global and Regional Legal Frameworks' (2006) 66 ZaöRV 535.

[3] S. Kuwahara, *The Legal Regime of Protection of the Mediterranean Against Pollution from Land-Based Sources*, (Dublin: Tycooly International Publishing Limited, 1984), xvii; P.A. Nollkaemper, 'Balancing the Protection of Marine Ecosystems and the Economic Benefits from Land-based Activities: The Quest for International Legal Barriers' (1996) 27 ODIL 153, 153-154.

[4] Pollutants resulting from land-based activities include sewage, industrial discharges and agricultural run-off. Major contaminants include plastic litter, nutrients, heavy metals, sediments, oil and radioactive wastes. D. Hassan, *Protecting the Marine Environment from Land-Based Sources of Pollution: Toward Effective International Cooperation* (Aldershot: Ashage, 2006), 23-35.

Navigation on the Rhine in April 1946.[5] Shared responsibility of upstream states with respect to the pollution of the Rhine could have been at issue at that time, although no formal claim was made to invoke shared responsibility of those states.[6] To give another example, the transboundary riverine pollution loads flowing from Belarus, the Czech Republic and Ukraine into the Baltic Sea are said to be significant for nutrients and heavy metals.[7] Thus shared responsibility of these three states may be at issue with regard to the pollution of the Baltic Sea. Shared responsibility of multiple states may also arise concerning airborne marine pollution. According to the Baltic Marine Environment Protection Commission (Helsinki Commission), for instance, approximately a quarter of the total nitrogen input into the Baltic Sea comes from airborne nitrogen deposited directly into the sea. Reportedly, many countries, including Germany, Poland and Denmark, contribute to atmospheric nitrogen deposition into the Baltic Sea.[8] This situation clearly differs from traditional bilateral atmospheric pollution as typically shown in the *Trail Smelter* arbitration.[9]

In summary, it can be said that cumulative shared responsibility[10] of multiple states may be at issue in the context of land-based marine pollution via international watercourses and the atmosphere. This is a challenging subject since land-based activities are closely bound to the economic development of states and, thus, states are often reluctant to approve any attempts at restricting their development.[11] Against that background, this chapter will seek to examine legal issues with respect to shared responsibility in the context of land-based marine pollution via international watercourses and the atmosphere.

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[5] J.G. Lammers, 'International Cooperation for the Protection of the Waters of the Rhine Basin Against Pollution' (1974) 5 NYIL 59, at 61 and 64.

[6] In this regard, it may be noted that the increasing salinity of the Rhine water was a problem between the Netherlands and France. Thus, in the 1970s and 1980s, Dutch citizens instituted proceedings before the Dutch District Court of Rotterdam against *Mines Domaniales de Potasse d'Alsace* (MDPA), a French state owned company which was the greatest single source of the salinity of the Rhine waters. Furthermore, a group of Dutch public entities, including the province of North Holland and the city of Amsterdam, brought a litigation before the *Tribunal Administratif* of Strasbourg; see J.G. Lammers, *Pollutions of International Watercourses* (The Hague: Nijhoff, 1984), 196-206. However, those litigations were not concerned with shared responsibility of two or more riparian states.

[7] Helsinki Commission, *Evaluation of transboundary pollution loads* (2005), 3-4, available at http://helcom.fi/.

[8] Helsinki Commission, *Airborne nitrogen loads to the Baltic Sea* (2005), 6-7, available at http://helcom.fi/.

[9] *Trail Smelter* (*United States of America/Canada*) (1938 and 1941), Award, (1949) 3 RIAA 1905, at 1965. See also Chapter 36 in this volume, P.H. Sand, 'Transboundary Air Pollution', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), __.

[10] P.A. Nollkaemper and D. Jacobs, 'Shared Responsibility in International Law: A Conceptual Framework' 34(2) (2013) 34 MIJIL 359, at 368-369. See also, P.A. Nollkaemper, 'Introduction', in P.A. Nollkaemper and I. Plakokefalos (eds.), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press, 2014), 1, 10.

[11] Y. Tanaka, *The International Law of the Sea*, 2nd edn (Cambridge University Press, 2015), 280.

2. Primary rules concerning the regulation of land-based marine pollution

2.1 Customary international law

The first issue to be considered concerns the primary rules whose breach may give rise to shared responsibility of more than one state in the context of land-based marine pollution. There is no doubt that the customary principle of *sic utere tuo ut alienum non laedas* – which means 'use your own property so as not to injure that of another'– applies to the regulation of land-based marine pollution. In accordance with this principle, states are under the duty to ensure that discharges from land-based sources within their territories do not cause pollution to the marine environment of other states, or of areas beyond the limits of national jurisdiction.[12] In the context of the law of the sea, this principle is embodied in Article 194(2) of the 1982 United Nations Convention on the Law of the Sea (LOSC).[13]

It is generally understood that the principle of *sic utere tuo ut alienum non laedas* provides an obligation to exercise 'due diligence' not to cause transfrontier damage. Thus a state is not responsible for damage if it has exercised such a due diligence.[14] However, due diligence is an elusive concept and the degree of due diligence may vary depending on the nature of specific activities, technical and economic capabilities of states, and the effectiveness of territorial control etc. In this regard, the view of the Seabed Disputes Chamber of the International Tribunal for the Law of the Sea (ITLOS) deserves quoting:

> Among the factors that make such a description difficult is the fact that 'due diligence' is a variable concept. It may change over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge.[15]

