



UNIVERSITAS INDONESIA

**LAND-BASED SOURCES SEBAGAI SUMBER
PENCEMARAN LINGKUNGAN LAUT INTERNASIONAL**

SKRIPSI

**TANTIA RAHMADHINA
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**FAKULTAS HUKUM
PROGRAM STUDI ILMU HUKUM
KEKHUSUSAN VI (HUKUM TRANSNASIONAL)
DEPOK
JULI 2012**



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Diajukan sebagai salah satu syarat untuk memperoleh gelar Sarjana Hukum

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dan semua sumber baik yang dikutip maupun dirujuk
telah saya nyatakan dengan benar.

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Laut Internasional

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ABSTRAK

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Laut Internasional

Skripsi ini membahas mengenai pencemaran laut yang bersumber dari darat (*land-based sources*) dan bagaimana hukum internasional dan beberapa negara di dunia mengatur mengenai perihal tersebut. *Land-based sources* merupakan sumber penyumbang pencemaran laut terbanyak dibandingkan dengan sumber-sumber lainnya. Kandungan dari *land-based sources* sangat bervariasi, sehingga dibutuhkan pengaturan yang komprehensif untuk mencegah dan mengelolanya. Secara internasional, perjanjian multilateral pertama yang menyinggung permasalahan ini adalah UNCLOS 1982 yang mendorong negara-negara anggotanya untuk mengadopsi ketentuan-ketentuan hukum internasional untuk mencegah terjadinya pencemaran laut yang disebabkan oleh *land-based sources*. UNCLOS 1982 tidak memberikan pengaturan yang lebih spesifik terkait hal-hal apa saja yang termasuk ketentuan-ketentuan hukum internasional tersebut. Dalam perkembangannya, beberapa negara di Benua Eropa dan di wilayah Amerika Tengah telah melahirkan perjanjian regional terkait pencegahan pencemaran laut dari *land-based sources*. Perjanjian-perjanjian tersebut dilengkapi dengan aktivitas-aktivitas dan bahan-bahan apa saja yang menjadi ancaman terhadap lingkungan laut, sehingga dapat dijadikan pedoman di dalam pembuatan peraturan perundang-undangan nasional. Beberapa negara yang dijadikan acuan adalah Amerika Serikat, Inggris, Perancis dan Indonesia, dimana di keempat negara tersebut telah memiliki peraturan perundang-undangan yang cukup komprehensif dalam mencegah terjadinya pencemaran laut dari *land-based sources*. Akan tetapi, negara-negara tersebut menemui kendala berupa kurangnya perhatian yang diberikan oleh pemerintah dalam menjalankan peraturan perundang-undangan tersebut, seperti kurangnya dana dan tenaga ahli. Peneliti juga menemukan beberapa contoh kasus terkait dengan *land-based sources* dan bagaimana prinsip-prinsip hukum lingkungan internasional dapat digunakan untuk mencegah kasus itu dapat terjadi. Pada akhirnya, tetap dibutuhkan suatu perjanjian internasional dengan ruang lingkup yang sama luasnya dengan UNCLOS 1982, namun sama komprehensifnya dengan perjanjian-perjanjian regional yang dibuat oleh beberapa negara di Benua Eropa dan wilayah Amerika Tengah.

ABSTRACT

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Title :Land-Based Sources as a Pollution's Source of International
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This thesis is going to explain about marine pollution originating from land-based source and how international law and several countries in the world set about the subject. Land-based sources of marine pollution is the largest contributor to the sources compared to other sources. Land-based sources consist of variety of substances and activities, so it takes a comprehensive arrangements to prevent and manage this problem. Internationally, the first multilateral agreement pertaining to this problem is the 1982 UNCLOS that encourages its member states to adopt the provisions that's being used internationally to prevent marine pollution caused by land-based sources. Unfortunately, 1982 UNCLOS does not provide more specific requirements on what is the provisions that's being used internationally, so it can be adopted as guidelines in the creation of national legislation. Some countries are used as a references in this thesis, they are the United States, United Kingdom, France and Indonesia in which they all have adequate legislations to prevent marine pollution from land-based sources. However, these countries are encountering many obstacles to implement their legislation as their government lack of priorities to this problem by not giving enough fund and expertise that onto this problem. The researcher also found several examples of cases related to land-based sources and how the principles of international environmental law can be used to prevent these cases to happen. At the end, the researcher believes that the world needs an international agreement with the same broad scope of the 1982 UNCLOS, but also its comprehensive arrangements of some regional agreements made by several countries in Europe and Central American Region.

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- LAMPIRAN 3 *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region 1983 dan Protocol Concerning Pollution from Land-Based Sources and Activities to the Convention for the Protection and Development of the Wider Caribbean Region 1999*
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- LAMPIRAN 5 *Memorandum Between the United States of America and Brazil regarding Environmental Cooperation 1990*
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BAB 1

PENDAHULUAN

1.1. Latar Belakang

Pencemaran laut telah menjadi permasalahan global yang dialami oleh negara-negara di dunia. Pengaturan mengenai perlindungan lingkungan laut lebih mengedepankan kewajiban setiap negara untuk tidak memberikan izin wilayah lautnya yang dapat menyebabkan pencemaran lingkungan laut terhadap wilayah laut negara lain.¹ Kewajiban negara untuk melindungi lingkungan laut itu sendiri baru muncul pada tahun 1972 melalui *United National Conference on the Human Environment*, dimana pada kesempatan tersebut, GESAMP² memberikan definisi akan pencemaran laut yang diketahui secara luas. Sejak itu, perkembangan konvensi, deklarasi, dan resolusi mengenai pencemaran laut terus berkembang sehingga dapat dikatakan bahwa ada kebiasaan hukum internasional mengenai kewajiban umum negara-negara untuk melindungi lingkungan laut dari pencemaran.³

Berdasarkan perkembangan tersebut, sumber-sumber pencemaran laut dapat dikelompokkan menjadi lima, yaitu pencemaran yang berasal dari *land-based sources*, kapal, *dumping*, eksplorasi dan eksploitasi dasar laut, serta udara.⁴ Pencemaran laut yang bersumber dari kapal disebabkan oleh aktivitas operasional pembuangan, seperti pembersihan tangki atau pengeluaran *ballast water*, atau pembuangan yang disebabkan oleh kecelakaan.⁵

Sumber ini memiliki perhatian lebih di kalangan masyarakat internasional karena visibilitas dan konsekuensi lingkungan yang jelas dari kecelakaan,

¹ Gregorios J. Timagenis, *International Control of Marine Pollution, Vol. 1*, (USA: Oceana Publications, 1980), hal. 25.

² GESAMP adalah *the United Nations Joint Group of Experts on the Scientific Aspects of Marine Pollution* yang didirikan pada tahun 1960 oleh IMCO, FAO, UNESCO, dan WMO dalam memberikan nasehat-nasehat kepada lembaga-lembaga tersebut.

³ Gregorios J. Timagenis, *International Control of Marine Pollution, Vol. 1*, hal.26.

⁴ *Ibid.*, hal. 16.

⁵ Philippe Sands, *Principles of International Environmental Law, Second Ed.*, (Cambridge: Cambridge University Press, 2003), hal. 438.

terutama kecelakaan-kecelakaan yang berhubungan dengan tumpahan minyak dalam 25 tahun terakhir dan kasus terbaru, yaitu kecelakaan yang dialami oleh Kapal *Prestige*.⁶ Pengaturan mengenai sumber pencemaran laut dari kapal secara umum diatur di dalam *United Nations Convention on the Law Of the Sea 1982* (UNCLOS) dan *International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)*. Berbeda dengan sumber-sumber lainnya, pengaturan mengenai pencemaran laut dari kapal telah memiliki beberapa pengaturan multilateral yang bersifat global yang lebih terperinci. Dalam hal ini, pengaturan tersebut berkaitan dengan bentuk-bentuk pencemaran laut dari kapal, yaitu tumpahan minyak⁷ dan *ballast water*⁸. Hal ini menunjukkan adanya perkembangan yang sangat signifikan oleh masyarakat internasional dalam mengatasi permasalahan pencemaran laut yang bersumber dari kapal.

Sumber pencemaran laut yang kedua, yaitu *dumping* dibedakan dengan sumber pencemaran laut dari kapal, walaupun keduanya saling berkaitan. Hal ini dikarenakan *dumping* tidak hanya berasal dari kapal, namun bisa pula berasal dari kapal terbang, dan bangunan lain yang dibuat oleh manusia lainnya selama sifatnya disengaja dan letaknya berada di tengah laut.⁹ *Dumping* memiliki dua perjanjian multilateral yang bersifat global¹⁰ dan paling tidak, enam perjanjian multilateral yang bersifat regional¹¹. Akan tetapi, pengaturan *dumping* akan

⁶ Ibid.

⁷ *International Convention on Civil Liability for Oil Pollution Damage 1992 (CLC Convention)*.

⁸ *International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004 (BMW Convention)*.

⁹ PBB (I), *Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft 1972 (OSLO Dumping Convention)*, Pasal 3.

¹⁰ *United Nations Convention on the Law of the Sea 1982 (UNCLOS)*; *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Dumping Convention)*.

¹¹ *Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft 1972 (OSLO Dumping Convention)*; *Convention for The Protection of The Marine Environment of The North-East Atlantic 1992 (OSPAR)*; *Rarotonga South Pacific Nuclear Free Zone Treaty 1985*; *Waigani Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region 1995*.

berada di bawah regulasi nasional, apabila *dumping* dilakukan di wilayah laut suatu negara.

Berbeda dengan dua sumber tersebut, sumber pencemaran laut yang berasal dari eksploitasi dan eksplorasi laut jatuh di bawah yurisdiksi nasional, lebih tepatnya pada wilayah laut teritorial dan landas kontinen.¹² Sumber pencemaran ini pada umumnya cepat terurai di lautan dan jumlahnya sebanyak 1% dari total pencemaran laut internasional, dimana daerah teluk mendominasi kontribusi persentase tersebut karena tingginya tingkat eksploitasi dan eksplorasi minyak pada daerah tersebut.¹³ Peraturan-peraturan mengenai eksploitasi dan eksplorasi dasar laut secara internasional ada di dalam UNCLOS dan beberapa perjanjian regional lainnya, terutama pada daerah timur tengah yang banyak memproduksi minyak. UNCLOS itu sendiri berisikan pengaturan eksploitasi dan eksplorasi dasar laut yang tidak jatuh di bawah yurisdiksi nasional dan menerapkan keberadaan *the International Seabed Authority*.¹⁴

Sumber pencemaran laut dari udara dibedakan dari sumber pencemaran laut dari *land-based sources*, apabila kita mengacu kepada UNCLOS. Udara menjadi sumber pencemaran yang paling sedikit dipelajari karena bentuknya yang tumpang tindih dengan bentuk pencemaran laut dari sumber lain, seperti *dumping* dan *land-based sources*.¹⁵

Sumber pencemaran laut yang terakhir, yaitu *land-based sources* belum memiliki suatu pengaturan internasional bersifat global yang komprehensif. Hal ini dikarenakan pengaruh dari yurisdiksi nasional yang begitu kuat.¹⁶

Kurangnya pengaturan internasional bersifat global yang komprehensif tidak mengurangi kenyataan bahwa *land-based sources* merupakan sumber yang paling banyak menyumbang di dalam pencemaran laut dengan persentase sebanyak 80%, sedangkan 20% lainnya bersumber dari sumber-sumber lainnya

¹² R.R. Churchill dan A.V. Lowe, *The Law of the Sea, Third Ed.*, hal. 370.

¹³ Philippe Sands, *Principles of International Environmental Law, Second Ed.*, hal. 445.

¹⁴ PBB (II), *United Nations Convention on the Law of the Sea 1982 (UNCLOS)*, Section 4, Subsection A, Pasal 156.

¹⁵ Gregorios J. Timagenis, *International Control of Marine Pollution, Vol. 1*, hal. 17.

¹⁶ *Ibid.*, hal. 16.

berdasarkan laporan penelitian dari GESAMP.¹⁷ Pencemaran yang dihasilkan oleh *land-based sources* tidak hanya dalam bentuk limbah rumah tangga, air luapan sungai, sampah plastik yang dibuang sembarangan, atau aktivitas-aktivitas lainnya yang melalui perantara air,¹⁸ namun juga pencemaran udara yang dihasilkan oleh kendaraan bermotor, cerobong asap, atau kebakaran hutan yang melalui perantara udara menuju laut dan kedua hal tersebut menunjukkan keberagaman dari *land-based sources*.¹⁹

Selain jumlahnya yang mendominasi pencemaran laut internasional, bentuk-bentuk dari *land-based sources* yang sangat bervariasi tersebut menimbulkan efek buruk bagi kehidupan laut dan manusia, sehingga menjadikannya sebagai sumber pencemaran laut yang berbahaya. Bentuk pencemaran laut *land-based sources* didominasi oleh bahan-bahan organik (limbah rumah tangga, air luapan sungai, dan limbah pertanian) dan kadar dari bahan-bahan anorganik yang terkandung di dalamnya dapat menimbulkan kerusakan dalam kadar yang begitu rendah. Contohnya adalah logam berat (merkuri, timah, selenium, dan arsenik) yang pada umumnya terkandung di dalam limbah hasil aktivitas perindustrian.²⁰ Kasus yang terkait dengan salah satu jenis logam berat, yaitu merkuri, adalah kasus Minamata di Jepang, dimana warga yang tinggal di pesisir Minamata dengan mata pencahariannya sebagai nelayan mengalami keracunan akibat hasil tangkapannya sendiri.²¹ Merkuri tersebut berasal dari limbah pabrik yang memproduksi *vinyl chloride* dan *acetaldehyde* sejak tahun 1952.²² Tercatat sudah 2000 kasus yang disebabkan

¹⁷ Sheavly S.B., "Sixth Meeting of the UN Open-Ended Informal Consultative Processes on Oceans & the Law of the Sea," *Marine Debris - an overview of critical issue for our oceans* (6-10 Juni, 2005), http://www.un.org/Depts/los/consultative_process/consultative_process.htm.

¹⁸ Michael Allsopp, et. al., *Plastic Debris in the World's Oceans*, (Amsterdam: Greenpeace International, 2005), hal. 11.

¹⁹ R.R. Churchill dan A.V. Lowe, *the Law of the Sea, Third Ed.*, hal. 330.

²⁰ R.B. Clark, *Marine Pollution*, (Oxford: Oxford University Press, 1986), hal. 84.

²¹ *Ibid.*, hal. 91.

²² *Ibid.*

oleh keracunan merkuri tersebut, dimana 43 orang meninggal dan 700 orang lebih hidup dengan kecacatan permanen.²³

Menurut penelitian yang dilakukan di pantai dan pulau-pulau Jakarta, serta Laut Jawa, peningkatan pencemaran pantai terjadi antara tahun 1985 dan 1995.²⁴ Dari 23 pulau yang dilakukan penelitian, laporan menunjukkan bahwa terdapat total sampah dari yang tidak terdeteksi sampai dengan 29.1 benda/m.²⁵ Beberapa Negara di Benua Eropa yang terhubung melalui Laut Mediterania dan beberapa negara di Benua Amerika yang terhubung melalui Laut Karibia juga menemukan permasalahan yang sama.²⁶ Beberapa negara dalam wilayah tersebut kemudian bekerjasama untuk mencegah dan menanggulangi keberadaan pencemaran-pencemaran tersebut melalui perjanjian-perjanjian yang bersifat regional.²⁷ Walaupun secara regional perihal pencemaran laut yang datang dari *land-based sources* telah diatur, perjanjian multilateral yang bersifat global yang secara khusus mengatur mengenai *land-based sources* sampai saat ini belum ada perumusannya.

Satu-satunya perjanjian multilateral yang telah bersifat global adalah *United Nations Convention on the Law of the Sea* (UNCLOS) 1982. UNCLOS 1982 berisikan kebiasaan-kebiasaan hukum internasional yang telah ada sebelumnya, dimana menjadikannya sebuah kerangka bagi 127 negara²⁸ yang

²³ Ibid.

²⁴ P.A. Uneputti dan M. Mocogni, "Accumulation of Beach Litter on Island of the Pulau Seribu Archipelago, Indonesia," *Marine Pollution Bulletin* 34 (1997): 652-655; N.G. Wiloughby, H. Sangkoyo, dan B.O. Lakaseru, "Beach Litter: an Increasing and Changing Problem for Indonesia," *Marine Pollution Bulletin* 34 (1997): 469-478.

²⁵ N.G. Wiloughby, H. Sangkoyo, dan B.O. Lakaseru, "Beach Litter: an Increasing and Changing Problem for Indonesia," Ibid.

²⁶ Michael Allsopp, et. al., *Plastic Debris in the World's Oceans*, hal. 24-30.

²⁷ UNEP, *Convention for The Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention)*, 1995; UNEP, *Convention for the Protection and Development of the Marine Environment of the Wider-Caribbean Region (Cartagena Convention)*, 1983.

²⁸ Menurut data yang terbaru yang diambil pada bulan Juni 2011, *United Nations Convention on the Law of the Sea* (UNCLOS) 1982 telah diratifikasi oleh 162 negara menurut Oceans and Law of the Sea: Division for Ocean Affairs and the law of the Sea, "Chronological list of ratifications, accessions and successions to the Conventions and the related agreements as at 03 June 2011" http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm, diunduh 10 April 2012.

telah menandatangani dalam menentukan batas-batas laut beserta fungsinya.²⁹ Selain mengatur mengenai batas-batas laut beserta fungsinya, UNCLOS 1982 juga mendorong negara-negara anggota membuat perjanjian internasional dan regulasi nasional untuk mencegah, menekan, dan mengontrol pencemaran laut, dimana salah satunya bersumber dari *land-based sources*.³⁰

The 1958 Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-Based Sources (Montreal Guidelines) mengatur mengenai pencemaran dengan mengelompokkan lagi dengan lebih komprehensif sumber-sumber tersebut, yaitu sumber yang datang dari pantai, sungai, atmosfer, dan aktivitas-aktivitas yang dilakukan di fasilitas-fasilitas tetap atau bergerak di lepas pantai yang masih berada di bawah yurisdiksi nasional.³¹ Mengenai pencemaran dari *land-based sources*, UNCLOS 1982 menyebutkan sungai, muara sungai, jalur pipa dan struktur pengeluaran, terutama yang mengalirkan bahan-bahan beracun dan berbahaya sebagai tempat-tempat yang harus diutamakan dalam penerapan perjanjian internasional dan praktek-praktek yang direkomendasikan.³² Sedangkan mengenai pencemaran dari atmosfer pada, UNCLOS 1982 lebih menekankan kepada pencemaran yang disebabkan oleh kapal atau pesawat terbang dan kaitannya dengan navigasi penerbangan.³³ Pencemaran dari atmosfer dimaksudkan untuk pencemaran-pencemaran yang lahir dari atmosfer. Pada akhirnya, baik UNCLOS 1982 maupun *Montreal Guidelines* memiliki maksud yang sama, dimana pencemaran laut dari *land-based sources* adalah pencemaran laut yang terjadi dari segala bentuk aktivitas yang dilakukan di darat, baik melalui perantara air, maupun udara menuju laut.

UNCLOS 1982 kemudian mendorong negara-negara anggotanya untuk membuat perjanjian regional yang lebih terperinci untuk menanggulangi pencemaran laut oleh *land-based sources* dan tidak mengatur lebih lanjut

²⁹ R.R. Churchill dan A.V. Lowe, *the Law of the Sea*, hal. 24.

³⁰ PBB (II), Pasal 207-222.

³¹ H. Hohmann, *Basic Documents of International Environmental Law*, vol. 1, (London, 1992), hal. 130 -147.

³² Ibid., Pasal 207 dan Pasal 213.

³³ Ibid., Pasal 212.

mengenai apa saja yang harus diatur di dalam perjanjian-perjanjian regional tersebut. Perjanjian-perjanjian regional berada di beberapa wilayah laut di dunia, seperti telah disebutkan sebelumnya, yaitu pada Laut Mediterania dan Laut Karibia, serta beberapa wilayah laut lainnya, yaitu Laut Pasifik Selatan, Laut Afrika, Laut Atlantik Utara, Laut Baltik dan Laut Mediterania. Dari beberapa wilayah tersebut, wilayah laut dengan perjanjian-perjanjian regional mengenai *land-based sources* yang memberikan pengaturan yang cukup komprehensif terletak pada Laut Atlantik Utara, Laut Mediterania, dan Laut Baltik, melalui *Convention for The Protection of The Marine Environment of The North-East Atlantic* 1992 (OSPAR), *Convention on the Protection of the Marine Environment of the Baltic Sea Area* 1992 (Konvensi Helsinki), dan *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean* 1976 (Konvensi Barcelona). Dari ketiga konvensi tersebut, OSPAR dan Konvensi Helsinki adalah dua konvensi yang paling berkembang.³⁴ Keduanya memiliki fungsi sebagai lembaga pengawasan regional pada ruang lingkup wilayahnya masing-masing dan bertujuan untuk mencegah dan membersihkan pencemaran laut dari *land-based sources*, walaupun hanya Konvensi Helsinki yang mengatur mengenai zat-zat apa saja yang tergolong ke dalam *land-based sources*.³⁵

Secara regional, perjanjian-perjanjian mengenai *land-based sources* telah banyak dibuat oleh beberapa negara dalam lingkup wilayah laut tertentu, namun tidak semua wilayah laut berbatasan langsung dengan negara sehingga tidak termasuk dalam ruang lingkup perjanjian-perjanjian tersebut. Kurangnya pengaturan yang mengikat secara internasional inilah yang menyebabkan terus meningkatnya jumlah pencemaran dari *land-based sources* ke laut, dimana salah satunya adalah perkumpulan sampah terbesar di dunia yang mengapung di atas laut, yaitu *the Great Pacific Garbage Patch* yang terletak di utara Samudera

³⁴ Patricia Birnie dan Alan Boyle, *International Law and the Environment, Second ed.*, (New York: Oxford University Press, 2002), hal. 412.

³⁵ Ibid.

Pasifik.³⁶ *Captain Charles Moore* menemukan *the Great Pacific Garbage Patch* ketika dia melakukan perjalanan *Transpacific Yacht Race* pada tahun 1997.³⁷ *The Great Pacific Garbage Patch* merupakan penggabungan dua perkumpulan sampah, yaitu *the Western Pacific Garbage Patch* yang lebih dekat dengan negara Jepang dan *the Eastern Pacific Garbage Patch* yang lebih dekat dengan Hawaii, negara bagian Amerika Serikat.³⁸ *The Pacific Garbage Patch* dikatakan sebagai permasalahan “*tragedy of the commons*”, dimana sebuah sumber daya yang tidak dikuasai atau dimiliki oleh siapapun digambarkan sebagai sesuatu hal yang sangat rentan terhadap pengrusakan jangka panjang oleh pelaku-pelaku individual tanpa adanya regulasi dari pihak berwenang.³⁹ Dalam penelitian ini, peneliti hanya akan membahas mengenai *the Eastern Pacific Garbage Patch* karena pada daerah tersebut hidup habitat laut yang memegang peran penting dalam keberlangsungan lingkungan laut.⁴⁰ Jenis sampah yang mengambang pada *the Eastern Pacific Garbage Patch* (dan begitu pula dengan sampah yang mengambang pada *the Western Pacific Garbage Patch*) didominasi oleh sampah plastik.⁴¹

Plastik membutuhkan waktu hingga beberapa dekade, bahkan berabad-abad untuk terurai secara alami (*biodegrade*) dan di laut, plastik-plastik tersebut membutuhkan waktu yang lebih lama lagi untuk terurai dengan air dingin dan rumput laut yang dapat menahan sinar ultraviolet bekerja sebagai pengawet plastik-plastik tersebut sehingga plastik-plastik yang dibuang 50 tahun yang lalu,

³⁶ Thomas M. Kostigen, *You are Here: Exposing the Vital Link Between What We Do and What That Does to Our Planet*, (New York: HarperCollins e-books, 2008), hal. 144.

³⁷ <http://www.telegraph.co.uk/earth/environment/5208645/Drowning-in-pl/>, diunduh 10 April 2012.

³⁸ K.S. Law, et. al., “Plastic Accumulation in the North Atlantic Subtropical Gyre,” *Science Express* (19 Agustus 2010): 10; W.J. Pichel, et. al., “Marine Debris Collect within the North Pacific Subtropical Convergence Zone,” *Marine Pollution Bulletin* 54 (2007):12.

³⁹ William W. Buzbee, “Recognizing the Regulatory Commons: A Theory of Regulatory Gaps,” *Iowa L. Rev.* 1 (2003): 4.

⁴⁰ Thomas M. Kostigen, *You are Here: Exposing the Vital Link Between What We Do and What That Does to Our Planet*, hal. 143.

⁴¹ <http://www.telegraph.co.uk/earth/environment/5208645/Drowning-in-pl/>, diunduh 10 April 2012.

keberadaannya belum hancur seluruhnya hingga saat ini.⁴² Serpihan-serpihan kecil akibat dari sifatnya yang sulit terurai tersebut dapat membahayakan nyawa fauna-fauna laut. Penguin, burung albatros, penyu, paus, anjing laut, singa laut, dan beberapa species lainnya ditemukan menelan serpihan-serpihan plastik tersebut.⁴³ Sekitar 2,5 juta manusia mengkonsumsi ikan di seluruh dunia dan ketika pencemaran laut telah mempengaruhi kehidupan ikan-ikan tersebut, maka kesehatan manusia juga terpengaruh dengan mengkonsumsi ikan-ikan tersebut.⁴⁴ Tidak hanya serpihan-serpihan plastik yang mengancam nyawa fauna-fauna laut tersebut, sampah plastik dalam ukuran besar juga menimbulkan bahaya yang sama besarnya. Dalam hal ini, fauna-fauna laut tersebut dapat dengan mudah tersangkut di dalam plastik-plastik dalam ukuran besar tersebut, terutama jala dan tali nelayan, *monofilament lines*, dan kemasan minuman.⁴⁵

Selain itu, ada pula kasus *the Mox Plant Case*⁴⁶ dan *L'Étang de Berre*⁴⁷, dimana kedua kasus tersebut terjadi di wilayah Eropa yang negara-neganya telah menjadi anggota dari UNCLOS 1982 atau menjadi anggota dalam beberapa perjanjian regional mengenai *land-based sources*.⁴⁸ Kasus pertama, yaitu *The MOX Plant Case* adalah kasus yang diajukan oleh Irlandia di hadapan *Permanent Court of Arbitration* pada tahun 2001 terkait dengan pembangunan *MOX Plant* di Sellafield, Inggris. Pada tuntutanannya, Irlandia menggunakan banyak peraturan di dalam perjanjian-perjanjian yang telah ditandatangani oleh Inggris, baik

⁴² Jessica R. Coulter, "A Sea Change to Change the Sea: Stopping the Spread of the Pacific Garbage Patch with Small-Scale Environmental Legislation," *William and Mary Law Review Vol. 51* (2010): 1962.

⁴³ D.W. Laist, "Impacts of Marine Debris: Entanglement of Marine Life in Marine Debris Including a Comprehensive List of Species with Entanglement and Ingestion Records," dalam *Marine Debris, Sources, Impacts, Solutions* (New York: Springer-Verlag Inc., 1997), hal. 99 - 140.

⁴⁴ Thomas M. Kostigen, "A Sea Change," *Discover* (Juli 2008): 24.

⁴⁵ Sheavly S.B., *Ibid*.

⁴⁶ Ireland v. Inggris, "MOX Plant Case," *the European Court of Justice*, 2003.

⁴⁷ European Community v. Perancis, "Étang de Berre," *the European Court of Justice*, 2004.

⁴⁸ *Convention for the Protection of the Marine Environment of the North-East Atlantic 1992 (OSPAR); Convention on the Protection of the Marine Environment of the Baltic Sea Area 1992; Convention for the Protection and Development of the Marine Environment and Coastal Region of the Mediterranean Sea 1976 (Barcelona Convention)*.

mengenai limbah radioaktif secara spesifik, maupun mengenai *land-based sources*. Hal inilah yang kemudian ditanyakan oleh Inggris dengan mengajukan ketentuan mengenai *provisional measures* ke hadapan *International Court on Law of The Sea* dan kemudian Irlandia pun dituntut di hadapan *European Court of Justice* terkait dengan penggunaan OSPAR.

Contoh kasus ketiga adalah pencemaran laut yang terjadi di Danau *L'Étang de Berre* di Perancis sebagai wilayah yang patut dilindungi karena menjadi tempat tinggal bagi burung-burung pantai berjenis *Black-Winged Stilt* (*Himantopus himantopus*), *Pied Avocet* (*Recurvirostra avosetta*), *Common Tern* (*Sterna hirundo*), dan *the Little Tern* (*Sterna albifrons*).⁴⁹ Keselamatan mereka terancam oleh limbah industri dan aktivitas perkotaan, serta pariwisata dan perburuan. Tidak hanya keselamatan fauna laut dan lingkungannya saja yang terancam, namun sekelompok nelayan juga merasakan kerugian dari pencemaran *land-based sources* tersebut.⁵⁰ Kasus ini pertama kali diajukan ke pengadilan tingkat pertama di Perancis dan kemudian naik ke tingkat kasasi, dimana pada tingkat inilah kemudian para hakim meminta pendapat dari *European Court of Justice* (ECJ) mengenai keberlakuan Pasal 6 ayat 3 di dalam Konvensi Barcelona terhadap situasi yang mereka alami, yaitu mengenai kewajiban negara-negara anggota Konvensi untuk mengatur pembuangan zat-zat tertentu dan pemberian izin pembuangan zat-zat tertentu.⁵¹ ECJ pun menyatakan bahwa Perancis memegang kewajiban tersebut dan bertanggung jawab atas pencemaran laut yang terjadi. Hal ini menunjukkan bahwa lembaga dan individu dapat mengaplikasikan ketentuan di dalam Konvensi Barcelona terhadap negara-negara anggota.

Keberadaan *land-based sources* menyumbangkan jumlah yang signifikan terhadap pencemaran laut internasional, sehingga dibutuhkan kerjasama negara-negara di dunia, walaupun sampai saat ini, perjanjian-perjanjian internasional

⁴⁹ "Birdlife's online World Bird Database: the Site for Bird Conservation," <http://www.birdlife.org>, 13 April 2012.

⁵⁰ Antoinette Hildering, Andrea M. Keessen dan Helena F.M.W. van Rijswijk', "Tackling Pollution of the Mediterranean Sea from Land-Based Sources by an Intergrated Ecosystem Approach and the Use of the Combined International and European Legal Regimes," *Utrecht Law Review Vol. 5, Issue 1* (Juni 2009): 80-81.

⁵¹ Ibid.

yang mengatur mengenai *land-based sources* baru sampai pada tingkat regional. Hal-hal inilah yang menarik peneliti untuk melihat lebih dalam mengenai perjanjian-perjanjian regional yang membawa dampak signifikan terhadap pengendalian dan penanggulangan *land-based sources*. Selain itu, peneliti juga akan melihat praktek-praktek di beberapa negara dengan tingkat pencemaran laut yang tinggi yang disebabkan oleh *land-based sources* karena pada dasarnya, pengendalian yang signifikan terhadap *land-based sources* dilakukan di tempat-tempat pencemaran tersebut dikeluarkan.

1.2. Pokok Permasalahan

1. Bagaimanakah pengaturan hukum internasional mengenai pencemaran dari *land-based sources* terhadap lingkungan laut?
2. Bagaimanakah negara-negara menangani pencemaran yang disebabkan oleh *land-based sources*?

1.3. Tujuan Penulisan

Tujuan penelitian kali ini dibagi menjadi dua, yaitu tujuan umum dan tujuan khusus yang akan dijelaskan di bawah ini.

1.3.1. Tujuan Umum

Secara umum tujuan dari diadakannya penelitian ini adalah untuk memberi penjelasan bagaimana penerapan yang ada dalam hukum internasional berkaitan dengan *land-based sources* sebagai sumber pencemaran laut internasional.

1.3.2. Tujuan Khusus

Berdasarkan pokok permasalahan yang telah diuraikan sebelumnya, maka yang menjadi tujuan dari penelitian ini adalah:

1. Mengetahui pengaturan mengenai *land-based sources* berdasarkan perjanjian multilateral, regional, dan bilateral.

2. Mengetahui praktek negara-negara dalam dalam menangani permasalahan pencemaran dari *land-based sources*.

1.4. Kerangka Konsepsional

Suatu kerangka konsepsional merupakan kerangka yang menggambarkan hubungan antara konsep-konsep khusus, yang ingin atau akan diteliti.⁵² Perihal yang akan dijabarkan dalam kerangka konsepsional ini adalah istilah-istilah yang akan digunakan di dalam penulisan. Istilah-istilahnya adalah sebagai berikut:

1. Pencemaran laut adalah tindakan yang dilakukan oleh manusia, baik secara langsung maupun tidak langsung, dalam melepaskan zat atau energi ke lingkungan laut (termasuk wilayah muara) yang mengakibatkan atau dapat mengakibatkan efek pengrusakan terhadap makhluk hidup dan kehidupan laut, kesehatan manusia, halangan untuk aktivitas laut termasuk penangkapan ikan dan penggunaan laut yang sah lainnya itu, penurunan kualitas untuk penggunaan air laut dan pengurangan kenyamanan.⁵³
2. *Land-Based Sources* adalah sumber-sumber pencemaran laut yang datang dari sungai, pesisir, jalur pipa dan struktur pembuangan.⁵⁴
3. *Marine Debris* adalah materi padat yang mengapung di lingkungan laut, dimana pada umumnya merupakan sampah buangan.⁵⁵

1.5. Metode Penelitian

Metode adalah jalan yang menyatukan secara logis segala upaya untuk sampai kepada penemuan, pengetahuan, dan pemahaman tentang suatu yang

⁵² Soerjono Soekanto, *Pengantar Penelitian Hukum*, cet. 3, (Jakarta: UI Press, 1996), hal. 132.

⁵³ PBB (I), Pasal 1 ayat 4.

⁵⁴ PBB (III), *The Montreal Guideline for the Protection of the Marine Environment against Pollution from Land-Based Sources*, (1985), Pasal 1.

⁵⁵ Michael Allsopp, et. al., *Plastic Debris in the World's Ocean*, (Amsterdam: Greenpeace International, 2005), hal. 5.

dituju atau yang diarah secara tepat.⁵⁶ Metode penelitian hukum adalah prosedur atau cara yang digunakan dalam melakukan penelitian hukum. Untuk menentukan metode yang digunakan dalam suatu penelitian hukum, haruslah dipahami terlebih dahulu tujuan dari penelitian hukum itu sendiri. Metode penelitian yang dilakukan oleh peneliti terkait dengan karya tulis ini adalah metode penelitian yuridis normatif, yaitu penelitian terhadap aturan-aturan hukum tertulis maupun hukum tidak tertulis yang berkaitan dengan permasalahan dalam penelitian ini, seperti prinsip-prinsip, konvensi-konvensi, dan regulasi-regulasi yang berkaitan dengan *land-based sources* dengan metode penelitian kepustakaan.