In light of its variable nature, it may not be easy for an international court or a tribunal to determine the breach of the general obligation of due diligence. This is particularly true in the case of land-

[12] Paragraph 3 of the 1985 Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-based Sources, available at www.pnuma.org/gobernanza/cd/Biblioteca/Derecho%20ambiental/28%20UNEPEnv-LawGuide&PrincN07.pdf.
[13] United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982, in force 16 November 1994, 1833 UNTS 3 (LOSC).
[14] P.H. Okowa, 'Procedural Obligations in International Environmental Agreements' (1996) 67 BYIL 275, 332; R. Pisillo-Mazzeschi, 'The Due Diligence Rule and the Nature of the International Responsibility of States' (1992) 35 GYIL 9, 38.
[15] *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, Advisory Opinion, Seabed Disputes Chamber of the International Tribunal for the Law of the Sea, ITLOS Case No. 17, (2011) 50 ILM 458, para. 117.

based marine pollution, since many actors and activities, such as pollution-generating industrial, agricultural and municipal activities, contribute to this type of marine pollution.

In principle, the due diligence obligation applies to multiple states from which land-based marine pollution can originate. This may lead to a situation of shared responsibility. However, it is to be acknowledged that the determination of the breach of the obligation of due diligence will be difficult in the situation where land-based marine pollution arises from various activities and sources located in multiple states. Even if an injured state could establish the breach of the obligation of due diligence of one or more states, it is difficult to prohibit the above mentioned activities within the responsible state(s), because the activities themselves are legal under international law. Hence, an injured state may encounter considerable difficulties to invoke responsibility of multiple states on the basis of the breach of the principle of *sic utere tuo ut alienum non laedas*.

2.2 Global treaties and other instruments

At the global level, principal international instruments regulating land-based marine pollution include: the 1982 UN Convention on the Law of the Sea; the 1985 Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-based Sources;[16] Agenda 21 of 1992;[17] the 1995 Washington Declaration on the Protection of the Marine Environment from Land-based Activities;[18] the 1995 Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (1995 Global Programme of Action);[19] and the 2012 Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.[20] Among those instruments, the LOSC is the only global treaty which provides general obligations to prevent land-based marine pollution. Under Article 192 of the LOSC: 'States have the obligation to protect and preserve the

[16] See n. 12.
[17] This document is available at http://sustainabledevelopment.un.org/content/documents/Agenda21.pdf.
[18] See http://unep.org/gpa/documents/meetings/Washington/WashingtonDeclaration.pdf.
[19] This document is available at: http://coralreef.noaa.gov/threats/pollution/resources/unep_lbsp_prgrm.pdf. Concerning the implementation of the Global Programme of Action, see D.L. van der Zwaag and A. Powers, 'The Protection of the Marine Environment from Land-Based Pollution and Activities: Gauging the Tides of Global and Regional Governance' (2008) 23 IJMCL 423.
[20] Doc. UNEP/GCSS.XII/INF/10 (2012), available at www.unep.org/regionalseas/globalmeetings/15/ManillaDeclarationREV.pdf.

marine environment'. Measures taken pursuant to Part XII shall include, inter alia, those designed to minimise to the fullest possible extent 'the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping' under Article 194(3)(a). Further, under Article 194(1) of the LOSC:

> States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.

The phrase 'any source' suggests that this provision covers all sources of marine pollution, including land-based pollution. Furthermore, the term 'jointly' implies that multiple states may be involved in marine environmental protection, and that these states are required to cooperate to take necessary measures to prevent marine pollution in appropriate circumstances. Given that marine pollution via international watercourses and the atmosphere may arise from activities of multiple states, international cooperation is a prerequisite to regulate marine pollution arising from these sources.

The implementation of some obligations concerning the regulation of land-based marine pollution under the LOSC indeed necessitates international cooperation. For instance, Article 207(1) LOSC requires states to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, 'taking into account internationally agreed rules, standards and recommended practices and procedures'. In relation to this, Article 207(3) LOSC places an obligation upon states to endeavour to *harmonise* their policies in this connection at the appropriate regional level. If states fail to meet the obligation, arguably shared responsibility may arise. Yet Article 207(3) LOSC does not provide any precision concerning the manner of harmonisation of policies of the relevant states. In addition, the obligation to harmonise national policies is qualified by the term 'endeavour'. This term seems to imply that this provision does not oblige states to reach a specific agreement on this matter. Thus it remains to be seen whether and to what extent this obligation can give rise to shared responsibility where national policies were not harmonised. Under Article 207(4) LOSC, states are obliged to *endeavour* to establish global and regional rules preventing pollution from land-based sources at the appropriate regional level. Under Article 213 LOSC, states are further required to enforce their laws and regulations adopted under Article 207, and to take other measures necessary to implement applicable international rules and regulations.

States are also obliged to cooperate for the purpose of promoting studies, undertaking programmes of scientific research, and encouraging the exchange of information and data acquired about pollution of the marine environment under Article 200 LOSC.

The contents of the above obligations remains highly abstract. The provisions contain little specific guidance describing how the cooperation shall be performed to regulate land-based marine pollution, and how it is possible to judge whether or not such obligations were breached. In light of the wide discretion of states in determining appropriate measures regulating land-based marine pollution, it is difficult for an international court to determine a breach of the obligations under the LOSC, all the more so if multiple states would be involved.

Concerning the regulation of marine pollution from or through the atmosphere, Article 212(1) LOSC obliges states to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere, applicable to the air space under their sovereignty, 'taking into account internationally agreed rules, standards and recommended practices and procedures and the safety of air navigation'. Article 222 LOSC further requires states to enforce their laws and regulations adopted in accordance with Article 212(1), and with other provisions of the LOSC. Article 222 also obliges states to take other measures necessary to implement applicable international rules and standards established through competent international organisations or diplomatic conferences to prevent marine pollution from or through the atmosphere in conformity with all relevant international rules and standards concerning the safety of air navigation. Yet the normativity of these obligations is weak, at least in two respects.

First, there are some doubts whether internationally agreed rules and standards exist with regard to the regulation of marine pollution from or through the atmosphere within the air space above the territory of a state. As states are required only to 'take into account' internationally agreed rules, standards and recommended practices and procedures, and the safety of air navigation, when adopting relevant laws and regulations, states may adopt measures which are either more stringent, or less stringent than those embodied in international law. Thus 'control' by internationally agreed criteria upon national standards remains modest.[21]

Second, these obligations contain no specific measures to be taken to regulate pollution from the atmosphere. Hence it is a matter for the judgment of each state what measures shall be taken.

[21] The same criticism applies to Article 207(1) LOSC, n. 13.

Accordingly, it remains to be seen whether, and to what extent, the above obligations can form the basis for claims in relation to shared responsibility. As a consequence, it seems that shared responsibility concerning marine pollution from or through the atmosphere is hard to establish on the basis of the provisions of the LOSC.

A related issue to be considered is the relationship between the law of the sea regulating land-based marine pollution and the law of international watercourses.[22] In the LOSC, little attention is paid to this subject. However, Article 23 of the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses[23] (1997 UN Convention) provides that:

> Watercourse States shall, individually and, where appropriate, in cooperation with other States, 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.

This provision is of particular interest since it seeks to link the law of international watercourse with the international law of the sea.[24] The obligation is further strengthened by Articles 20 and 21 of the 1997 UN Convention, which oblige watercourse states to protect and preserve the ecosystems of international watercourses, and to prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse states, or to their environment. In addition to the above obligations, Article 7 of the 1997 UN Convention provides an obligation of due diligence not to cause significant harm to other watercourse states. Furthermore, environmental factors can be taken into account within the cardinal principle of equitable utilisation set out in Article 6 of the 1997 UN Convention.[25]

Given that the input of harmful substances into an international watercourse may cause marine pollution, the regulation of pollution of an international watercourse can contribute to protect the

[22] P.A. Nollkaemper, 'Legal Protection of the Marine Environment from Pollution of International Watercourses: Recent Developments' (1993) 26(6) MPB 298. See also Chapter 34 in this volume, O. McIntyre 'Transboundary Water Resources', in P.A. Nollkaemper and I. Plakokefalos (eds.), *The Practice of Shared Responsibility in International Law* (Cambridge University Press, 2016), __.

[23] Convention on the Law of the Non-Navigational Uses of International Watercourses, New York, 21 May 1997, in force 17 August 2014, (1997) 36 ILM 700 (1997 UN Convention). See Articles 20 and 22 of the 1997 UN Convention.

[24] Yet it cannot pass unnoticed that the primary focus of Article 23 of the 1997 UN Convention is on international watercourses rather than the marine environment; O. McIntyre, *Environmental Protection of International Watercourses under International Law* (Aldershot: Ashgate, 2007), 310. A similar obligation is set out in Article 2(6) of the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki, 17 March 1992, in force 6 October 1996, (1992) 31 ILM 1312.

[25] P. Birnie, A. Boyle, and C. Redgwell, *International Law & The Environment*, 3rd edn (Oxford University Press, 2009), 553. Indeed, Article 6(1)(a) of the 1997 UN Convention, n. 23, refers to ecological factors, and Article 6(f) of the 1997 UN Convention, refers to conservation and protection of the water resources of the watercourses.

marine environment of the downstream/coastal state in practice. The above mentioned Articles seem to suggest that the 1997 UN Convention has acquired a stronger environmental dimension. However, it is not suggested that there is an absolute obligation of prevention of pollution of international watercourses.[26] In this regard, the International Law Commission (ILC) Commentary stated that state practice 'indicates a general willingness to tolerate even significant pollution harm, provided that the watercourse State of origin is making its best efforts to reduce the pollution to a mutually acceptable level'.[27] The language of Article 20 of the 1997 UN Convention is also too general, and there are some doubts to what extent it constrains the behaviour of watercourse states in light of the low normativity of the provision.[28]

In order to strengthen the regulation of land-based marine pollution via international watercourses, arguably treaty obligations concerning the protection of the marine environment from land-based pollution should fully be applied to all riparian states of international watercourses.[29] As will be discussed next, some regional treaties adopt this approach.

2.3 Regional treaties

At the regional level, there are some nine treaties and protocols regulating land-based marine pollution. [30] Among these instruments, some five regional treaties oblige states bordering international watercourses to prevent land-based marine pollution via international watercourses and the atmosphere. A case in point is the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention).[31] The interrelationship between the river and the ocean is particularly important in the north-east Atlantic due to the existence of international watercourses, namely, the Rhine and the Elbe, which flow into this area. The OSPAR Convention was open for signature by any state located upstream on watercourses reaching the

[26] Birnie, Boyle, and Redgwell, ibid., 556.
[27] ILC *Yearbook* 1994/II(2), Commentary to Article 21, 122, para.4.
[28] In this regard, Article 2 of the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, n. 24, contains more specific rules respecting the protection of watercourse ecosystem than the 1997 UN Convention, n. 23.
[29] Birnie, Boyle, and Redgwell, *International Law & The Environment*, n. 25, 464.
[30] For a list of these treaties and protocols, see Tanaka, *The International Law of the Sea*, n. 11, 281-282.
[31] Convention for the Protection of the Marine Environment of the North-East Atlantic, Paris, 22 September 1992, in force 25 March 1998, 2354 UNTS 67 (OSPAR Convention).

maritime area.[32] As a consequence, Switzerland and Luxembourg became parties to the Convention. The OSPAR Convention can be said to be an important precedent incorporating land-locked states into the framework of the protection of the marine environment.