Dalam mengambil data, peneliti akan menggunakan metode penelitian kepustakaan adalah metode yang dilakukan dengan melakukan studi dokumen dan menggunakan data berupa bahan pustaka yang disebut dengan data sekunder, yaitu bahan yang diperoleh dari kepustakaan yang berupa bahan-bahan hukum.⁵⁷ Adapun bahan-bahan hukum yang digunakan untuk penelitian kali ini adalah:⁵⁸

1. Bahan hukum primer, yaitu merupakan bahan-bahan hukum yang memiliki ketentuan mengikat. Dalam penelitian ini, bahan hukum primer seperti *United Nations Convention on the Law of the Sea (UNCLOS) 1982*, *UNEP Regional Seas Protocols on Land-Based Sources*, *Convention for the Protection of the Marine Environment of the Northeast Atlantic (OSPAR) 1992*, dan *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) 2004*.
2. Bahan hukum sekunder, yaitu bahan hukum yang memberikan penjelasan mengenai bahan hukum primer, seperti hasil penelitian atau hasil karya dari para ahli hukum seperti buku-buku literatur, jurnal-jurnal, dan artikel-artikel dalam bentuk media cetak dan elektronik yang berkaitan dengan

⁵⁶ Soerjono Soekanto dan Sri Mamudji, *Penelitian Hukum Normatif: Suatu Tinjauan Singkat*, cet. 3, (Jakarta: Rajawali Pers, 1990), hal. 14.

⁵⁷ Sri Mamudji et.al., *Metode Penelitian dan Penulisan Hukum*, (Jakarta: Badan Penerbit Fakultas Hukum Universitas Indonesia, 2005), hal. 30.

⁵⁸ Soerjono Soekanto dan Sri Mamudji, *Penelitian Hukum Normatif: Suatu Tinjauan Singkat*, cet. 3, hal. 13

keberlangsungan lingkungan kehidupan laut dan *land-based sources* sebagai sumber pencemaran laut internasional.

3. Bahan hukum tersier, yaitu bahan hukum yang memberikan penjelasan atas bahan hukum primer maupun sekunder. Contohnya kamus, ensiklopedia, indeks kumulatif, dan seterusnya.

Selain menggunakan bahan kepustakaan, peneliti juga akan melengkapi penelitiannya dengan melakukan wawancara ke beberapa tempat yang berkaitan dengan topik penelitian ini, yaitu wawancara yang dilakukan di Kementerian Lingkungan Hidup.

Dalam penelitian ini, metode pengolahan data yang digunakan adalah analisis data kualitatif, yaitu tata cara penelitian yang menghasilkan data deskriptif analitis, dimana definisinya sendiri adalah apa yang dinyatakan sebagai tujuan penelitian yang bersangkutan secara tertulis, lisan, dan sesuai dengan kenyataan.⁵⁹

1.6. Sistematika Penulisan

Sistematika penulisan karya tulis ini dibagi menjadi 5 bab yang saling berkaitan satu sama lain. Sistematikanya adalah sebagai berikut:

BAB 1 PENDAHULUAN

Bab ini menjelaskan mengenai latar belakang penulisan, pokok-pokok permasalahan, tujuan penelitian, kerangka konseptual, metode penelitian, serta sistematika penulisan.

BAB 2 LAND-BASED SOURCES POLLUTION DALAM HUKUM INTERNASIONAL

Bab ini akan membahas mengenai *land-based sources* sebagai sumber pencemaran laut secara umum. Selain itu, akan dibahas pula mengenai prinsip-prinsip hukum internasional dan konvensi-konvensi internasional yang terkait

⁵⁹ Sri Mamudji et.al., *Metode Penelitian dan Penulisan Hukum*, hal. 67.

dengan pengaturan *land-based sources*, baik secara regional maupun internasional.

BAB 3 PERBANDINGAN PRAKTEK BEBERAPA NEGARA MENGENAI LAND-BASED SOURCES POLLUTION

Bab ini akan membahas mengenai pengaturan *land-based sources* dalam ruang lingkup negara. Negara-negara yang dipilih adalah negara-negara dengan tingkat pencemaran laut yang tinggi yang diakibatkan oleh *land-based sources* serta negara-negara yang pernah mengalami kasus terkait pencemaran yang disebabkan oleh *land-based sources*.

BAB 4 TINJAUAN KASUS LAND-BASED SOURCES POLLUTION: THE NORTH-EAST PACIFIC GARBAGE PATCH, THE MOX PLANT CASE (2001), DAN THE ÉTANG DE BERRE CASE (2004)

Di dalam bab ini, penulis akan menganalisa kasus-kasus yang berkaitan dengan *land-based pollution*, yaitu kasus *Eastern Pacific Garbage Patch*, *MOX Plant*, dan *Étang de Berre*. Pada kasus pertama, penulis akan membahas mengenai latar belakang kasus tersebut, efek yang ditimbulkan terhadap pihak yang dirugikan, serta tindakan-tindakan apa saja yang telah dilakukan. Untuk dua kasus kemudian, penulis akan menganalisa putusan-putusan kasus tersebut dan mengaitkannya dengan teori-teori yang bersangkutan.

BAB 5 PENUTUP

Bab terakhir pada karya tulis ini akan berisikan kesimpulan, dimana isi dari kesimpulan tersebut merupakan jawaban-jawaban dari pokok-pokok permasalahan. Selain itu, penulis juga menuliskan saran terhadap permasalahan yang dibahas dalam karya tulis ini.

BAB 2

LAND-BASED SOURCES POLLUTION DALAM HUKUM INTERNASIONAL

2.1. Tinjauan Mengenai *Land-Based Sources Pollution*

Pencemaran adalah hal yang buruk, sehingga perlu adanya tindakan-tindakan pencegahan dan pengendalian untuk mengurangi angka pencemaran di dunia, terutama pencemaran laut. Pentingnya perlindungan tersebut dikarenakan laut adalah tempat awal mula kehidupan dan ketika pencemaran menyebabkan berubahnya kualitas air, hal ini juga mempengaruhi organisme yang tinggal di dalamnya.⁶⁰ Pencemaran laut itu sendiri menurut UNCLOS diartikan sebagai:⁶¹

Tindakan yang dilakukan oleh manusia, baik secara langsung maupun tidak langsung, dalam melepaskan zat atau energi ke lingkungan laut (termasuk wilayah muara) yang mengakibatkan atau dapat mengakibatkan efek pengrusakan terhadap makhluk hidup dan kehidupan laut, kesehatan manusia, halangan untuk aktivitas laut termasuk penangkapan ikan dan penggunaan laut yang sah lainnya itu, penurunan kualitas untuk penggunaan air laut dan pengurangan kenyamanan.

Dalam hal pencemaran, sumber dapat dikatakan sebagai tempat dihasilkannya zat-zat berbahaya yang menyebabkan pencemaran dan zat-zat berbahaya tersebut mencemari lingkungan melalui tindakan manusia.⁶² Dari lima kelompok sumber pencemaran laut, *land-based sources* menjadi penyumbang terbanyak di dalam pencemaran laut internasional dengan persentase sebesar 80%.⁶³ *Land-based sources* memiliki cakupan yang luas dalam pengertiannya, sehingga sering timbul kesulitan dalam merumuskan cara untuk menanggulangnya. Dalam UNCLOS itu sendiri, definisi dari *land-based sources* dibatasi pada aktivitas-aktivitas manusia di darat, dimana aktivitas tersebut menyebabkan pencemaran laut melalui sungai, pesisir, jalur pipa dan struktur

⁶⁰ B.H. Ketchum, "Man's Resources in the Marine Environment," *Pollution and Marine Ecology* (Inter-Science Publishers, 1967), hal. 3.

⁶¹ PBB (I), Pasal 1 ayat 4.

⁶² Men Quing-nan, *Land-based Marine Pollution: International Law and Development*, (London: Graham and Trotman, 1987), hal. 18.

⁶³ Sheavly S.B., *Ibid.*

pembuangan.⁶⁴ Berbeda dengan UNCLOS, *Montreal Guidelines* menyatakan *land-based sources* sebagai, “Sumber-sumber pencemaran laut dari kegiatan perkotaan, industrial, dan pertanian, khususnya yang datang dari daerah pantai, sungai, jalur perairan (termasuk jalur perairan bawah tanah), atmosfer, dan kegiatan-kegiatan di lepas pantai yang masih masuk ke dalam yurisdiksi negara.”⁶⁵

Apabila dibandingkan keduanya, definisi yang dinyatakan di dalam *Montreal Guidelines* memasukan atmosfer sebagai salah satu perantara *land-based sources*, sedangkan UNCLOS hanya memberikan definisi secara luas saja. UNCLOS kemudian membedakan atmosfer sebagai sumber tersendiri dari *land-based sources*, namun apa yang dimaksud dengan sumber pencemaran laut dari atmosfer adalah hal-hal yang timbul dari kegiatan di atmosfer, sehingga pencemaran laut yang disebabkan oleh asap pabrik di darat tidak termasuk ke dalam definisi tersebut.⁶⁶

Pada kenyataannya, ada begitu banyak cara untuk polutan mencapai laut, yaitu melalui pembuangan di pesisir, melalui sungai, kanal dan jalur air lainnya, melalui limpasan dari tanah, melalui atmosfer, serta melalui rantai makanan dan pembuangan limbah.⁶⁷ Akan tetapi, sungai, kanal, dan jalur air lainnya menjadi jalan yang paling berbahaya karena hujan yang kemudian membawa semua *land-based sources* menuju laut yang menyebabkan kontaminasi⁶⁸. Kontaminasi berbeda dengan pencemaran karena pada dasarnya menunjukkan peningkatan konsentrasi di lingkungan laut tersebut. Untuk sebuah kontaminasi menjadi

⁶⁴ PBB (I), Pasal 207

⁶⁵ PBB (III), *The Montreal Guideline for the Protection of the Marine Environment against Pollution from Land-Based Sources*, (1985), Pasal 1.

⁶⁶ PBB (I), Pasal 105 (1).

⁶⁷ “Annual Review of Ocean Affairs,” *Law and Policy Main Documents* (1993), hal. 250-253.

⁶⁸ “Kontaminasi adalah adanya peningkatan konsentrasi zat dalam air, sedimen atau organisme, yaitu konsentrasi yang berada di atas tingkat latar belakang alami untuk daerah tersebut dan untuk organisme,” (R.B. Clark, *Marine Pollution*, (Oxford: Clarendon Press, 1986), hal. 7.)

sebuah pencemaran, dibutuhkan campur tangan manusia dan adanya akibat yang membahayakan terhadap lingkungan laut.⁶⁹

2.1.1. Beberapa Aktivitas Penyebab *Land-Based Sources Pollution*

Tindakan manusia dalam kaitannya dengan pencemaran laut yang disebabkan oleh *land-based sources* sangat berkaitan dengan tingginya tingkat urbanisasi dan industrialisasi di sepanjang pesisir pantai dan tempat-tempat yang berdekatan dengan jalur air.⁷⁰ Tindakan-tindakan manusia tersebut (*land-based activities*) dapat dikelompokkan menjadi empat kelompok besar, yaitu aktivitas rumah tangga, industrial, pariwisata dan pertanian dengan masing-masing memiliki karakteristik tersendiri,⁷¹ dimana penjelasannya adalah sebagai berikut:

a. Aktivitas Rumah Tangga

Aktivitas manusia, dalam satu hari, dapat menghasilkan sampah hingga berton-ton banyaknya dan sebagian besar dari sampah ini menjadi limbah yang tersalurkan ke laut melalui sungai. Istilah yang digunakan untuk limbah seperti ini adalah limbah rumah tangga, dimana contohnya adalah limbah pada air selokan, limbah dari air yang digunakan untuk mencuci, gas dari penggunaan masak, dan limbah padat dari sisa-sisa makanan. Bahan-bahan limbah rumah tangga yang dibuang ke laut berkisar pada bahan organik sampai dengan bahan anorganik. Hal ini diperburuk dengan terus meningkatnya jumlah penduduk yang tinggal di daerah pesisir laut, dimana 40% masyarakat dunia tinggal dalam jarak 150km dari laut dan jumlah ini akan meningkat seiring dengan meningkatnya pariwisata.⁷² Dengan meningkatnya masyarakat yang

⁶⁹ R.B. Clark, *Marine Pollution*, (Oxford: Clarendon Press, 1986), hal. 7.

⁷⁰ R.P. Cote, "Marine Environmental Management: Status and Prospectives," *Marine Pollution Bulletin*, Vol. 24 (1992), hal. 19.

⁷¹ R.B. Clark, *Marine Pollution*, hal. 4-5.

⁷² UN Atlas of the Ocean, "The Human Settlements on the Coast: The ever more popular coasts," <http://www.oceansatlas.org/servlet/CDServlet?status=ND0xODc3JjY9ZW4mMzM9KiYzNz1rb3M~>, diunduh pada 12 April 2012.

tinggal di pesisir laut, tingkat pembuangan limbah menuju laut pun semakin tinggi. Berdasarkan fakta tersebut, pencemaran laut yang disebabkan oleh aktivitas rumah tangga mendapatkan perhatian khusus pada Agenda 21⁷³ dan *the Washington Declaration*⁷⁴.

b. Aktivitas Industrial

Limbah industri yang dihasilkan oleh aktivitas industri menjadi salah satu penyumbang yang signifikan dalam *land-based sources*, apabila pembuangan tidak dilakukan dengan cara yang tepat. Limbah industri berasal dari bermacam-macam pabrik, termasuk industri makanan dan minuman, penyulingan minyak, perhiasan logam, pabrik baja/logam, pabrik kertas serta pabrik kimia organik maupun anorganik lainnya, dimana beberapa diantaranya mengandung unsur yang sangat beracun, seperti logam berat, dan bahan organik yang beracun.⁷⁵

Sebuah contoh untuk melihat bahaya dari limbah industri adalah bahan baku dari plastik yang ukurannya berkisar 2-6 mm.⁷⁶ Bahan baku plastik tersebut masuk ke dalam lingkungan laut melalui tumpahan yang disengaja selama produksi dan pengolahan, transportasi dan penanganan, dimana sebagian ada yang mengapung, sebagian lagi ada yang tenggelam.⁷⁷ Kehadiran mereka telah dilaporkan di sebagian besar lautan dunia, bahkan dalam area-area terpencil, non-industri seperti di Tonga, Rarotonga dan Fiji.⁷⁸ Bahan baku plastik menjadi tidak signifikan karena

⁷³ PBB (IV), *Agenda 21*, 1992, Pasal 17 - 27.

⁷⁴ PBB (V), *Intergovernmental Conference on Protection of the Marine Environment from Land-Based Activities (the Washington Declaration)*, 1995, Pasal 9.

⁷⁵ Mukhtasor, *Pencemaran Pesisir Laut*, (Jakarta: Pradnya Paramita, 2007), hal. 87.

⁷⁶ J.G.B Derraik, "The pollution of the marine environment by plastic debris: a review," *Marine Pollution Bulletin*, Vol. 44 (2002): 842-852.

⁷⁷ D.P Redford., H.K. Trulli dan W.R Trulli, "Sources of plastic pellets in the aquatic environment," In: *Marine Debris. Sources, Impacts, Solutions*, J.M. Coe and D.B. Rogers Ed. (New York: Springer-Verlag New York, Inc.,1997):335-344.

⁷⁸ J.G.B Derraik, *Ibid*.

ukurannya yang kecil, namun fakta menunjukkan bahwa keberadaan bahan baku plastik tersebut ada dimana-mana.

Di Indonesia itu sendiri, kurangnya kesadaran akan bahaya limbah industri menjadi kendala yang harus dihadapi, dimana salah satu contohnya adalah situasi yang terjadi di Surabaya. Berdasarkan berita dari Surabaya Post pada tanggal 14 Januari 2005 yang disajikan oleh Dinas Infokom Pemerintah Kota Surabaya, dari 1563 industri yang tercatat dan berpotensi menimbulkan pencemaran lingkungan, hanya 87 perusahaan yang memiliki Instalasi Pengolahan Air Limbah (IPAL). Data tersebut menunjukkan bahwa pada tahun 2005, hanya 5% industri di Surabaya yang telah mengelola limbah yang dihasilkannya.

Plastik dan limbah industri keduanya sangat berbahaya (yang akan dijelaskan pada “Unsur-Unsur Terkait *Land-Based Sources*”) apabila dilepaskan begitu saja menuju lautan tanpa adanya pengolahan terlebih dahulu.

c. Aktivitas Pertanian

Aktivitas pertanian juga menghasilkan limbah di dalam *land-based sources*. Aktivitas pertanian yang dapat menimbulkan ancaman terhadap lingkungan adalah perluasan peternakan yang merusak hutan dan lahan basah, erosi tanah, penggunaan pestisida, dan penggunaan pupuk yang berlebihan.⁷⁹ Tingkat penggunaan pestisida yang tinggi sangat berbahaya bagi kelangsungan kehidupan laut. Sebagian besar dari pestisida adalah beracun, sulit untuk terurai dan *bioaccumulative*⁸⁰. Sayangnya, aktivitas pertanian tidak tunduk pada satu kewajiban hukum internasional secara

⁷⁹ “World Resources,” *World Resources Institute and International Institute for Environment and Development* (1989): 135–7.

⁸⁰ “*Bioaccumulative* adalah perpindahan beberapa senyawa kimia di lingkungan laut ke dalam organisme yang berarti senyawa kimia tersebut akan terus berkembang di dalam organisme, apabila tidak dapat dikeluarkan,” (Hal ini dikemukakan oleh Royal Society Study Group dalam *Pollutant Control Priorities in the Aquatic Environment* sebagaimana dikutip oleh S.A. Morgan, “Land-Based Marine Pollution,” *A Project A2 Report* (University of Auckland, November 1992): 28.)

husus di tingkat regional dan global yang dapat mempersiapkan dan menerapkan strategi untuk menggunakan lahan pertanian secara optimal, mengontrol penggunaan pupuk dan pestisida, dan mempromosikan tepat lahan peternakan.⁸¹

d. Aktivitas Pariwisata

Pariwisata dapat dikategorikan sebagai aktivitas yang ramah lingkungan bagi negara-negara yang memaksimalkan potensi wilayah pantai dan pesisirnya, apabila aktivitas ini dibandingkan dengan aktivitas pengeksploitasian sumber daya alam di wilayah tersebut.⁸² Aktivitas pariwisata memiliki keuntungan, dimana dapat meningkatkan kemampuan dasar negara dalam mengapresiasi lingkungan dan perlindungannya.⁸³ Di sisi lain, peningkatan aktivitas pariwisata juga mengakibatkan peningkatan pembangunan infrastruktur pendukung sehingga dibutuhkan perhatian lebih dalam hal penanganan pembuangan limbah dari infrastruktur tersebut. Salah satu kerusakan yang ditimbulkan akibat meningkatnya aktivitas pariwisata adalah tingginya kerusakan terumbu karang, dimana dari 110 negara, setidaknya 93 negara telah mengalami kerusakan terumbu karang.⁸⁴

2.1.2. Unsur-Unsur Terkait *Land-Based Sources Pollution*

Dalam hal pembuangan limbah, masih banyak negara-negara dunia, baik negara-negara berkembang maupun negara-negara maju, yang belum mengatur pembuangan limbah tersebut dengan tata cara yang benar.⁸⁵ Bersama-sama

⁸¹ Philippe Sands, *Principles of International Environmental Law, Second Ed.*, hal. 669.

⁸² GESAMP (IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection) and Advisory Committee on Protection of the Sea, *Protecting the Oceans from Land-Based Activities: Land-Based Sources and Activities Affecting the Quality and Uses of the Marine, Coastal and Associated Freshwater Environment*, (GESAMP No. 71), hal. 31.

⁸³ Ibid., hal. 32.

⁸⁴ Dirk Bryant, et. al., *Reefs at Risk: A Map-Based Indicator of Threats to the World's Coral Reefs*, (Washington DC: World Resources Institute, 1998), hal. 56.

⁸⁵ R.B. Clark, *Marine Pollution*, hal. 128.

dengan aktivitas-aktivitas manusia yang menjadi penyebab dalam *land-based sources*, bentuk-bentuk *land-based sources* yang terkandung di dalamnya juga bervariasi, seperti sampah plastik, *nutrients*, pestisida, logam berat, sedimen, dan limbah radioaktif sebagai berikut:

a. Sampah Plastik

Jumlah sampah yang dibuang ke lingkungan laut per tahunnya sampai dengan 1 juta ton per tahun dengan plastik sebagai penyumbang yang dominan sebesar 60 - 80% dari sampah-sampah tersebut.⁸⁶ Dalam industri perikanan, bahan plastik dan sintetis telah mengganti serat alami yang digunakan dalam perikanan pada 35 tahun terakhir dan penggunaannya telah menyebabkan banyaknya sisa-sisa alat penangkapan ikan yang mengapung di lautan dan terdampar di pantai.⁸⁷ Dapat kita sadari, plastik memainkan peranan penting dalam kehidupan manusia, dimana hampir semua benda yang kita gunakan dalam kehidupan sehari-hari mengandung plastik, seperti botol minuman, bungkus makanan, tas untuk belanjaan, dan masih banyak lagi lainnya.

Plastik membutuhkan waktu hingga beberapa dekade, bahkan berabad-abad untuk terurai secara alami (*biodegrade*) dan di laut, plastik-plastik tersebut membutuhkan waktu yang lebih lama lagi untuk terurai dengan air dingin dan rumput laut yang dapat menahan sinar ultraviolet bekerja sebagai pengawet plastik-plastik tersebut sehingga plastik-plastik yang dibuang 50 tahun yang lalu, keberadaannya belum hancur seluruhnya hingga saat ini.⁸⁸ Plastik yang terbawa sampai ke laut, pada akhirnya akan terurai menjadi serpihan-serpihan kecil yang telah

⁸⁶ E.A. Laws, *Aquatic Pollution: An Introductory Text*, (New York: John Willey and Sons, 1993); J.G.B Derraik, "The pollution of the marine environment by plastic debris: a review," *Marine Pollution Bulletin*, Vol. 44 (2002): 842-852.

⁸⁷ John R. Henderson, "A Pre- and Post-MARPOL Annex V Summary of Hawaiian Monk Seal Entanglements and Marine Debris Accumulation in the Northwestern Hawaiian Island, 1982-1998," *Marine Pollution Bulletin* 42 (2001): 584-589.

⁸⁸ Jessica R. Coulter, "A Sea Change to Change the Sea: Stopping the Spread of the Pacific Garbage Patch with Small-Scale Environmental Legislation," *William and Mary Law Review* Vol. 51 (2010): 1962.

teridentifikasi di dalam sedimen air laut.⁸⁹ Serpihan-serpihan ini dapat salah diartikan sebagai makanan dan dimakan oleh organisme laut. Ribuan burung laut dan fauna laut lainnya terbunuh setiap tahunnya akibat sampah yang mengapung, terutama plastik,⁹⁰ melalui belitan, kekurangan nafas, dan pengonsumsi serpihan.⁹¹

Dari ketiga akibat tersebut, pengonsumsi serpihan oleh organisme laut menjadi akibat yang memberikan bahaya langsung bagi manusia. Apabila organisme laut, seperti ikan, cumi-cumi, kepiting, dan makhluk laut lainnya salah mengonsumsi serpihan-serpihan plastik tersebut sebagai makanan utama mereka, manusia sebagai makhluk yang mengonsumsi makanan laut akan ikut mengonsumsi plastik-plastik tersebut.

b. *Nutrients*

Nutrients adalah zat-zat dasar yang penting untuk kehidupan hewan dan tumbuhan, yaitu zat-zat seperti oksigen (O₂), hidrogen (H₂), nitrogen (N₂O), karbon (C), dan fosfat (PO₄), serta yang ditemukan baru-baru ini, yaitu arsenik (As).⁹² Walaupun *nutrients* merupakan zat-zat yang dibutuhkan oleh makhluk hidup, konsentrasinya yang tinggi di laut dapat menyebabkan hal buruk bagi organisme laut akibat dari pembuangan limbah yang bercampur dengan air hujan ke laut tanpa adanya saringan terlebih dahulu. Salah satu contohnya adalah pencemaran yang terjadi di Laut Cina Timur melalui Sungai Yang Tze. Dalam dua puluh tahun terakhir, kandungan *nutrients* dalam Sungai Yang Tze meningkat drastis

⁸⁹ R.C. Thompson, et. al., "Lost at sea: where is all the plastic?" *Science*, Vol. 304 (7th May, 2004): 838

⁹⁰ H.L. Windom, "Contamination of the Marine Environment from Land-Based Sources," *Marine Pollution Bulletin*, Vol. 25 (1992): 33.

⁹¹ Michael Allsopp, et. al., *Plastic Debris in the World's Oceans*, hal. 10.

⁹² Robert Lee Hotz, "New Link in Chain of Life: Microbes Weave Poisonous Arsenic Into Their DNA, Upending Decades of Science," http://online.wsj.com/article/SB10001424052748703377504575650840897300342.html?mod=ITP_pageone_1#printMode, diunduh pada 12 April 2012.

akibat campuran limbah pertanian.⁹³ Air hipoksia⁹⁴ ditemukan pada lapisan bawah dari Laut Cina Timur melalui mulut Sungai Yangtze selama musim panas yang menunjukkan bahwa *nutrients* dari Sungai Yangtze meningkatkan eutrofikasi di Muara Yangtze dan di lingkungan laut yang berdekatan Laut Cina Timur.⁹⁵

Eutrofikasi adalah proses dimana air memperoleh *nutrients* dengan konsentrasi tinggi, terutama fosfat dan nitrat. Proses ini pada umumnya meningkatkan pertumbuhan ganggang yang berlebihan. Ketika ganggang tersebut mati dan membusuk, tingginya tingkat bahan organik dan organisme yang membusuk mengakibatkan turunnya tingkat oksigen di air, sehingga menyebabkan kematian bagi organisme lainnya, seperti ikan, kepiting, dan organisme laut lainnya yang hidup di dasar laut.⁹⁶ Selain kehabisan oksigen akibat bangkai ganggang laut, pertumbuhan ganggang laut yang begitu banyak juga menyebabkan ketidakstabilan ekosistem dan kerusakan terumbu karang.⁹⁷

c. Pestisida

Pestisida adalah setiap bahan atau campuran zat yang bertujuan untuk mencegah, menghancurkan, menekan atau mengurangi hama, dimana makhluk hidup yang termasuk dalam kategori hama adalah serangga, tikus dan hewan pengerat, tumbuhan parasit, jamur,

⁹³ Li Daoji dan Dag Daler, "Ocean Pollution from Land-Based Sources: East China Sea, China," *Ambio*, Vol. 33 No. 1-2 (Februari, 2004): 110.

⁹⁴ "Hipoksia berarti tingkat oksigen rendah dan terutama masalah bagi muara dan perairan pesisir. Perairan hipoksia memiliki campuran konsentrasi oksigen kurang dari 2-3 ppm. Hipoksia dapat disebabkan oleh berbagai faktor, termasuk kelebihan *nutrients*, terutama nitrogen dan fosfor, dan stratifikasi waterbody karena gradien garam atau suhu. Kelebihan nutrisi dan eutrofikasi, meningkatkan pertumbuhan ganggang laut. Selagi ganggang membusuk, oksigen dikonsumsi dalam proses, mengakibatkan rendahnya tingkat oksigen di dalam air," <http://toxics.usgs.gov/definitions/hypoxia.html>, diunduh pada 13 April 2012.

⁹⁵ Li Daoji dan Dag Daler, "Ocean Pollution from Land-Based Sources: East China Sea, China," hal. 111.

⁹⁶ <http://toxics.usgs.gov/definitions/hypoxia.html>, diunduh pada 13 April 2012.

⁹⁷ <http://www.wri.org/project/eutrophication/about>, diunduh 13 April 2012.

mikroorganisme seperti bakteri dan virus, serta prion^{98,99} Pestisida digunakan di dalam aktivitas pertanian untuk mencegah kerusakan lahan pertanian akibat hama.

Pestisida termasuk ke dalam campuran zat yang sulit untuk larut ke dalam air, dimana hal ini membuat pestisida sebagai *persistent environmental contaminants*.¹⁰⁰ Hal ini terlihat melalui riset yang dilakukan oleh Robert J. Gilliom yang mendokumentasikan 96% ikan, 100% sampel permukaan air dan 33% akuifer utama mengandung satu atau lebih jenis pestisida dalam tingkat yang terdeteksi di Amerika Serikat.¹⁰¹ Sisa-sisa pestisida yang terbawa oleh air menuju ke laut dapat menyebabkan pencemaran laut yang membahayakan nyawa mahluk hidup karena sifatnya yang dapat diakumulasikan di dalam lemak.¹⁰² Pada dasarnya, pestisida merupakan campuran zat yang agresif yang ditujukan untuk membunuh, sehingga tercampurnya zat-zat tersebut ke laut pastinya akan menimbulkan efek yang berbahaya.¹⁰³ Pestisida dikatakan sebagai penyebab potensial berkurangnya jumlah dan kesehatan fisik mahluk amfibi, mahluk hidup yang bekerja sebagai agen polinasi (lebah), dan mahluk hidup serangga lainnya.¹⁰⁴

⁹⁸ “Prion adalah agen menular yang mengandung protein yang rangkaiannya tidak tepat,” Kenneth James Ryan, C. George Ray, dan James Plorde, *Sherris Medical Microbiology, 4th Ed.*, (Ohio: McGraw Hill, 2004), hal. 624.

⁹⁹ <http://www.eoearth.org/article/Pesticide>, diunduh 13 April 2012.

¹⁰⁰ R.B. Clark, *Marine Pollution*, hal. 106.

¹⁰¹ Robert J. Gilliom, “Pesticides in the Nation’s Water Resources,” *U.S. Geological Survey, Water Environment Federation Briefing Series Presentation* (Washington D.C., 19 Maret 1999).

¹⁰² Ibid.

¹⁰³ <http://www.eoearth.org/article/Pesticide>, diunduh 13 April 2012.

¹⁰⁴ http://www.eoearth.org/article/Pesticides_and_wildlife#endnote_1, diunduh 13 April 2012.

d. Logam Berat

Logam dalam menyangkut permasalahan biologis dapat dibagi menjadi tiga kelompok, yaitu:¹⁰⁵

- 1) Logam ringan (sodium, potasium, kalsium, dan lain-lain) yang pada umumnya berpindah melalui kation bergerak dalam larutan air;
- 2) Logam transisi (tembaga, kobalt, mangan, dan lain-lain) sifatnya penting dalam konsentrasi rendah, namun berbahaya dalam konsentrasi tinggi;
- 3) Logam berat atau metaloid (merkuri, timbal, timah, selenium, arsenik, dan lain-lain) yang tidak digunakan dalam proses metabolisme dan beracun bagi organisme pada konsentrasi yang cukup rendah.

Dari ketiga kelompok tersebut, logam berat menjadi yang paling berbahaya karena dalam konsentrasi yang cukup rendah, dapat menimbulkan kerusakan. Walaupun sifatnya yang sangat beracun, efek yang ditimbulkan oleh logam berat bervariasi terhadap setiap organisme laut.¹⁰⁶ Logam berat mempengaruhi pertumbuhan, reproduksi, dan tingkat kematian organisme laut seiring dengan naiknya posisi organisme tersebut dalam rantai makanan.¹⁰⁷ Seketika logam berat bercampur ke dalam laut, tidak ada cara untuk memisahkannya mengingat logam berat tidak dapat terurai secara alami (*non-biodegradable*) dan mereka adalah zat yang stabil dan merupakan *persistent environmental contaminants*.¹⁰⁸

¹⁰⁵ R.B. Clark, *Marine Pollution*, hal. 82.

¹⁰⁶ G Batiey, "Heavy Metals and Organometals," *Marine Environment Report for Australia, (SOMER Pollution Report)* (Published by Great Barrier Reef Marine Park Authority for the Department of Environment, Sports, and Territory, Commonwealth of Australia, 1995): 63.

¹⁰⁷ R.R. Churchill dan A.V. Lowe, *The Law of the Sea, Third Ed.*, hal. 331.

¹⁰⁸ Institutional Arrangements for Implementation of the Global Program of Action for the Protection of the Marine Environment from Land-Based Activities, UNEP, paragraf 122, (*Environmental Policy and Law, Vol. 26 No. 1, 1996*), hal. 48.

e. Sedimen

Sedimen adalah bahan inorganik dan organik yang tidak terkonsolidasi, dimana bahan-bahan tersebut tersuspensi di dalam air permukaan untuk kemudian terbawa atau mengendap di dasar laut.¹⁰⁹ Sedangkan sedimentasi adalah proses pelepasan bahan padat dari air melalui filtrasi gravitasi atau pemisahan.¹¹⁰ Bentuk-bentuk dari sedimen yang terbawa ke laut termasuk erosi dari batuan dasar, tanah, serta tumbuhan dan binatang yang telah membusuk.¹¹¹ Pergerakan sedimen alami sangat penting dalam proses pertumbuhan dan pemeliharaan habitat pantai, termasuk di dalamnya adalah rawa, laguna, muara, bantalan rumput laut, terumbu karang, hutan mangrove, dan gundukan pasir penghambat.¹¹² Menurut data yang diambil oleh *GEMS/Water*, rata-rata muatan sedimen yang dibuang ke laut jumlahnya bervariasi dalam kisaran 15 - 30 milyar ton per tahun.¹¹³

Proses sedimentasi tidak boleh berlebihan atau justru kurang sama sekali. Salah satu efek dari proses sedimentasi yang berlebihan adalah berkurangnya jumlah cahaya matahari yang masuk ke laut, dimana hal ini akan mempengaruhi produksi alga laut dan tumbuhan laut, meningkatkan temperatur air dan menekan tingkat pertumbuhan vegetasi alami.¹¹⁴ Di sisi lain, proses sedimentasi yang kurang dapat menyebabkan kehancuran ekosistem karena sedimen itu sendiri mengandung bermacam-macam mineral, nutrisi, dan bahan organik.¹¹⁵

¹⁰⁹ JJ King, *the Environment Dictionary*, (John Waley and Sons, Inc., 1995), hal. 605.

¹¹⁰ Ibid.

¹¹¹ UNEP and Gems Water Programme, *Water Quality for Ecosystem and Human Health Organization* (Ontario Canada, 2006).

¹¹² UNEP/GPA, *The State of Marine Environment: Trends and Processes* (The Hague, 2006).

¹¹³ <http://www.gemswater.org/atlas-gwq/solids-e.html>, diunduh 19 April 2012.

¹¹⁴ UNEP and Gems Water Programme, Ibid.

¹¹⁵ Ibid.

f. Limbah Radioaktif

Lautan itu sendiri memiliki kandungan radioaktif dalam jumlah besar yang didominasi oleh keberadaan potasium-40, namun juga mengandung sisa produk uranium dan thorium, serta menerima kandungan tritium terus menerus melalui aktivitas sinar kosmik.¹¹⁶ Akan tetapi, jumlah radioaktif yang berlebihan dan tidak sesuai dengan keadaan sehari-hari akibat campur tangan manusia, tentunya akan menimbulkan kerusakan. Limbah radioaktif dapat digolongkan menjadi dua kelompok, yaitu limbah yang berasal dari daur ulang bahan bakar nuklir dan limbah radioaktif yang ditimbulkan dalam kegiatan produksi radioisotop untuk pemakaian di bidang industri, kedokteran, pertanian, dan lainnya.¹¹⁷ Jumlah radioaktif yang dihasilkan dari kelompok kedua relatif lebih kecil jika dibandingkan dengan yang dibangkitkan oleh reaktor daya nuklir dari kelompok pertama.