Specifically Article 3 of the OSPAR Convention places an explicit obligation upon the contracting parties to take 'individually or jointly, all possible steps to prevent and eliminate pollution from land-based sources in accordance with the provisions of the Convention, in particular as provided for in Annex I'. Accordingly, if contracting parties fail to jointly take all possible steps to prevent land-based marine pollution, shared responsibility may arise. 'Land-based sources' means point and diffuse sources on land from which substances or energy reach the maritime area by water, through the air or directly from the coast.[33] It follows that the OSPAR Convention provides an obligation of both coastal and land-locked states to prevent land-based marine pollution by water, through the atmosphere or from the coast.[34] Accordingly, if multiple contracting parties, including both coastal and land-locked states, failed to take individual or joint measures to prevent land-based marine pollution, and harm to the marine environment would occur, shared responsibility may arise.

A similar obligation is contained in the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention).[35] Article 6(1) of the Helsinki Convention places a general obligation upon the contracting parties to undertake to prevent and eliminate pollution of the Baltic Sea Area from land-based sources by using, inter alia, 'best environmental practices' for all sources and 'best available technology' for point sources. Under Article 2(2) of the Helsinki Convention, 'pollution from land-based sources' means pollution of the sea by point or diffuse inputs from all sources on land reaching the sea waterborne, airborne or directly from the coast. In this regard, Article 6(4) of the Helsinki Convention lays down that:

> If the input from a watercourse, flowing through the territories of two or more Contracting Parties or forming a boundary between them, is liable to cause pollution of the marine environment of the Baltic Sea Area, the Contracting Parties concerned shall jointly and, if possible, in co-operation with a third state interested or concerned, take appropriate measures in order to prevent and eliminate such pollution.

[32] Article 25(c) of the OSPAR Convention, ibid.
[33] Article 1(d) of the OSPAR Convention, ibid.
[34] See also Annex I, Article 2 of the OSPAR Convention, ibid.
[35] Convention on the Protection of the Marine Environment of the Baltic Sea Area, Helsinki, 9 April 1992, in force 17 January 2000, 1507 UNTS 166 (Helsinki Convention). Whilst all contracting parties to the Helsinki Convention are coastal states, one land-locked state, Belarus, is given an observer status.

Likewise, under the 1996 Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities[36] (1996 Syracuse Protocol), the parties are called upon to cooperate with a view to ensuring full application of the provisions of this Protocol, if discharges from a watercourse which flows through the territories of two or more parties, or forms a boundary between them, are likely to cause pollution of the marine environment of the 'Protocol Area'.[37]

A similar provision can be found in Article 11 of the 1980 Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources (Athens Protocol),[38] amended in 1996, and Article XI of the 1990 Protocol to the Kuwait Regional Convention for the Protection of the Marine Environment against Pollution from Land-Based Sources (Kuwait Protocol).[39]

The above provisions set out the obligation to cooperate in the prevention of land-based marine pollution via watercourses. If two or more states are responsible for damage arising from land-based marine pollution because they failed to fulfil the obligation, shared responsibility may arise. Nonetheless, since the obligation to cooperate to prevent land-based marine pollution itself does not specify measures that must be taken in order to secure cooperation, it is not easy to determine the breach of the obligation.

Furthermore, specific measures to prevent land-based marine pollution must be determined by taking various scientific, political, economic and social factors into account. In essence, this is a matter of national policy. In this regard, it must be born in mind that the activities which may cause land-based pollution are closely bound up with crucial national programmes for economic, industrial and social development. Accordingly, this is likely to complicate determinations of shared responsibility in relation to land-based marine pollution.

According to the OSPAR's Quality Status Report 2010, for instance, contamination with persistent organic pollutants is widespread and their long-range air transport to the OSPAR area is a matter of concern.[40] However, there is no instance where a contracting party to the OSPAR Convention invoked shared responsibility of other contracting parties with regard to the contaminations. What is

[36] Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities, Syracuse, 7 March 1996, in force 11 May 2008, (1999) OJ L 322/20 (1996 Syracuse Protocol).
[37] Article 11(1) of the 1996 Syracuse Protocol, ibid.
[38] Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources, Athens, 17 May 1980, in force 17 June 1983, 1328 UNTS 105 (Athens Protocol), amended in Syracusa 1996.
[39] Protocol to the Kuwait Regional Convention for the Protection of the Marine Environment against Pollution from Land-Based Sources, Kuwait, 21 February 1990, in force 2 January 1993, 2339 UNTS 3 (Kuwait Protocol).
[40] OSPAR Commission, *Quality Status Report 2010*, 37, available at www.ospar.org.

more important in the regulation of land-based marine pollution will be the establishment of more institutionalised machinery for ensuring cooperation between states. In this regard, as will be discussed in section 4, international supervision by treaty commissions merits particular attention.