Tidak banyak diketahui tentang efek jangka panjang dari radiasi terhadap organisme laut, namun efek radiasi dipercaya menyebabkan kenaikan kematian telur ikan, penurunan presentase pemijahan¹¹⁸, dan kenaikan malformasi telur ikan.¹¹⁹ Bahaya paling besar adalah kemungkinan perubahan genetika yang disebabkan dampak kronik dari radiasi yang dapat mengubah karakteristik suatu populasi atau bahkan berpotensi memusnahkan sebuah populasi.¹²⁰

Bahan-bahan dan zat-zat yang terkandung di dalam *land-based sources* menimbulkan bahaya yang luar biasa kepada lingkungan laut. Ada bahan-bahan dan zat-zat yang dapat membahayakan lingkungan laut dalam jumlah banyak,

¹¹⁶ R.B. Clark, *Marine Pollution*, hal. 130.

¹¹⁷ Mukhtasor, *Pencemaran Pesisir Laut*, hal. 110.

¹¹⁸ “Proses pengawinan induk jantan dan betina sampai melahirkan larva,” <http://www.fishbase.org/Glossary/Glossary.php?q=spawning&language=english&sc=is>, diunduh 19 April 2012.

¹¹⁹ Mukhtasor, *Pencemaran Pesisir Laut*, hal. 112.

¹²⁰ R.B. Clark, *Marine Pollution*, hal. 140-141.

namun ada pula yang dapat membahayakan dalam jumlah sedikit saja. Zat-zat seperti *nutrients* dan sedimen merupakan zat yang terkandung di dalam laut, namun dengan adanya campur tangan manusia, perubahan jumlah yang sedikit saja dapat menimbulkan kerusakan ekosistem laut. Oleh karena itu, adanya suatu sistem pengendalian yang komprehensif dan dapat memilah-milah bahan-bahan dan zat-zat apa yang paling menimbulkan kerusakan sebaiknya dibuat untuk menekan jumlah pencemaran laut yang bersumber dari *land-based sources*.

2.2. Sumber Hukum Lingkungan Internasional Terkait *Land-Based Sources Pollution*

Pencemaran laut merupakan bagian dari perlindungan terhadap lingkungan laut, dimana perlindungan tersebut tidak hanya mengenai tindakan-tindakan pencegahan saja, namun juga tindakan konservasi sumber daya alam dan pengelolaannya.¹²¹ Akan tetapi, perkembangan hukum lingkungan internasional menyangkut pencemaran laut lebih menekankan kepada tindakan pencegahan saja, walaupun hal ini tidak berarti dua tindakan lainnya tidak dilupakan.

Sumber hukum lingkungan internasional, tentunya tidak jauh berbeda dengan sumber hukum internasional itu sendiri mengingat hukum lingkungan internasional merupakan salah satu cabang ilmu dalam hukum internasional. Hukum internasional secara tradisional dinyatakan sebagai “batang tubuh peraturan yang mengikat secara hukum pada negara-negara dalam hubungan mereka satu sama lain”.¹²² Peraturan-peraturan tersebut adalah hal yang mendukung otoritas mereka sesuai dengan ketentuan pada Pasal 38 ayat 1 Statuta Mahkamah Internasional (*International Court of Justice*) yang terdiri dari empat sumber, yaitu perjanjian, hukum kebiasaan internasional, prinsip-prinsip hukum

¹²¹ Gregorios J. Timagenis, *International Control of Marine Pollution, Vol. 1*, (New York: Oceana Publications, 1980), hal. 32.

¹²² Oppenheim, *Oppenheim's International Law, Vol 1, 9 ed.*, (R. Jennings and A. Watts, 1992): 4.

umum, dan sumber subsider yang terdiri dari keputusan pengadilan dan tulisan-tulisan para ahli hukum dan kelompok ahli hukum.

Dalam hukum internasional, dikenal sumber hukum formil dan sumber hukum materiil seperti sumber-sumber hukum pada umumnya. Sumber hukum formil dalam hukum internasional adalah perjanjian internasional dan kebiasaan internasional. Perjanjian internasional mencerminkan suatu sifat kontraktual antara negara atau antara negara dengan organisasi internasional yang menciptakan hak dan kewajiban secara hukum di antara para pihak yang mengadakan persetujuan mengenai masalah-masalah yang dimaksudkan dalam perjanjian tersebut.¹²³ Apabila dibedakan melalui jumlah penandatanganannya, perjanjian internasional dibedakan menjadi perjanjian multilateral dan bilateral.

Perjanjian multilateral adalah perjanjian yang para pihaknya lebih dari dua, dimana ruang lingkup perjanjian ini dapat berupa perjanjian regional maupun internasional atau bersifat fungsional yang bukan digolongkan dalam kategori wilayah geografis.¹²⁴ Perjanjian multilateral ini kemudian dibedakan menjadi dua kelompok, yaitu "*law making treaty*" dan "*treaty contract*". "*Law making treaty*" atau "*international legislation*" adalah perjanjian internasional yang menetapkan ketentuan hukum internasional yang berlaku umum, sedangkan "*treaty contract*" adalah perjanjian internasional yang menetapkan ketentuan hukum internasional yang berlaku bagi dua negara atau lebih yang membuatnya, dimana ketentuan hukum internasionalnya tidak berlaku umum.¹²⁵ Berkaitan dengan "*law making treaty*", istilah konvensi digunakan untuk instrumen multilateral yang resmi dan layak yang disahkan oleh badan-badan lembaga internasional.¹²⁶ Selain istilah konvensi, istilah protokol juga digunakan dalam

¹²³ Sumaryo Suryokusumo, *Hukum Perjanjian Internasional*, (Jakarta: Tatanusa, 2008), hal. 17.

¹²⁴ Ibid., hal. 15.

¹²⁵ Sugeng Istanto, *Hukum Internasional*, (Yogyakarta: Universitas Atma Jaya Yogyakarta, 1998), hal. 12.

¹²⁶ Sumaryo Suryokusumo, *Hukum Perjanjian Internasional*, hal. 21.

pengertian suatu instrumen tunggal yang memberikan amandemen atau pelengkap terhadap persetujuan internasional sebelumnya, misalnya konvensi.¹²⁷

Berbeda dengan perjanjian multilateral, perjanjian bilateral adalah perjanjian antara dua pihak atau negara, biasanya dibuat dengan tujuan meningkatkan atau mengatur kepentingan atau masalah-masalah yang menjadi kepentingan tertentu bagi kedua belah pihak itu sendiri.¹²⁸ Perjanjian bilateral dapat memperoleh kekuatan sebagai hukum yang umum apabila terdapat beberapa perjanjian bilateral dengan sifat yang sama.¹²⁹ Misalnya karena tiap negara di dunia paling tidak mempunyai beberapa perjanjian yang dibuat dengan negara lain, contohnya menyangkut ekstradisi penjahat, perjanjian bilateral yang terpisah ini akan menyatu dan mempunyai kekuatan bersama dalam hukum internasional secara umum.¹³⁰

Sumber hukum materiil bagi hukum internasional adalah prinsip-prinsip umum hukum internasional yang menentukan isi ketentuan hukum internasional yang berlaku. Contohnya setiap pelanggaran perjanjian menimbulkan kewajiban memberikan ganti rugi; korban perang harus diperlakukan secara manusiawi; negara-negara harus mengambil segala tindakan untuk melindungi lingkungan laut dari pencemaran.¹³¹ Di antara prinsip-prinsip itu, ada yang disebut sebagai “*ius cogens*”, yaitu prinsip-prinsip yang keberlakukannya memaksa. Contohnya selain *pacta sunt servanda* adalah prinsip *good faith*. Majelis hakim Mahkamah Internasional pada kasus *Nuclear Test* menyatakan *good faith* sebagai:

One of the basic principles governing the creation and performance of legal obligations, whatever their source, is the principle of good faith. Trust and confidence are inherent in international co-operation, in particular in an age when this co-operation in many fields is becoming increasingly essential. Just as the very rule of pacta sunt servanda in the law of treaties is based on good faith, so also is the binding character of an international obligation assumed by unilateral declaration. Thus interested states may take cognisance of

¹²⁷ Ibid., hal. 23.

¹²⁸ Ibid., hal. 13.

¹²⁹ Ibid., hal. 14.

¹³⁰ R. Deming, “Man and the World” *International Law at Work* (New York, 1974): 31-32.

¹³¹ Sugeng Istanto, *Hukum Internasional*, hal. 13.

unilateral declarations and place confidence in them, and are entitled to require that the obligation thus created be respected.

Dari pernyataannya tersebut, sebuah deklarasi unilateral suatu negara dapat dijadikan sebagai kewajiban yang mengikat berdasarkan prinsip *good faith* atau itikad baik.

Sumber hukum lainnya yang disebutkan di dalam Pasal 38 ayat 1 Statuta Mahkamah Internasional adalah sumber hukum subsider, yaitu keputusan Mahkamah Internasional atau lembaga peradilan terkait dan pendapat para ahli hukum, dimana sumber hukum ini digunakan oleh Majelis hakim dalam memutuskan aspek substantif, dimana dalam hal ini terkait dengan perlindungan lingkungan internasional. Beberapa contoh dari penggunaan sumber-sumber hukum subsider tersebut, yaitu kasus *Nuclear Test* yang dapat diatasi sebelum dilakukan uji kelayakan; pertimbangan konservasi sumber daya perikanan dalam kasus *Iceland Fisheries*; prinsip-prinsip panduan yang berlaku umum dalam kasus *Corfu Channel* dan *North Sea Continental Shelf*; perlindungan lingkungan di masa perang dan konflik bersenjata dalam pendapat yang dikemukakan pada perihal *the legality of the Threat or Use of Nuclear Weapons*; dan norma-norma hukum umum lingkungan internasional dan prinsip-prinsip yang mengatur hukum sungai yang digunakan bersama-sama dalam kasus *Gabcikovo-Nagymaros*.¹³²

Pendapat para ahli hukum yang biasanya dituangkan dalam bentuk tulisan tidak terlalu memainkan peranan penting dalam perkembangan hukum lingkungan internasional, walaupun begitu, resolusi yang dikeluarkan oleh sekelompok ahli hukum yang tergabung dalam *International Law Association* dan *the Institut de Droit International* telah memberikan kontribusi penting dalam kewajiban perjanjian, terutama dalam bidang perairan dan pencemaran udara.¹³³

Sumber-sumber hukum yang dituliskan di dalam Statuta Mahkamah Internasional termasuk ke dalam kategori '*hard law*' dan terdapat sumber hukum

¹³² Ibid., hal. 153.

¹³³ Ibid., hal. 153-154.

di luar *'hard law'* tersebut yang dikategorikan sebagai *'soft law'*.¹³⁴ *'Soft law'* dapat diartikan sebagai komitmen yang tidak mengikat para pihak, dimana komitmen tersebut lahir dalam bentuk deklarasi, resolusi atau beberapa program aksi.¹³⁵ Keberadaan *'soft law'* sangat signifikan dalam perkembangan hukum lingkungan internasional karena disebabkan oleh banyaknya isu-isu hukum lingkungan internasional yang sampai saat ini terus berkembang yang dipengaruhi oleh ekonomi dan pertumbuhan masyarakat.¹³⁶

Hukum lingkungan internasional yang terus berkembang membuat timbulnya ketidakpastian akan adanya resiko yang timbul dari sebuah tindakan yang akan dilakukan. Hal inilah yang ingin dihindari oleh negara-negara dengan membuah *'soft law'*.¹³⁷ Resiko dan ketidakpastian harus dibedakan, dimana ketika resiko menjadi perhatian utama, para pihak belum mengetahui hasil dari perjanjian yang dibuatnya, namun sudah mengetahui kemungkinan yang dihasilkan dari distribusi probabilitas, sehingga para pihak dalam perjanjiannya mengoptimalkan pembagian resiko.¹³⁸ Akan tetapi, apabila kemungkinan-kemungkinan yang dapat terjadi pada dasarnya tidak pasti, dimana hasil dari distribusi probabilitas tidak diketahui sama sekali, sebuah perjanjian yang terperinci tidak begitu memungkinkan dilakukan.¹³⁹

'Soft law' seringkali dikatakan sebagai instrumen yang kurang efektif karena tidak mengikat, namun sifatnya yang tidak mengikat tersebut yang membuatnya lebih mudah dalam menangani permasalahan-permasalahan baru yang muncul di dalam ruang lingkup lingkungan.

¹³⁴ C.M. Chinkin, "The Challenge of Soft Law: Development and Change in International Law" *International and Comparative Law Quarterly*, Vol. 38 (1998): 850.

¹³⁵ Alexandre Kiss dan Dinah Shelton, *Guide to International Environmental Law*, hal. 26.

¹³⁶ Patricia Birnie dan Alan Boyle, *International Law and the Environment*, Second ed., hal .25.

¹³⁷ Kenneth W. Abbott dan Duncan Snidal, "Hard and Soft Law in International Governance" *International Organization* 54 (The IO Foundation and the Massachusetts Institute of Technology, Summer 2000): 442.

¹³⁸ Ibid.

¹³⁹ Ibid.

2.3. Prinsip-Prinsip Hukum Lingkungan Internasional Terkait *Land-Based Sources Pollution*

Prinsip-prinsip hukum internasional digunakan oleh Majelis Hakim dalam menangani kasus-kasus internasional ketika ketiadaan hukum kebiasaan internasional dan perjanjian yang dapat menangani kasus tersebut.¹⁴⁰ Hal yang sama juga dapat diaplikasikan terhadap prinsip-prinsip hukum lingkungan internasional. Berbeda dengan peraturan, prinsip mewujudkan standar hukum yang lebih umum dari komitmen dan tidak menunjuk pada suatu tindakan tertentu.¹⁴¹

Salah satu bentuk dari prinsip-prinsip hukum internasional yang diterapkan ke dalam sebuah deklarasi adalah *Rio Declaration on Environmental and Development* (Deklarasi Rio) yang diadopsi pada tahun 1992 di dalam *UN Conference on Environment and Development*. Deklarasi Rio merupakan pernyataan hak-hak umum dan kewajiban negara-negara yang paling didukung secara universal mengenai lingkungan.¹⁴²

Dalam kaitannya terhadap penanganan pencemaran laut yang diakibatkan oleh *land-based sources*, prinsip-prinsip hukum internasional seperti pembangunan berkelanjutan, *precautionary approach*, *due diligence*, dan *harm foreseeability* memegang peranan penting dalam pembentukan pengaturan-pengaturan terkait *land-based sources*.

2.3.1. Prinsip *Sustainable Development*

Salah satu penyebab tidak dapat digunakannya lagi ekosistem laut secara terus menerus adalah pencemaran laut.¹⁴³ Prinsip *sustainable development* kemudian digunakan dalam mempertahankan lingkungan laut yang bersih, dan

¹⁴⁰ Rebecca M. Wallace, *International Law, Second Ed.*, (London: Sweet & Maxwell, 1992), hal. 24.

¹⁴¹ Bodansky D., "The United Nations Framework Convention on Climate Change: A Commentary" *18 Yale Journal of International Law* 451 (1993): 501.

¹⁴² Patricia Birnie dan Alan Boyle, *International Law and the Environment, Second ed.*, hal. 82.

¹⁴³ Mario Soares, *The Report of the Independent World Commission on the Oceans: The Ocean Our Future*, (Cambridge: Cambridge University Press, 1998), hal. 113.

pantas dikelola dan dimanfaatkan secara optimal sumber dayanya.¹⁴⁴ Oleh karena itu, penggunaan laut dengan pendekatan *sustainable development* akan menekan tingkat pencemaran laut yang ada.

Sustainable development pertama kali diutarakan pada tahun 1987 dalam *Brundtland Report* yang didefinisikan sebagai pembangunan yang ditujukan untuk memenuhi generasi sekarang tanpa mengorbankan kemampuan generasi mendatang untuk memenuhi kebutuhan pada masa tersebut. Terdapat dua konsep yang dapat diambil dari prinsip ini, yaitu:¹⁴⁵

1. Konsep kebutuhan yang lebih ditujukan kepada kaum miskin dunia, dimana kebutuhan mereka harus lebih diutamakan; dan
2. Adanya gagasan pembatasan terhadap pemenuhan kebutuhan di masa sekarang untuk generasi mendatang melalui keberadaan teknologi dan organisasi sosial.

Selain dua konsep tersebut, penerapan prinsip *sustainable development* ke dalam perjanjian-perjanjian internasional mengandung empat elemen penting yang seringkali digunakan dan saling memenuhi, yaitu:¹⁴⁶

1. Perlunya menjaga sumber daya alam untuk kebutuhan generasi mendatang (prinsip *intergenerational equity*);
2. Bertujuan untuk mengeksploitasi sumber daya alam melalui cara-cara yang berkelanjutan, bijaksana, masuk akal, atau sesuai (prinsip penggunaan berkelanjutan);
3. Penggunaan sumber daya alam secara merata menunjukkan bahwa penggunaan yang dilakukan oleh satu negara harus memperhatikan kebutuhan dari negara-negara lain (prinsip penggunaan merata);
4. Perlunya kepastian bahwa pertimbangan-pertimbangan yang memperhatikan lingkungan terintegrasi dengan rencana-rencana ekonomi dan pembangunan lainnya sehingga rencana-rencana tersebut mengambil

¹⁴⁴ David M. Dzizornu, "Four Principles in Marine Environmental Protection: A Comparative Analysis," *Ocean Development and International Law*, Vol. 29 (1998): 97.

¹⁴⁵ Report of the World Commission on Environment and Development (the Brundtland Report), *Our Common Future* (1987), hal. 43.

¹⁴⁶ Philipe Sands, *Principles of International Environmental Law*, Second Ed., hal. 253.

pertimbangan-pertimbangan lingkungan dalam aplikasinya (prinsip integrasi).

Prinsip *sustainable development* dapat disimpulkan sebagai prinsip umum yang menjadi dasar dari prinsip-prinsip lainnya, dimana pengintegrasian antara kebutuhan ekonomi dan lingkungan untuk kemanfaatan bersama merupakan tujuan dari perlindungan lingkungan. Penerapan prinsip ini tidak berbeda dalam hal perlindungan lingkungan laut, terutama penanggulangan pencemaran laut dari *land-based sources*. Seperti yang sudah dijelaskan dalam “aktivitas-aktivitas penyebab *land-based sources*”, aktivitas-aktivitas yang dilakukan di daratnya pada umumnya memiliki kepentingan ekonomi yang sangat tinggi sehingga seringkali tidak memperhatikan keselamatan lingkungan dalam perjalanannya. Aktivitas industri menjadi yang paling berbahaya, dimana kelalaian atau kecurangan yang mungkin dilakukan oleh pelaku aktivitas industri dapat melepaskan bahan-bahan beracun yang termasuk ke dalam *persistent organic pollutants* ke lingkungan laut dan menyebabkan pencemaran. Oleh karena itu, penerapan prinsip *sustainable development* ke dalam penanggulangan pencemaran laut dari *land-based sources* sangat relevan untuk dilakukan.

2.3.2. Prinsip *Foreseeability of Harm*¹⁴⁷

Dari prinsip-prinsip sebelumnya, dapat dikatakan bahwa sebuah negara tidak diperbolehkan menyebabkan atau mengizinkan adanya tindakan pencemaran yang serius atau signifikan yang dapat mempengaruhi wilayah negara lain atau hanya sebatas wilayah laut saja. Prinsip *foreseeability of harm* memberikan jawaban mengenai sejauh mana kewajiban negara-negara untuk melakukan pembatasan peraturan atas resiko yang akan timbul. Resiko-resiko yang mungkin dihadapi oleh negara ketika sebuah tindakan atau aktivitas dilakukan pada satu wilayah merupakan hal yang menjadi perhatian utama dalam penerapan prinsip *foreseeability of harm*. Setelah diketahui resiko-resiko tersebut, maka negara harus mengambil tindakan-tindakan pencegahan sesuai dengan

¹⁴⁷ Patricia Birnie dan Alan Boyle, *International Law and the Environment, Second ed.*, hal. 115.

situasi tersebut. Resiko-resiko tersebut dibedakan pengertiannya pada tiap-tiap konvensi, dimana ada yang menyatakan bahwa resiko yang dimaksud adalah resiko yang kecil kemungkinannya untuk menimbulkan pencemaran dan resiko yang besar kemungkinannya untuk menimbulkan pencemaran. Hal tersebut diungkapkan di dalam *Draft Convention on Prevention of Transboundary Harm*.

Dalam kaitannya dengan *land-based sources*, bahaya yang dapat ditimbulkan oleh beberapa bentuk pencemaran *land-based sources* secara kasat mata dapat dilihat, namun untuk pencemaran *land-based sources* sebenarnya telah ada sebelumnya, seperti *nutrients*¹⁴⁸ dan sedimen¹⁴⁹, bahaya yang ditimbulkannya tidak terlalu signifikan pada jangka waktu yang pendek sehingga tindakan penanggulangannya tidak dapat dilakukan. Di sisi lain, hambatan yang dialami oleh sebuah negara untuk tidak membuat suatu pengaturan mengenai pencemaran dapat menyebabkan tingkat pencemaran yang terus meluas, walaupun dapat dimengerti pula bahwa negara-negara tersebut tidak mau untuk mengeluarkan biaya yang besar untuk suatu hal yang belum pasti.

Prinsip ini tidak hanya dekat dengan prinsip *precautionary approach* yang kemudian akan menunjukkan mengenai standarisasi dan beban pembuktian yang harus ditanggung oleh salah satu pihak, namun juga berdekatan dengan *environmental impact assesment* yang menganalisa permasalahan yang mungkin timbul tersebut.

2.3.3. Prinsip *Precautionary Approach*

Prinsip *precautionary approach* mulai dikenal oleh masyarakat internasional pada pertengahan tahun 1980-an, walaupun sebelum tahun tersebut telah dikenal ketentuan-ketentuan yang mengatur secara nasional, terutama di

¹⁴⁸ Li Daoji dan Dag Daler, "Ocean Pollution from Land-Based Sources: East China Sea, China," Ibid.

¹⁴⁹ Mukhtasor, *Pencemaran Pesisir Laut*, hal. 89.

Jerman Barat.¹⁵⁰ Prinsip *precautionary approach* diatur di dalam Prinsip 15 pada Deklarasi Rio yang bunyinya sebagai berikut:

Dalam hal melindungi keselamatan lingkungan, *the precautionary approach* harus diaplikasikan secara luas oleh negara-negara sesuai dengan kemampuannya masing-masing. Ketika timbul ancaman-ancaman pencemaran yang dapat berdampak luas, alasan kurangnya penelitian mengenai hal tersebut tidak boleh mencegah negara-negara untuk melakukan tindakan yang diperlukan.

Penggunaan istilah *approach* dilakukan oleh Amerika Serikat dan di dalam negosiasi *Convention on Straddling and Highly Migratory Fish Stocks* tahun 1995, dimana hal ini dilakukan karena penggunaan istilah *approach* dianggap lebih fleksibel dan tidak terlalu bersifat membatasi. Adanya perbedaan prinsip ini dianggap signifikan oleh beberapa pihak, dimana istilah prinsip digunakan manakala tingkat ketidakpastian dan resiko kerusakan dengan kerugian yang tinggi, sedangkan istilah *approach* digunakan manakala tingkat ketidakpastian dan resiko kerusakan, serta kerugian tidak terlalu signifikan. Pada prakteknya, penggunaan istilah *precautionary approach* lebih sering digunakan pada perjanjian-perjanjian internasional.

Dalam penjelasannya, Freestone menjelaskan prinsip *precautionary approach* sebagai:

“Tindakan yang inovatif yang mengubah pengaturan mengenai data ilmiah. Penerapannya dibutuhkan ketika timbul bahaya bagi lingkungan, walaupun masih ada ketidakpastian atas efek yang ditimbulkan atas pencemaran tersebut.”¹⁵¹

Harus diperhatikan secara seksama mengenai penggunaan data ilmiah dalam menentukan pengaplikasian prinsip *precautionary approach*. Pada dasarnya, tujuan yang ingin dicapai dari diterapkannya prinsip *precautionary approach* adalah peningkatan penelitian data ilmiah yang lebih komprehensif, sehingga

¹⁵⁰ K. Von Moltke, “‘The Vorsorgeprinzip n West German Environmental Policy’, in Twelfth Report (Royal Commission on Environmental Pollution, UK, HMSO, CM 310, 1988), 57.

¹⁵¹ Freestone, “Precautionary Principle and International Law,” *Journal of Environmental Law*, Vol. 6 (1994): 211.

memberikan kepastian dan ketenangan bagi negara-negara untuk melaksanakan prinsip ini dalam mencegah pencemaran.¹⁵²

Sejak pertengahan tahun 1980-an, prinsip ini kemudian digunakan dalam konvensi-konvensi mengenai perlindungan lingkungan laut, seperti *Convention for the Protection of the Marine Environment of the North-East Atlantic*. Dalam hal penanganan *land-based sources*, prinsip-prinsip *precautionary approach* telah mengambil peran yang signifikan. Dalam *Chapter 17B Agenda 21* yang berjudul perlindungan lingkungan laut membahas langsung mengenai pencemaran laut dari *land-based sources* dan menekankan pada prinsip *precautionary approach* dan *anticipatory* degradasi lingkungan laut.¹⁵³ Cara ini telah menjadi ideologi inti dalam pembangunan berkelanjutan perlindungan lingkungan laut dari *land-based sources*.

Pada tahun 2001, pada kasus MOX, Irlandia mengajukan tuntutan yang menyatakan bahwa Inggris gagal mengaplikasikan prinsip *precautionary approach* untuk melindungi Laut Irlandia dalam menjalankan otoritas pengambilan keputusannya dalam kaitannya dengan konsekuensi langsung dan tidak langsung dari operasi Pabrik MOX dan pergerakan internasional dari bahan radioaktif terkait dengan pengoperasian *MOX Plant*.¹⁵⁴

Status hukum dari prinsip *precautionary approach* akan terus berkembang. Adanya bukti yang cukup dari praktek negara untuk mendukung bahwa prinsip *precautionary approach*, seperti yang dituliskan di dalam Prinsip 15 Deklarasi Rio dan berbagai pengaturan lainnya di tingkat internasional.¹⁵⁵

¹⁵² Gray and Brewers, *Protecting Public Health and the Environment: Implementing the Precautionary Principle*, (Washington DC: Island Press, 1999), hal. 768-771.

¹⁵³ Agenda 21, Paragraf 17, 21.

¹⁵⁴ Kasus MOX Plant (Irlandia v Inggris), *Ireland's Statement of Claim* 25 Oktober 2001, paragraf 34 (*"the precautionary principle is a rule of customary international law which is binding upon the United Kingdom and relevant to the assessment of the United Kingdom's action by reference to UNCLOS*).

¹⁵⁵ *Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-Based Sources 1985; Washington Declaration on Protection of the Marine Environment from Land-Based Activities 1995; Convention for the Protection of the Marine Environment of the North-East Atlantic*

2.3.4. Prinsip *Due-Diligence*

Keberadaan dari prinsip *due-diligence* memiliki kaitan yang sangat kuat dengan prinsip *sic utere tuo ut alienum non laedas* (gunakanlah properti sendiri agar tidak merusak properti pihak lain). Prinsip tersebut dituliskan di dalam Deklarasi Rio pada Prinsip 2 yang menyatakan bahwa:¹⁵⁶

Negara memiliki hak berdaulat untuk mengeksploitasi sumber daya mereka sendiri sesuai dengan kebijakan pembangunan dan pengembangan lingkungannya sesuai dengan piagam PBB dan prinsip-prinsip hukum internasional, dan tanggung jawab untuk memastikan bahwa aktivitas-aktivitas di dalam yurisdiksinya atau kendalinya tidak menyebabkan kerusakan terhadap lingkungan negara lain atau kawasan di luar batas yurisdiksi nasional.

Prinsip inilah yang kemudian menciptakan kewajiban-kewajiban di dalam mengaplikasikan *due-diligence* dalam menganalisa pencemaran.¹⁵⁷

Di dalam *Black's Law Dictionary*, pengertian dari *due-diligence* dinyatakan sebagai sebuah tindakan kehati-hatian yang dilakukan oleh seseorang yang wajar dan bijaksana dalam situasi tertentu yang tidak diukur berdasarkan standar mutlak, namun tergantung kepada fakta-fakta relatif dan keadaan di dalam kasus tertentu.¹⁵⁸ Dalam hukum lingkungan internasional, pengertian ini kemudian diterapkan oleh negara-negara dalam menilai sifat kegiatan tertentu, kemampuan teknis dan ekonomi, serta efektivitas kontrol pada wilayah tertentu untuk mencegah terjadinya pencemaran.¹⁵⁹ Salah satu keuntungan diterapkannya prinsip ini adalah tingkat fleksibilitasnya yang tinggi dan tidak memosisikan negara sebagai satu-satunya pihak yang menanggung pencegahan bahaya.¹⁶⁰ Di sisi lain, kekurangan dari prinsip ini adalah ketidakmampuannya dalam memberikan petunjuk terhadap hal-hal yang harus diatur atau dikontrol di dalam

¹⁵⁶ PBB (III), *Rio Declaration on Environmental and Development 1992* (Deklarasi Rio), Prinsip 2.

¹⁵⁷ Yoshifumi Tanaka, "Regulation of Land-Based Marine Pollution in International Law: a Comparative Analysis between Global and Regional Frameworks," *ZaōRV*, Vol. 66 (2006) hal. 538.

¹⁵⁸ Henry Campbell Black, *Black's law dictionary, Sixth Ed.*, (Minnesota: West Publishing Co., 1990), hal. 457.

¹⁵⁹ Ibid.

¹⁶⁰ Patricia Birnie dan Alan Boyle, *International Law and the Environment, Second ed.*, hal. 112.

legislasi negara dalam menangani setiap kasus.¹⁶¹ Oleh karena itu, standarisasi secara internasional dibutuhkan dalam menghadirkan isi yang konkret dan dapat ditelaah terlebih dahulu.

Standar penilaian tersebut berbeda-beda, misalnya pada *ILC Commentaries on Draft Articles on Prevention of Transboundary Harm from Hazardous Activities* menyatakan bahwa terdapat beberapa faktor yang mempengaruhi penilaian tersebut, seperti besar dari aktivitas yang akan dilakukan, letak dari aktivitas tersebut, keadaan iklim tertentu, bahan yang digunakan dalam menjalankan aktivitas tersebut, dan apakah kesimpulan yang ditarik dari pengaplikasian faktor-faktor tersebut dalam aktivitas tersebut masuk akal.¹⁶² Secara umum, faktor-faktor objektif yang dapat diterapkan oleh negara-negara dalam menjalankan prinsip *due-diligence* adalah tingkat efektivitas pengendalian negara di daerah tertentu di wilayahnya, pentingnya kepentingan yang akan dilindungi dan tingkat prediktabilitas bahaya.¹⁶³ Faktor-faktor tersebut haruslah diterapkan sebelum sebuah pencemaran terjadi sehingga penerapannya pada pencemaran laut sangatlah penting karena seringkali efek dari pencemaran laut tidak dapat dikembalikan seperti semula.¹⁶⁴

Dalam pengendalian *land-based sources*, prinsip *due-diligence* sangatlah penting karena melibatkan berbagai macam bentuk pencemaran, sumber dan pihak yang bertanggung atas terjadinya pencemaran tersebut.¹⁶⁵ Contohnya terkait limbah-limbah yang dihasilkan oleh aktivitas pertanian dan industri. Seperti yang sudah dijelaskan sebelumnya, kedua aktivitas tersebut menyumbangkan limbah anorganik yang tidak mudah terurai secara alami, selain itu aktivitas industri merupakan aktivitas yang menyumbang limbah berjenis logam berat yang merupakan *persistent environmental contaminants*.

¹⁶¹ Ibid., hal. 113.

¹⁶² ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities with Commentaries*, http://untreaty.un.org/ilc/texts/9_7.htm, diunduh pada 20 April 2012.

¹⁶³ Pisillo-Mazzeschi, "The Due Diligence Rule and the Nature of the International Responsibility of States," *German Year Book of International Law* (1992): 35.

¹⁶⁴ Yoshifumi Tanaka, "Regulation of Land-Based Marine Pollution in International Law: a Comparative Analysis between Global and Regional Frameworks," hal. 539.

¹⁶⁵ Ibid.

Prakteknya pada negara-negara penting untuk dilakukan, misalnya di Indonesia itu sendiri dikenal Analisis Dampak Lingkungan Hidup (AMDAL) sebagai satu syarat untuk menjalankan suatu aktivitas industri yang berkaitan dengan pembangunan atau aktivitas yang memiliki dampak penting terhadap lingkungan hidup.¹⁶⁶ Kriteria-kriteria yang dijadikan dasar untuk menentukan apakah dampak yang dihasilkan dari suatu aktivitas itu penting atau tidak juga diatur di dalam peraturan perundang-undangan yang sama, yaitu UU No. 32 Tahun 2009 tentang Pengendalian dan Pengelolaan Lingkungan Hidup. Penilaian terhadap AMDAL tersebut dilakukan oleh Komisi Penilai AMDAL yang memiliki lisensi dari Menteri, Gubernur atau Bupati/Walikota sesuai dengan kewenangannya, dimana Komisi ini berisikan pihak-pihak¹⁶⁷ dari berbagai bidang sehingga dapat meningkatkan mutu dari AMDAL itu sendiri.

Oleh karena itu, prinsip *due-diligence* memiliki keterkaitan yang erat dalam mencegah permasalahan pencemaran laut yang berasal dari *land-based sources* karena aspek penilaian yang didasari oleh faktor-faktor yang fleksibel dengan standarisasi yang berbeda-beda sangat sesuai dengan variasi bentuk pencemaran *land-based sources* yang juga berbeda-beda.

2.4. Beberapa Perjanjian Internasional dan Sumber Hukum Lainnya Terkait *Land-Based Sources Pollution*

Masyarakat internasional semakin menyadari bahwa lautan memiliki sifat saling ketergantungan dan sebagai akibatnya, dampak pencemaran laut dari *land-based sources* yang datang dari satu negara dapat mempengaruhi negara lain melalui gerakan arus laut. Oleh karena itu, kerjasama internasional untuk

¹⁶⁶ Indonesia, *Undang-Undang tentang Perlindungan dan Pengelolaan Lingkungan Hidup*, UU No. 32/2009, LN No. 140 Tahun 2009, TLN No. 5059, Pasal 22 (1).