3. Secondary rules concerning shared responsibility in the context of land-based marine pollution

The next issue to be considered relates to the secondary rules concerning shared responsibility in the context of land-based marine pollution. Here an issue arises as to whether or not *lex specialis* exists on this subject. In this regard, of particular importance are the rules for determining the proportion of reparation between multiple responsible states. The LOSC provides little insight into this subject. Indeed, Article 235(2) LOSC merely provides that:

> States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.

To this end, Article 235(3) LOSC requires states to 'cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds'. Yet this provision remains highly abstract and specific rules are left to the development of the law in the future.

At the regional level, Article 25 of the Helsinki Convention provides that:

> The Contracting Parties undertake jointly to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention of this Convention, including, inter alia, limits of responsibility, criteria and procedures for the determination of liability and available remedies.[41]

Likewise, under the 1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, the contracting parties are required to co-operate with

[41] Article 25 Helsinki Convention, n. 35.

a view to adopting appropriate rules and procedures in the field of liability and compensation for damage resulting from pollution of the 'Convention Area'.[42]

The above provisions call on the contracting parties to formulate a *lex specialis* on their responsibility concerning marine pollution. Conceivably, such rules also could address the proportion of responsibility between multiple states that are responsible for marine pollution, but the contents of such rules are left to the discretion of the relevant parties. At this stage, no particular secondary rules of shared responsibility in the context of land-based marine pollution can be identified.

Unless relevant parties agree to formulate a *lex specialis*, shared responsibility of multiple states respecting land-based marine pollution is governed by the general principles of state responsibility. The general principle in the case of a plurality of responsible states is that each state is separately responsible for conduct attributable to it, in the sense of Article 2 of the ILC's Articles on Responsibility of States for Internationally Wrongful Acts (Articles on State Responsibility).[43] An injured state may be entitled to separately invoke the responsibility of each state. In this case, the responsibility of each state is to be determined individually on the basis of its own conduct and by reference to its own international obligations.[44] As affirmed by the International Court of Justice (ICJ) in the *Certain Phosphate Lands in Nauru* case,[45] a state responsible for an internationally wrongful act cannot escape from its own responsibility in the pretext that other states were jointly involved in the wrongful act. As noted, however, shared responsibility, in particular cumulative responsibility, in the context of land-based marine pollution is hard to invoke in practice because of the weak normativity of obligations to prevent this type of pollution under the relevant treaties and wide discretion of states in determining specific measures on this matter. Given that the activities which may cause land-based pollution are closely bound up with crucial national programmes for economic and social development of states, states are reluctant to approve any attempts at restricting their economic developments.

[42] Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Cartagena, 24 March 1983, in force 11 October 1986, 1506 UNTS 157, Article 14.
[43] Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries, ILC *Yearbook* 2001/II(2) (Articles on State Responsibility); J. Crawford, *The International Law Commission's Articles on State Responsibility: Introduction, Texts and Commentaries* (Cambridge University Press, 2002), 272.
[44] Crawford, ibid., 274-275.
[45] *Certain Phosphate Lands in Nauru (Nauru* v. *Australia)*, Preliminary Objections, ICJ Reports 1992, 240, at 258-259, para. 48.

It is clear that a directly injured state which, in marine spaces under its national jurisdiction, suffers damage caused by other states can invoke responsibility and claim reparation.[46] A contentious issue is whether or not a state other than an injured state may invoke the responsibility of states which have polluted the high seas via land-based sources.[47] In this regard, it is of particular interest to note that the Seabed Disputes Chamber, in its advisory opinion of 2011, affirmed the *erga omnes* character of the obligations respecting the preservation of the environment of the high seas and the Area.[48] Following Article 48(1)(b) of the ILC Articles on State Responsibility, not directly injured states may invoke the responsibility of a state which has breached obligations concerning the preservation of the high seas, provided that such responsibility could be established. Similarly, it can be argued that a not directly injured state may invoke the responsibility of each state of a plurality of states, if this plurality of states is liable for land-based pollution on the high seas. Specifically, not directly injured states may be entitled to seek, when necessary, the cessation and the assurance of non-repetition of the wrongful act from the states responsible for the internationally wrongful act.[49] Not directly injured states may also invoke restitution in kind to restore the environment which existed before the wrongful act was committed through cleaning-up activities, where damage was caused on the high seas.[50] However, it is debatable whether not directly injured states may be entitled to obtain satisfaction from the states causing the harm because, due to its nature, satisfaction must be made to the true victims. Likewise, serious doubts could be expressed regarding whether directly injured states are entitled to obtain compensation because it would amount to a kind of undue profit.[51] It is also hard to translate environmental damage into a monetary amount.[52] Thus the form of reparation which can be claimed by not directly injured states

[46] See *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, Judgment, ICJ Reports 1997, 7, at 81, para. 152; *The M/V 'Saiga' (No. 2) Case (Saint Vincent and the Grenadines* v. *Guinea)*, Merits, ITLOS Case No. 2, (1999) 38 ILM 1357, para. 170.

[47] Following Kawasaki, these states can be called 'not directly injured States' in the sense that they do not personally suffer any kind of damage, material or moral, although their rights are considered to have been breached. K. Kawasaki, 'The "Injured State" in the International Law of State Responsibility' (2000) 28 HJLP 17, 22.

[48] *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, n. 15, 54, para. 180.