¹⁶⁷ “Keanggotaan Komisi Penilai AMDAL sebagaimana dimaksud dalam Pasal 29 terdiri atas wakil dari unsur (a) instansi lingkungan hidup; (b) instansi teknis terkait; (c) pakar di bidang pengetahuan yang terkait dengan jenis usaha dan/atau kegiatan yang sedang dikaji; (d) pakar di bidang pengetahuan yang terkait dengan dampak yang timbul dari suatu usaha dan/atau kegiatan yang sedang dikaji; (e) wakil dari masyarakat yang berpotensi terkena dampak; dan (f) organisasi lingkungan hidup.” Ibid., Pasal 30 (1).

menangani hal tersebut penting untuk dilakukan mengingat sifat dari *land-based sources* yang dengan mudah dapat berpindah tempat.

Secara internasional, ketentuan mengenai pencemaran laut yang berasal dari *land-based sources* diatur di dalam hukum kebiasaan internasional yang mana sangat umum dan tidak terlalu spesifik dalam menunjukan pada suatu hal tertentu. Negara-negara pun kemudian mengkristalisasikan hukum kebiasaan internasional ke dalam perjanjian sehingga menghasilkan kerangka hukum yang lebih spesifik untuk menanggulangi permasalahan *land-based sources*.¹⁶⁸

Perjanjian multilateral yang telah diterima oleh masyarakat global adalah UNCLOS, sedangkan perjanjian-perjanjian lainnya mengarah kepada perjanjian multilateral dalam ruang lingkup regional saja. Beberapa perjanjian bilateral juga mengatur mengenai *land-based sources*, namun ketentuan-ketentuan yang diaturnya lebih bersifat umum. Selain itu, kental pula ketentuan-ketentuan hukum lainnya yang dikenal dengan istilah '*soft law*' yang apabila memiliki kekuatan mengikat terhadap negara-negara yang menandatangani akan menjadi sebuah instrumen hukum yang kuat. Dalam sub-bab ini, peneliti akan menjelaskan mengenai perjanjian-perjanjian internasional yang berkaitan dengan *land-based sources* dan menunjukan bahwa pengaturannya secara global belum cukup untuk menanggulangi permasalahan *land-based sources*.

2.4.1. Perjanjian Multilateral

Perjanjian multilateral diterima secara global dan mengatur mengenai pencemaran laut antara lain *Convention on the Prevention of Marine Pollution by Dumping and Other Matters 1972* (Konvensi London Dumping) yang mengatur mengenai kegiatan *dumping* dan *International Convention for the Prevention of Pollution from Ships 1973* dengan Protokolnya pada tahun 1978 (MARPOL 73/78) yang mengatur hal yang lebih umum, yaitu semua kegiatan yang dapat mencemari laut yang bersumber dari kapal. Akan tetapi, dalam hal perjanjian

¹⁶⁸ R.B. Clark, *Marine Pollution*, hal.

multilateral yang bersifat global mengenai pencemaran laut yang disebabkan *land-based sources*, UNCLOS menjadi satu-satunya perjanjian tersebut.

2.4.1.1. *United Nations Convention on the Law of the Sea 1982 (UNCLOS)*

UNCLOS merupakan kerangka komprehensif pertama untuk melindungi dan mereservasi lingkungan laut.¹⁶⁹ Ketentuan mengenai perlidungan dan preservasi lingkungan laut diatur pada Bagian 12 UNCLOS.¹⁷⁰ Pasal 192-206 UNCLOS mengatur pencemaran laut secara umum dan ketentuan-ketentuan khusus untuk sumber-sumber pencemaran laut tertentu diatur pada Pasal 207-222. Pasal-pasal tersebut menetapkan ketentuan umum, dasar pembentukan peraturan regional dan global yang lebih spesifik, serta standar dan praktek untuk mengontrol pencemaran laut dari *land-based sources*.

Pasal 194 (1) mewajibkan negara-negara untuk mengambil semua tindakan yang diperlukan yang sesuai dengan Konvensi ini untuk mencegah, mengurangi dan mengontrol pencemaran laut dari sumber apapun, dimana ketentuan ini dikaitkan dengan praktek *best practicable means* sesuai dengan kemampuan mereka.¹⁷¹ Istilah “sumber apapun” pada pasal tersebut menunjukkan *land-based sources* dapat dikategorikan sebagai salah satu sumber dalam Pasal tersebut. Pasal 194 (2) kemudian mengatur mengenai kewajiban negara-negara untuk mengambil semua langkah yang diperlukan untuk memastikan bahwa kegiatan yang dilakukan dalam kewenangan atau kontrolnya agar tidak menimbulkan pencemaran yang dapat menyebabkan kerusakan (*duty not to transfer*) pada wilayahnya sendiri atau wilayah negara lain, serta pencemaran yang timbul dari peristiwa tersebut tidak menyebar ke luar wilayah, dimana mereka menjalankan hak berdaulatnya sesuai dengan ketentuan di dalam UNCLOS. Selanjutnya, Pasal 194 (3) memberikan penjelasan mengenai ruang lingkup dari kebijakan yang diambil oleh negara untuk memenuhi ketentuan pada

¹⁶⁹ J.L. Charney, “The Marine Environment and 1982 United Nations Convention on the Law of the Sea,” *International Lawyer*, Vol. 28, No. 4 (1994): 884.

¹⁷⁰ PBB (II), Pasal 192-237.

¹⁷¹ J.L. Charney, “The Marine Environment and 1982 United Nations Convention on the Law of the Sea,” hal. 886-887.

Pasal 194 (2), antara lain sumber menyangkut pelepasan zat beracun dan berbahaya, terutama zat-zat pencemaran yang bersifat *persistent* yang datang dari *land-based sources*; zat berbahaya yang bersumber dari atmosfer atau *dumping*.

Pasal 207 (1) kemudian sebagai ketentuan preskriptif yang mengatur mengenai pencemaran laut yang bersumber dari *land-based sources* memberikan definisi dan ruang lingkup dari *land-based sources*, yaitu sungai, muara, jalur pipa dan struktur pembuangan. Pasal tersebut sayangnya tidak memberikan suatu pengaturan khusus mengenai standarisasi minimum internasional yang harus dikeluarkan oleh organisasi internasional, namun kewajiban tersebut diberikan kepada negara-negara untuk mengadopsi aturan dan standar yang disepakati secara internasional, serta prosedur dan praktek yang dianjurkan.¹⁷²

Ketentuan ini mengingatkan akan prinsip *due-diligence* dan kewajiban-kewajibannya, namun prinsip *due-diligence* itu sendiri memberikan fleksibilitas yang tinggi dalam penerapannya dan ketentuan pada Pasal 207 tidak memberikan standarisasi khusus yang mengatur *land-based sources*. Tidak dibentuknya ketentuan yang lebih spesifik mengenai *land-based sources* dimaksudkan oleh negara-negara agar kebebasan yang mereka miliki untuk menangani permasalahan tersebut tetap terjaga karena pada dasarnya pencemaran laut yang disebabkan oleh *land-based sources* lebih mempengaruhi wilayah lokal saja.

Oleh karena itu, UNCLOS tidaklah cukup sebagai perjanjian multilateral yang bersifat global untuk menangani permasalahan pencemaran laut akibat *land-based sources*. UNCLOS itu sendiri secara nyata mendorong negara-negara untuk mengaturnya secara spesifik dalam perjanjian baru yang bersifat global, regional, dan bilateral.

2.4.2. Perjanjian Regional

Perjanjian regional yang banyak dibuat menunjukkan bahwa pencemaran yang bersumber dari *land-based sources* berhasil menimbulkan gangguan dalam

¹⁷² Patricia Birnie dan Alan Boyle, *International Law and the Environment, Second ed.*, hal. 408-409.

ruang lingkup di luar nasional, namun belum secara global.¹⁷³ Perjanjian-perjanjian semacam ini, ruang lingkungannya khusus menangani situasi tertentu pada satu wilayah, sehingga tidak cocok apabila diaplikasikan secara global. Ketentuan-ketentuan di dalam perjanjian regional mengenai *land-based sources* mengatur manajemen permasalahan di laut tertutup atau semi tertutup, manajemen perikanan regional, dan beberapa ketentuan regional untuk mendapatkan informasi berkaitan dengan penelitian akan perikanan.¹⁷⁴ Dalam kaitannya dengan pencemaran laut dari *land-based sources*, istilah regional yang dimaksud adalah tindakan yang dilakukan oleh tiga atau lebih negara dalam menangani laut dan sumber dayanya, dimana yang membedakannya dengan perjanjian multilateral adalah ruang lingkungannya yang lebih sempit.¹⁷⁵

2.4.2.1. *Convention for the Protection of the Marine Environment of the Northeast Atlantic 1992 (OSPAR)*

Perjanjian regional pertama yang mengatur mengenai *land-based sources* adalah *Paris Convention for the Prevention of the Marine Environment from Land-Based Sources* (Konvensi Paris) yang dibuat pada tahun 1974 dan diratifikasi atau diterima oleh 14 negara Eropa. Negara-negara yang menjadi anggota adalah Austria, Belgia, Denmark, Perancis, Jerman, Islandia, Belanda, Norwegia, Portugal, Spanyol, Sweden, dan Britania Raya (Inggris) dengan Finlandia dan Italia sebagai negara observer dengan ruang lingkup dari konvensi tersebut adalah Laut Utara dan sebagian Laut Atlantik Timur Laut, serta Laut Antartika.¹⁷⁶

¹⁷³ R.E. Stein, "The Promotion of Regional Organizations in Managing Man's Environment," *Law, Institutions and the Global Environment*, (New York: Oceania Publication, Inc., 1972), hal. 255.

¹⁷⁴ R.B. Bilder, "The Consequences of Regionalization un the Treaty and Customary Law of the Sea," *Regionalization of the Law of the Sea*, (1978): 32.

¹⁷⁵ L.M. Alexander, "Regionalism at Sea: Concept and Reality," *Regionalism of the Law of the Sea*, (Cambridge: Balinger Pubhshing Co, 1978), hal. 3.

¹⁷⁶ *Convention for the Protection of the Marine Environment of the North-East Atlantic 1992*, OSPAR, Pasal 31.

Keberadaan konvensi ini dahulu diawali dengan terjadinya kasus Torrey Canyon pada tahun 1967 yang menumpahkan 117000 ton minyak ke laut sehingga memaksa negara-negara di Eropa untuk membuat *Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil* 1969 (Perjanjian Bonn), yang kemudian diikuti dengan *Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft* 1974 (Konvensi Oslo).¹⁷⁷ Setelah itu, negara-negara Eropa yang telah menandatangani dua perjanjian internasional tersebut baru menyadari perlunya dibuat perjanjian multilateral yang mengatur mengenai pencemaran laut yang disebabkan oleh *land-based sources*.

Pasal 1 (2) Konvensi Paris mendorong negara-negara anggotanya untuk mengambil tindakan-tindakan yang diperlukan secara individual atau bersama-sama dalam menangani pencemaran laut dari *land-based sources*, serta mengharmonisasikannya dengan peraturan perundang-undangan nasional. Selain itu, Pasal 3(c) memberikan definisi mengenai apa yang dimaksud dengan pencemaran laut dari *land-based sources*, yaitu pencemaran yang terjadi di wilayah laut melalui jalur air, daerah pesisir, baik melalui bawah laut atau pipa, dan struktur buatan manusia yang berada di bawah yurisdiksi negara anggota atau dalam ruang lingkup konvensi.

Konvensi ini memperkenalkan dengan apa yang disebut dengan “*Black List*” dan “*Grey List*”, dimana “*Black List*” merupakan daftar zat-zat yang sangat berbahaya dan diwajibkan bagi negara-negara anggota untuk menghilangkan zat-zat tersebut sama sekali. Sedangkan untuk “*Grey List*”, zat-zat yang termasuk ke dalam daftar tersebut tidak diwajibkan bagi negara-negara untuk dihilangkan, namun lebih kepada pengontrolan selama menimbulkan pencemaran.¹⁷⁸

Pada tahun 1992, pada pertemuan yang dilakukan di Paris pada acara *Oslo and Paris Commissions at Ministerial level* (MMC 1992) dibuatlah *Convention for the Protection of the Marine Environment of the Northeast*

¹⁷⁷http://www.ospar.org/content/content.asp?menu=00350108080000_000000_000000, diunduh 20 April 2012.

¹⁷⁸ Yoshifumi Tanaka, “Regulation of Land-Based Marine Pollution in International Law: A Comparative Analysis Between Global and Regional Legal Frameworks,” hal. 553-554.

Atlantic 1992 (OSPAR). Konvensi ini merefleksikan rekomendasi dari *Stockholm Conference* 1972, Agenda 21 yang dibuat oleh *United Nations Conference on Environment and Development* 1992 (UNCHEDE) dan ketentuan-ketentuan dari hukum kebiasaan internasional seperti yang dituliskan di dalam UNCLOS. Latar belakang dibuatnya konvensi OSPAR untuk menggantikan konvensi Paris dan Oslo adalah konvensi-konvensi tersebut dianggap tidak memiliki pengaturan yang cukup dalam menangani sumber-sumber lain pencemaran laut, sehingga dibuatlah konvensi yang baru dengan ruang lingkup sumber pencemaran laut yang lebih luas dan dampak dari aktivitas manusia di atasnya, memperhitungkan prinsip *precautionary* dan memperkuat kerjasama regional.¹⁷⁹ Konvensi ini mulai berlaku setelah ditandatangani oleh semua anggota (*entry into force*) pada tanggal 25 Maret 1998, dimana pada saat itulah Konvensi Paris dan Oslo sudah tidak lagi berlaku, kecuali keputusan, rekomendasi dan perjanjian-perjanjian lainnya yang diadopsi di bawah Konvensi Oslo dan Paris selama tidak diubah atau dibatalkan oleh Konvensi OSPAR.¹⁸⁰

OSPAR kemudian diratifikasi oleh semua negara anggota yang telah meratifikasi Konvensi Paris dan Oslo, ditambah dua negara, yaitu Swiss dan Luxembourg.¹⁸¹ Konvensi ini menandai peningkatan yang signifikan dalam upaya peningkatan kontrol terhadap *land-based sources* dengan memasukan konsep-konsep yang lebih baru, seperti prinsip *precautionary* dan prinsip *polluter's pay*.¹⁸² Untuk melaksanakan ketentuan tersebut, Konvensi menekankan penerapan program dan langkah-langkah memanfaatkan perkembangan teknologi dari praktek terbaru,¹⁸³ termasuk *Best Available Technology* (BAT), *Best Environmental Practices* (BEP), dan Teknologi Bersih dengan pembentukan program komplementer atau bersama ilmiah.

¹⁷⁹ *Convention for the Protection of the Marine Environment of the North-East Atlantic* 1992, OSPAR, Preamble.

¹⁸⁰ http://www.ospar.org/content/content.asp?menu=00340108070000_000000_000000, diunduh 15 Juni 2012.

¹⁸¹ *Ibid.*, diunduh 20 April 2012.

¹⁸² *Convention for the Protection of the Marine Environment of the North-East Atlantic* 1992, OSPAR, Pasal 2.

¹⁸³ *Ibid.*, Pasal 2, Pasal 3 (a).

Konvensi OSPAR menetapkan beberapa pendekatan baru lainnya untuk mengontrol pencemaran laut dari *land-based sources* dengan tidak memberikan kewajiban khusus sehubungan dengan kategori tertentu dari zat berbahaya, melainkan melalui kewajiban-kewajiban di bawah kewajiban umum dari negara anggota untuk mencegah dan menghilangkan pencemaran laut dari *land-based sources*,¹⁸⁴ sampai memerlukan penggunaan BAT dan BEP.¹⁸⁵

2.4.2.2. *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean 1995 (Konvensi Barcelona) dan Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities 1996 (Protokol Syracuse)*

Sejak tahun 1970-an, Laut Mediterania memiliki reputasi yang buruk sebagai salah satu Laut dengan tingkat pencemaran yang tinggi. Walaupun telah dilakukan tindakan-tindakan penanggulangan selama dua puluh tahun, Laut Mediterania tetap saja dicemari dengan jutaan ton limbah industri, bersamaan dengan zat-zat kimia dan padat sisa aktivitas pertanian, dimana semua pencemaran tersebut datang dari tujuh sungai dari wilayah sekitar Laut Mediterania.¹⁸⁶

Pada tahun 1983, seorang peneliti laut di Teluk Trieste (Utara Adriatik) menyaksikan hampir 90% ikan, kerang, dan mahluk invertebrata mati dalam waktu 1 minggu karena kekurangan oksigen.¹⁸⁷ Pencemaran ini tidak menunjukkan adanya penurunan sejak tahun 1970-an, dimana pada tahun 1990, selain limbah domestik dan industri, hampir 130000 metrik ton logam berat mencemari Laut Mediterania, termasuk di dalamnya adalah merkuri, timah, kromium, seng, tembaga, nikel, dan kadmium, menemukan jalannya ke laut

¹⁸⁴ Ibid., Pasal 3.

¹⁸⁵ Ibid., Annex 1 Pasal 1 (1).

¹⁸⁶ Don Hinrichsen, *Coastal Water of the world: trends, threats, and strategies*, (Washington DC: Island Press, 1998), hal. 78.