[49] Article 48(2)(a) of the ILC's Articles on State Responsibility, n. 43; Article 2 of the Resolution of *l'Institut de droit international*: Obligation *Erga Omnes* in International Law, Krakow Session 2005, available at www.idi-iil.org/idiE/resolutionsE/2005_kra_01_en.pdf. See also Kawasaki, 'The "Injured State" in the International Law of State Responsibility', n. 47, 26; J. Crawford, 'State Responsibility', in R. Wolfrum, (ed.), *Max Planck Encyclopedia of Public International Law* (online version) (Oxford University Press, 2012), 9, para. 49.

[50] K. Kawasaki, 'Subsystems of State Responsibility in International Law (2)' (in Japanese) (1996) 19 Sh LR 91, 105; G. Gaja, 'Obligations and Rights *Erga Omnes* in International Law: First Report' (2005) 71 AIDI 119, 137.

[51] Kawasaki, 'The "Injured State" in the International Law of State Responsibility', n. 47, 27; Gaja, ibid., 137; P. Dailler, M. Forteau and A. Pellet, *Droit international public*, 8th edn (Paris: LGDJ, 2009), 900.

[52] R.L. Johnstone, *Offshore Oil and Gas Development in the Arctic under International Law: Risk and Responsibility* (Leiden: Nijhoff, 2015), 229. See also T. Scovazzi, 'Some Remarks on International Responsibility in the Field of

is limited. In any case there is no actual state practice with regard to invocation of responsibility, independent or shared, for land-based marine pollution on the high seas by not directly injured states.

In addition to the above limitations, two factors limit the relevance of the law of responsibility in relation to land-based marine pollution caused by multiple states, First, in the case of cumulative shared responsibility concerning land-based marine pollution via an international watercourse or the atmosphere, the establishment of the relationship between cause and effect would be much more complicated compared to establishing the responsibility of a single state. This is particularly true in the case of land-based marine pollution via the atmosphere. By using modern technology, such as monitoring, it may be possible to collect scientific data concerning harmful substances discharged from states. Even so, there is no guarantee that opinions of scientists and policy-makers may not be divided with regard to the impact of such substances on the marine environment and its biological diversity. Indeed, since land-based marine pollution via air is cumulative by nature, it seems difficult to prove the precise time or place of damage attributable to a particular state or states.[53] Thus it is not easy to establish the cause and effect relationship concerning environmental damage. This holds particularly true if geographically a wide range of states involve land-based marine pollution via the atmosphere. A case in point is provided by air-borne marine pollution in the Arctic Ocean. In this case, pollutants are carried to the Arctic by winds passing over the three main source regions, i.e. Europe, North America, and Asia.[54] Even if marine spaces under national jurisdiction were damaged by pollutants via the atmosphere, it seems difficult for an injured state to establish the cause and effect relationship between damage and the wrongful conduct involving many states located in various regions.

Environmental Protection', in M. Ragazzi (ed.), *International Responsibility Today: Essays in Memory of Oscar Schachter* (Leiden: Brill, 2005), 221.

[53] See also P.N. Okowa, *State Responsibility for Transboundary Air Pollution in International Law* (Oxford University Press, 2000), 184.

[54] Arctic Monitoring and Assessment Programme (AMAP), 'Arctic Pollution 2006: Acidification and Arctic Haze', at 5, available at www.amap.no/documents/doc/arctic-pollution-2006/70; D. Vanderzwaag, 'Land-based Marine Pollution and the Arctic: Polarities between Principles and Practice', in D. Vidas (ed.), *Protecting the Polar Marine Environment: Law and Policy for Pollution Prevention* (Cambridge University Press, 2000), 175, 179; Y. Tanaka, 'Reflections on Transboundary Air Pollution in the Arctic: Limits of Shared Responsibility' (2014) 83 Nord JIL 213, 215.

Second, as the ICJ stated in the *Gabčíkovo-Nagymarous Project* case, environmental damage is often irreversible.[55] Thus invocation of state responsibility after damage has occurred contains an essential limitation and much weight must be given to the prevention of such damage. In fact, there is a clear trend that the primary focus of environmental treaties is on mechanisms for preventing land-based marine pollution, not mechanisms for invoking responsibility after environmental damage occurred. It must also be noted that non-compliance by developing states in particular with obligations concerning environmental protection, including land-based marine pollution, may result from inadequate financial, technological and human resources. If this is the case, invoking individual or shared responsibility of these states will not resolve the fundamental issue of non-compliance.

4. Procedures for dispute settlement and supervision

Where a state denies its responsibility in relation to land-based marine pollution, a dispute may arise between that state and an injured state. In this case, the states are obliged to peacefully settle the dispute in accordance with international law.[56] Here procedures for determining responsibility of multiple states are of particular importance. Under the LOSC, disputes concerning marine pollution are not exempted from the compulsory procedure for dispute settlement. Hence, where no settlement has been reached by recourse to peaceful means chosen by the parties in a dispute, any environmental dispute concerning the interpretation and application of the LOSC shall be submitted, at the request of any party to the dispute, to the court or tribunal having jurisdiction under section 2, Part XV of the Convention: ITLOS, the ICJ, an arbitral tribunal constituted in accordance with Annex VII, or a special arbitral tribunal constituted in accordance with Annex VIII.[57] To date, no case involving (shared) responsibility of land-based marine pollution was submitted to those international courts and tribunals.

At the regional level, under Article 26(1) of the Helsinki Convention, in case of a dispute between contracting parties as to the interpretation or application of this Convention, they should seek a

[55] *Gabčíkovo-Nagymaros Project*, n. 46, at 78, para. 140. The ILC also stressed the importance of prevention. Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, ILC *Yearbook* 2001/II(2), General Commentary, 148, para. 2.
[56] Articles 2(3) and 33(1) of the Charter of the United Nations, San Francisco, 26 June 1954, in force 24 October 1945, 1 UNTS 16.
[57] Articles 286 and 287(1) LOSC, n. 13.

solution by using diplomatic means, such as negotiation, good offices or mediation. Article 26(2) then provides that if the parties concerned could not resolve their disputes, such disputes shall be, upon common agreement, submitted to an ad hoc arbitration tribunal, to a permanent arbitration tribunal, or to the ICJ. This means that without common agreement, one of the disputing parties cannot unilaterally submit the dispute to arbitration or the ICJ.

On the other hand, under Article 32(1) of the OSPAR Convention, any disputes between contracting parties relating to the interpretation or application of the Convention which cannot be settled by the contracting parties concerned shall, at the request of any of those contracting parties, be submitted to arbitration. It follows that one of the disputing parties can unilaterally submit the dispute to the arbitral tribunal under the OSPAR Convention. To this day, no dispute with respect to shared responsibility arising from land-based marine pollution was submitted to arbitration under the OSPAR Convention.

In general, it can be observed that state practice concerning shared responsibility remains very rare in the context of land-based marine pollution.[58] Here a question arises as to why there is little state and judicial practice on this subject. In addition to the two factors mention in the preceding section (the difficulty of determining cause-effect relationships and the irreversible nature of pollution), a relevant consideration is that international adjudication is bilateral in nature, although shared responsibility often concerns multiple actors. According to an orthodox approach, a dispute involving plural states' responsibility is to be divided into several bilateral disputes between an injured state and responsible states. As the ICJ stated in the *Certain Phosphate Lands in Nauru* case,[59] it is true that a state responsible for an internationally wrongful act cannot escape from its own responsibility in the pretext that other states were jointly involved in the act. However, it must be noted that where third state's legal interests form the very subject-matter of the decision, an

[58] In this regard, Lammers indicated that: 'Public statements by riparian States other than the Netherlands with regard to the international legal aspects of the Rhine pollution have been very rare', Lammers, *Pollutions of International Watercourses*, n. 6, 194. According to Lammers, even the Dutch Government has 'refrained as far as possible from making public statements as to the international legal aspects of the pollution', ibid., at 193. It may be relevant to note that treaties that have been ratified by the European Union (EU) form an integral part of EU law and are directly applicable in the member states; therefore these treaties may be relied upon by interested parties in national courts under the doctrine of 'direct effect' in certain limited circumstances; *Syndicat Professionnel Coordiantion des Pêcheurs* v. *EDF*, Case C-213/03, [2004] ECR I-7357, para. 39. In this case, the Court of Justice held that Article 6(3) of the 1980 Athens Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, n. 38, and Article 6(1) of the Protocol as amended in Syracuse in March 1996, n. 36, have direct effect, so that any interested party is entitled to rely on those provisions before the national courts, ibid., para. 47. See also R.J. Long, 'Legal Aspects of Ecosystem-based Marine Management in Europe' (2012) 26 OY 417, 432.

[59] *Certain Phosphate Lands in Nauru*, n. 45, at 258-259, para. 48.

international court cannot exercise its jurisdiction over the dispute in light of the *Monetary Gold* rule or the indispensable party principle.[60] Even if the responsibility of one of the states concerned would be established by an international court, the question remains how reparation is to be allocated between multiple responsible states.[61]

In this regard, particular attention must be devoted to international supervision by treaty commissions. As no comprehensive analysis of compliance procedure can be made here, one may take the OSPAR Convention as an example. In this regard, Article 22 obliges the contracting parties to report to the OSPAR Commission at regular intervals on:

> (a) the legal, regulatory, or other measures taken by them for the implementation of the provisions of the Convention and of decisions and recommendations adopted thereunder, including in particular measures taken to prevent and punish conduct in contravention of those provisions;
>
> (b) the effectiveness of the measures referred to in subparagraph (a) of this Article;
>
> (c) problems encountered in the implementation of the provisions referred to in subparagraph (a) of this Article.

On the basis of the periodical reports, compliance with the Convention is to be assessed by the OSPAR Commission. In fact, Article 23 makes clear that:

> The Commission shall:
>
> (a) on the basis of the periodical reports referred to in Article 22 and any other report submitted by the Contracting Parties, *assess* their compliance with the Convention and the decisions and recommendations adopted thereunder;

[60] *Monetary Gold Removed from Rome in 1943 (Italy* v. *France, United Kingdom of Great Britain and Northern Ireland and United States of America), Preliminary Question*, ICJ Reports 1954, 19, at 27 (*Monetary Gold*). In this regard, Nollkaemper observed that: 'Indeed, in almost all cases before the Court which raised questions of shared responsibility, the indispensable parties rule was at one stage of the procedure invoked', P.A. Nollkaemper, 'Issues of Shared Responsibility before the International Court of Justice', SHARES Research Paper 01 (2011), ACIL 2011-01, at 15. See also, A. Vermeer-Künzli, 'Invocation of Responsibility', in P.A. Nollkaemper and I. Plakokefalos (eds.), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press, 2014), 251, 275. In accordance with the *Monetary Gold* rule, however, a third state concerned can prevent the judicial settlement simply by refraining from any action. Hence caution is necessary in the application of this rule.

[61] J.D. Fry, 'Attribution of Responsibility', in P.A. Nollkaemper and I. Plakokefalos (eds.), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press, 2014), 98, 129; P.A. Nollkaemper and I. Plakokefalos, 'Conclusions: Beyond the ILC Legacy', in P.A. Nollkaemper and I. Plakokefalos (eds.), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press, 2014), 341, 350-351.

> (b) when appropriate, *decide upon and call for steps to bring about full compliance with the Convention*, and decisions adopted thereunder, and promote the implementation of recommendations, including *measures to assist* a Contracting Party to carry out its obligations.[62]

In accordance with this provision, the OSPAR Commission is to 'assess' non-compliance with the Convention by plural states with regard to land-based marine pollution. Nonetheless, it must be noted that the aim of this procedure is not to establish individual or shared responsibility of the contracting parties. The primary function of non-compliance procedures is to supervise and ensure effective compliance with relevant obligations. In fact, Article 23 refers to measures 'to assist a Contracting Party'. According to Lagoni, 'measures to assist' could include administrative or technical or scientific help.[63] Furthermore, Article 21(1) of the OSPAR Convention holds that when pollution originating from a contracting party is likely to prejudice the interests of one or more of the other contracting parties to the Convention, the contracting parties shall enter into consultation, at the request of any one of them, with a view to negotiating a cooperation agreement. Article 21(2) further stipulates that:

> At the request of any Contracting Party concerned, the Commission shall consider the question and may make recommendations with a view to reaching a satisfactory solution.

Under this provision, it is clear that the role of the OSPAR Commission is to assist the contracting party concerned to find a solution, not to establish responsibility of the party. Thus the role of the OSPAR Commission must be distinct from a judicial organ which determines the breach of an obligation and establishes state responsibility. In summary, it can be argued that under the OSPAR Convention much weight is on the prevention of non-compliance with the Convention.[64] Even though the OSPAR Convention contains no specific provisions dealing with situation of shared responsibility, to this day, no specific problems have arisen with regard to the absence of a *lex specialis* on shared responsibility.

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[62] Emphasis added.

[63] R. Lagoni, 'Monitoring Compliance and Enforcement of Compliance through the OSPAR Commission', in P. Ehlers, E. Mann-Borgese, and R. Wolfrum (eds.), *Marine Issues* (The Hague: Kluwer, 2002), 155, 161.

[64] According to the Quality Status Report 2010, heavy metals are at unacceptable levels in sediments, fish and shellfish especially in the Greater North Sea, Celtic Seas, Bay of Biscay and on the Iberian coasts. Contamination with polycyclic aromatic hydrocarbons and polychlorinated biphenyls is widespread and unacceptable in many areas of Arctic waters, the Greater North Sea, Celtic Seas, Bay of Biscay and on the Iberian coasts. In contrast, beta–activity discharges from the nuclear installations in the catchment of the Greater North Sea, Celtic Seas, Bay of Biscay and on the Iberian coasts have generally fallen, and current impacts on humans and marine life are low. It seems that the effectiveness of the OSPAR Convention varies according to different harmful substances. OSPAR, *Quality Status Report 2010*, n. 40, 150.

5. Conclusions

The above made considerations yield the following conclusions.

First, in accordance with the customary principle of *sic utere tuo ut alienum non laedas*, riparian states are obliged to exercise due diligence not to cause transfrontier damage. Potentially this can trigger shared responsibility of such states, in light of the fact that land-based marine pollution involves multiple actors, sources and substances. Given the flexibility of the due diligence concept and the nature of land-based sources of marine pollution, however, it is submitted that the customary principle is only of modest utility in establishing shared responsibility in the context of land-based marine pollution.

Second, at the global level, the LOSC provides several obligations which require joint action or cooperation between states with regard to marine environmental protection. In addition, at the regional level, several treaties – such as the OSPAR Convention; the Helsinki Convention; the Athens Protocol; the Syracuse Protocol; and the Kuwait Protocol – set out obligations to jointly take measures to prevent land-based marine pollution. Given that such measures are to be chosen while taking various economic, political and social elements into account, the determination of appropriate measures can be considered as a matter of national policy. This is particularly true considering that land-based activities are closely bound to the economic development of states. In light of this, it remains to be seen whether, and to what extent, those provisions can provide a legal basis to establish shared responsibility in the context of land-based marine pollution.

Third, few treaties, global or regional, contain secondary rules on shared responsibility concerning land-based marine pollution via international watercourse or the atmosphere. State practice concerning shared responsibility also remains very rare in this context. The paucity of state practice in this field may rest on at least the following factors: first, difficulty with the establishment of the relationship between cause and effect concerning cumulative marine pollution arising from land-based activities in multiple states; second, the essentially bilateral nature of international adjudication; third, an absence of criteria for determining the proportion of reparation between multiple responsible states in the context of land-based marine pollution; and fourth, the irreversible

nature of environmental damage and the need to focus on the prevention of marine pollution, rather than state responsibility after environmental damage occurred.

Fourth, overall it may have to be accepted that *ex post fact* responsibility, individual or shared, has only a modest role to play in the regulation of land-based marine pollution. Therefore, regional treaties in this field increasingly develop international supervision with a view to ensuring proper implementation of treaty obligations via commissions established by the treaties. Hence the creation of institutionalised mechanisms for the prevention of land-based marine pollution, such as international supervision, will be increasing important in this field.