¹⁸⁷ Ibid., hal. 79.

melalui sungai dan aliran air, walaupun sepertiganya datang dari endapan atmosfer.¹⁸⁸

Logam berat seperti yang telah peneliti jelaskan sebelumnya merupakan *persistent environmental contaminants* yang terus naik ke atas rantai makanan dan terus bertambah di dalam endapan sedimen. Keberadaan logam berat tersebut dapat menimbulkan bahaya untuk jangka panjang terhadap kehidupan laut dan juga kesehatan manusia yang sering memakan makanan laut bersamaan dengan itu, dimana hal ini diperburuk dengan yang Laut Mediterania termasuk sebagai ‘*enclosed or semi-enclosed sea*’ (tertutup atau semi-tertutup)¹⁸⁹ dengan luas 3.000.000 km² yang membuat negara-negara yang mengelilingi laut tersebut memiliki resiko tinggi untuk tercemar.¹⁹⁰

Convention for the Protection of the Mediterranean Sea Against Pollution 1976 kemudian dibuat sebagai salah satu program mengenai *land-based sources* yang dibuat oleh UNEP.¹⁹¹ Pengamandemen kemudian dilakukan pada tahun 1995 dan mengubahnya menjadi *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean 1995* (Konvensi Barcelona).¹⁹² Amendemen tersebut mulai berlaku pada tanggal 9 Juli 2004.¹⁹³ Konvensi Barcelona membahas berbagai sumber pencemaran laut termasuk *land-based sources*. Secara umum Konvensi ini mewajibkan negara-negara anggota

¹⁸⁸ Ibid.

¹⁸⁹ “*Enclosed or semi-enclosed sea means a gulf or basin or sea surrounded by two or more States and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States,*” PBB (II), Pasal 122.

¹⁹⁰ *Major Issue in the Management of Enclosed or Semi-Enclosed Seas, With Particular Reference to the Caribbean Sea*, http://www.google.co.id/url?sa=t&rct=j&q=&esrc=s&source=web&cd=5&ved=0CGMQFjAE&url=http%3A%2F%2Fwww.eclac.org%2Fpublicaciones%2Fxm1%2F1%2F20811%2FL0024.pdf&ei=6fHaT_feH8bwrQe7tJiTCQ&usg=AFQjCNEgOphzC-YeKxhlobCyhlk4XzV3A&sig2=62XeyuoVzpnCNYKRWNfgzg, diunduh 15 Juni 2012.

¹⁹¹ <http://www.unepmap.org/index.php?module=content2&catid=001001001>, diunduh 21 April 2012.

¹⁹² <http://www.unep.org/regionalseas/programmes/unpro/mediterranean/default.asp>, diunduh 12 April 2012.

¹⁹³ <http://www.ecolex.org/ecolex/ledge/view/RecordDetails;DIDPFDSIjsessionid=D221C0A0B0E8C25D6E87D5B05846537E?id=TRE-001284&index=treaties>, diunduh 15 Juni 2012.

yang tinggal di sekitar Laut Mediterania¹⁹⁴ untuk mengambil tindakan kontrol yang tepat, bersama-sama atau secara individu, untuk semua jenis dan sumber polusi.¹⁹⁵ Para Pihak yang ditunjuk UNEP bertanggung jawab atas implementasi tersebut, termasuk di dalamnya penerapan prinsip *polluters-pay*, *precautionary*, *environmental impact assessment*, *best available techniques*, dan *best environmental practice* untuk mengendalikan sumber-sumber pencemaran laut.¹⁹⁶

Negara-negara yang telah meratifikasi Konvensi Barcelona yang telah diamandemen pada tahun 1995 adalah Albania, Algeria, Kroasia, Siprus, *European Union*, Mesir, Perancis, Yunani, Israel, Italia, Libia, Malta, Monako, Montenegro, Moroko, Slovenia, Spanyol, Siria, Tunisia, dan Turki.¹⁹⁷

Konvensi Barcelona kemudian mendefinisikan *land-based sources* sumber pencemaran laut dari pembuangan yang langsung ke laut atau melalui sungai, kanal, saluran air, air bawah tanah, dan aliran tanah lainnya, serta yang diangkut melalui atmosfer, dimana sifat dari zat-zat yang dibuangnya beracun, sulit untuk terurai di dalam air, dan menimbulkan *bioaccumulation*^{198, 199}

Pengaturan yang lebih terperinci mengenai bahan-bahan apa saja yang termasuk ke dalam kategori *land-based sources* berikut dengan standarisasi sistem penopangnya kemudian diatur di dalam protokolnya. Protokol ini kemudian dikenal dengan sebutan *the Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources* 1980 (Protokol

¹⁹⁴ "Wilayah Laut Mediterania berarti perairan laut dari Laut Mediterania yang termasuk teluk dan Laut, berbatasan di barat dengan melewati meridian melalui Mercusuar Cape Spartel, pada mulut dari selat dari Gibraltar, dan untuk ke timur oleh batas-batas selatan Selat Dradanelles di antara Mehmetcik dan mercusuar Kumkale," *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean* 1995, (Konvensi Barcelona), Pasal 1 (1).

¹⁹⁵ Konvensi Barcelona, Pasal 4.

¹⁹⁶ Ibid.

¹⁹⁷ *Signatures and Ratifications of the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols as at 31 December 2011*, <http://195.97.36.231/databases/webdocs/BCP/StatusOfSignaturesAndRatifications.doc>, diunduh 21 April 2012.

¹⁹⁸ "Peningkatan progresif jumlah zat dalam organisme atau bagian dari organisme yang terjadi karena tingkat konsumsi melebihi kemampuan organisme untuk menghapus substansi dari tubuh," <http://sis.nlm.nih.gov/enviro/iupacglossary/glossaryb.html>, diunduh 21 April 2012.

¹⁹⁹ Ibid., Pasal 8.

Athena) yang merupakan protokol pertama sebagai bagian dari UNEP *Regional Seas Protocol* yang dibuat pada tanggal 17 Mei 1980 dengan tujuan mengimplementasikan Pasal 8 Konvensi Barcelona 1978.²⁰⁰ Dengan diperbaharunya Konvensi Barcelona pada tahun 1995, Protokol Athena pun juga ikut diperbaharui dan menjadi *Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities 1996* yang dilakukan di Syracuse (Protokol Syracuse). Protokol Syracuse yang telah diamandemen pada tahun 1996 kemudian diratifikasi oleh Albania, Kroasia, Siprus, *European Union*, Perancis, Yunani, Israel, Italia, Malta, Monaco, Montenegro, Moroko, Slovenia, Spanyol, Siria, Tunisia, dan Turki yang mulai berlaku pada tanggal 11 Mei 2008.²⁰¹

Ruang lingkup dari Konvensi Barcelona hanya terbatas pada wilayah laut saja, namun ketentuan pada Pasal 1 (2) memberikan kewenangan kepada protokol-protokol yang mengacu kepada Konvensi tersebut untuk memperluas ruang lingkup pengimplementasiannya. Dalam protokol ini dinyatakan bahwa selain wilayah laut yang disebutkan di dalam Pasal 1 (1), Protokol Syracuse juga mencakup teluk hidrologi Laut Mediterania; perairan pada sisi darat dari garis pangkal, dimana lebar laut teritorial diukur luasnya (dalam hal aliran air, sampai dengan batas air tawar); air payau, air asin pesisir termasuk rawa-rawa dan laguna pantai, serta air tanah yang tersambung dengan Laut Mediterania.²⁰²

Kewajiban-kewajiban dalam Protokol Syracuse mengharuskan negara anggotanya untuk melakukan eliminasi aktivitas-aktivitas pencemaran yang bersumber dari *land-based sources*, dimana aktivitas-aktivitas yang dimaksud diatur di dalam ANNEX 1.²⁰³ Selain ANNEX 1 yang berisikan elemen-elemen yang dikategorikan membahayakan lingkungan laut dari *land-based sources*,

²⁰⁰ <http://www.unep.ch/regionalseas/legal/conlist.htm>, diunduh pada 21 April 2012.

²⁰¹ *Signatures and Ratifications of the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols as at 31 December 2011*, Ibid.

²⁰² *Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities 1996* (Protokol Syracuse), Pasal 3.

²⁰³ Ibid., Pasal 5 (1).

Protokol Syracuse juga berisikan ANNEX 2 mengenai elemen-elemen yang harus diperhatikan berkaitan dengan pembuangan limbah dan ANNEX 3 yang berkaitan dengan pengaplikasian ketentuan mengenai pencemaran melalui atmosfer berdasarkan Protokol ini.²⁰⁴

Ruang lingkup dari pengaplikasian Protokol ini dapat diperluas di luar para anggota secara terbatas, namun Protokol ini tidak memberikan sanksi, lebih kepada himbauan, apabila negara di luar anggota tersebut tidak melakukan kerjasama dalam menanggulangi pencemaran yang berasal dari *land-based sources*.²⁰⁵ Berkaitan dengan sanksi dan penyelesaian sengketa yang timbul dari pencemaran laut, Protokol ini lebih menekankan kepada negosiasi dan pembicaraan diplomatik.²⁰⁶ Bahkan ketika jalan-jalan tersebut tidak disetujui, penyelesaiannya adalah dengan membahas permasalahan pencemaran tersebut melalui pertemuan-pertemuan negara-negara anggota yang dilakukan secara rutin.²⁰⁷ Ketentuan ini berbeda apabila dibandingkan dengan ketentuan di dalam Konvensi Barcelona yang memberikan pilihan bagi negara-negara anggotanya untuk mengajukan sengketa ke lembaga arbitrase, walaupun pengajuan ke lembaga arbitrase tidaklah diwajibkan.²⁰⁸

Konvensi Barcelona dan Protokol Syracuse telah berhasil menghasilkan suatu perjanjian regional yang komprehensif dengan memberikan penjelasan yang terperinci mengenai ruang lingkup dan elemen-elemen yang harus diperhatikan oleh negara-negara anggota untuk dijadikan acuan. Di sisi lain, penerapan dari Konvensi Barcelona dan Protokol Syracuse tidak dapat dilakukan secara penuh karena tidak adanya sanksi yang kongkrit yang dituliskan di dalam kedua perjanjian tersebut. Oleh karena itu, perubahan dan pengembangan Konvensi Barcelona beserta Protokol Syracuse masih perlu untuk dilakukan.

²⁰⁴ Ibid., Annex 1, Annex 2, Annex 3.

²⁰⁵ Ibid., Pasal 11.

²⁰⁶ Ibid., Pasal 12 (1).

²⁰⁷ Ibid., Pasal 12 (2) dan Pasal 14 (2).

²⁰⁸ Konvensi Barcelona, Pasal 18 dan Pasal 1, Annex A.

2.4.2.3. *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region 1983 (Konvensi Cartagena) dan Protocol Concerning Pollution from Land-Based Sources and Activities to the Convention for the Protection and Development of the Wider Caribbean Region 1999*

Laut Karibia berisikan dua puluh empat pulau dan wilayah, serta 12 wilayah negara yang menjorok kesana. Negara-negara yang berada pada wilayah tersebut bervariasi, namun didominasi oleh negara-negara berkembang bekas jajahan zaman kolonial dahulu.²⁰⁹ Negara-negara berkembang di Laut Karibia didominasi oleh negara-negara eksotis yang menarik wisatawan dari mancanegara untuk datang kesana, seperti Puerto Rico, Barbados, Bahama, Jamaica, Grenada, dan beberapa negara lainnya. Negara-negara tersebut menaruh tumpuan hidup negaranya pada pariwisata. Laut Karibia termasuk ke dalam kategori ‘*semi-enclosed sea*’.²¹⁰

Peningkatan pariwisata dapat meningkatkan ekonomi suatu negara, namun di sisi lain, pariwisata yang tidak terorganisir dengan baik dapat menciptakan pencemaran laut, sehingga membahayakan organisme-organisme laut yang tinggal di Laut Karibia. Menurut Alfred Taylor, seorang warga Barbados yang juga merupakan Presiden Asosiasi Hotel Karibia menunjukkan hal tersebut dengan mengatakan:²¹¹

Pariwisata merupakan masa depan wilayah Karibia. Namun di saat yang sama, kita harus lebih berhati-hati akan keselamatan lingkungan kita. Pembuangan sampah padat kini menjadi sebuah permasalahan serius. Perairan yang kita miliki menjadi tercemar. Terumbu karang yang ada mulai mati secara perlahan. Di banyak pulau di Laut Karibia, letak dari hotel-hotel yang dibangun terlalu dekat dengan laut. Pencemaran yang ditimbulkan dari saluran pembuangan membunuh terumbu karang yang dapat menyebabkan erosi pantai. Apabila kita tidak berhati-hati dalam bertindak, kita akan membangun begitu banyak hotel tanpa ada pantai dan wisatawan.

²⁰⁹ Marine litter in the Wider Caribbean Regional overview and proposed Action Plan, Introduction, <http://www.cep.unep.org/about-cep/amep/marine-litter-in-the-wider-caribbean-a-regional-overview-proposed-action-plan>, diunduh 22 April 2012.

²¹⁰ *Major Issue in the Management of Enclosed or Semi-Enclosed Seas, With Particular Reference to the Caribbean Sea*, Ibid.

²¹¹ Don Hinrichsen, *Coastal Water of the world: trends, threats, and strategies*, hal. 108.

Pernyataan tersebut benar adanya, apabila tidak ada tindakan penanggulangan pencemaran yang dilakukan oleh negara-negara yang telah mengeksploitasi wilayah tersebut, tidak ada lagi pantai yang dapat digunakan untuk menarik wisatawan.

Selain limbah yang datang dari kota, aktivitas industri juga menyumbangkan limbah organik yang kemudian menimbulkan eutrofikasi berhasil membunuh banyak organisme laut yang tinggal di Laut Karibia.²¹² Organisme laut mengalami kekurangan oksigen akibat keberadaan limbah-limbah tersebut, sehingga kehabisan nafas dan mati. Zat-zat yang dibuang oleh aktivitas industri seperti timah, kadmium, merkuri dan tembaga ditemukan di sedimentasi dasar di Muara Coatzacoalcos di Teluk Meksiko.²¹³

Pada tahun 1976, UNEP bekerjasama dengan Komisi Ekonomi Amerika Latin untuk mendirikan proyek kerjasama dalam mengembangkan rencana manajemen berkelanjutan di lingkungan Karibia. Kerjasama inilah yang kemudian melahirkan *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region 1983* (Konvensi Cartagena).²¹⁴ Konvensi ini diratifikasi atau diterima oleh Antigua dan Barbuda, Bahama, Barbados, Belize, Kolombia, Kosta Rica, Kuba, Dominika, Republik Dominika, Perancis, Grenada, Guatemala, Guyana, Jamaika, Meksiko, Belanda, Panama, Trinidad dan Tobago, Inggris, Amerika Serikat, dan beberapa negara kecil lainnya yang memiliki kepentingan pada wilayah tersebut.²¹⁵

Wilayah laut yang termasuk ke dalam Konvensi Cartagena adalah lingkungan laut dari Teluk Meksiko, Laut Karibia dan wilayah yang berdekatan dengan Samudera Atlantik, di selatan 30° lintang utara dan dalam jarak 200 mil

²¹² Ibid.

²¹³ Ibid.

²¹⁴ <http://www.cep.unep.org/about-cep/amep/marine-litter-in-the-wider-caribbean-a-regional-overview-proposed-action-plan>, Introduction, diunduh 22 April 2012.

²¹⁵ <http://www.cep.unep.org/cartagena-convention/about-the-cartagena-convention#status>, diunduh 22 April 2012.

laut dari Pantai Atlantik Amerika.²¹⁶ Tidak seperti Konvensi Barcelona, Konvensi ini tidak menyatakan adanya ketentuan yang memperbolehkan perluasan dari wilayah ini pada Protokol-Protokol selanjutnya.

Protokol yang pertama kali dibuat adalah *Protocol Concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region* pada tahun 1986, kemudian diikuti dengan *Protocol Concerning Specially Protected Areas and Wildlife* (SPAW) in the Wider Caribbean Region pada tahun 1990. Protokol mengenai *land-based sources* lahir 9 tahun kemudian dan *entry into force* baru-baru ini, yaitu pada tahun 2010 yang disebut dengan *Protocol Concerning Pollution from Land-Based Sources and Activities*. Sayangnya, negara-negara yang baru meratifikasi Protokol ini tidaklah banyak, yaitu Antigua dan Barbuda, Bahama, Belize, Perancis, Guyana, Panama, Trinidad dan Tobago, dan Amerika Serikat.²¹⁷

Dalam Protokol mengenai *land-based sources* tersebut, *land-based sources* didefinisikan sebagai:²¹⁸

sumber-sumber kegiatan yang menyebabkan pencemaran area konvensi dari pembuangan di area pesisir atau dari sungai, muara, gedung-gedung yang didirikan di pesisir, struktur pembuangan, atau sumber lainnya dalam wilayah salah satu pihak, termasuk pula deposisi dari atmosfer.

Definisi tersebut tidak jauh berbeda dengan apa yang dinyatakan di dalam Protokol Syracuse yang juga memasukan atmosfer sebagai salah satu perantara yang menyebabkan pencemaran laut dari *land-based sources*.

Protokol ini juga menggunakan prinsip-prinsip yang tidak jauh berbeda dengan Protokol Syracuse dari Konvensi Barcelona, terutama mengenai penggunaan *Best Available Technology* (BAT) dan *Best Environmental Practices* (BEP), hanya saja istilah yang digunakan adalah *Best Currently Available Techniques, Practices, or Methods* dalam kategori *Most Appropriate*

²¹⁶ *Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region 1983* (Konvensi Cartagena), Pasal 2 (1).

²¹⁷ <http://www.cep.unep.org/about-cep/amep/marine-litter-in-the-wider-caribbean-a-regional-overview-proposed-action-plan>, Introduction, diunduh 22 April 2012.

²¹⁸ *Protocol Concerning Pollution from Land-Based Sources and Activities (of the Wider Caribbean) 1999*, Pasal 1 (d).

Technology.²¹⁹ Sama dengan ketentuan di dalam Konvensi dan Protokol sebelumnya, Protokol ini mengharuskan kerjasama oleh negara-negara anggota, baik secara multilateral maupun bilateral untuk melakukan tindakan-tindakan pengendalian dalam mencegah dan menanggulangi pencemaran laut akibat dari *land-based sources*.²²⁰

Mengenai ketentuan-ketentuan yang lebih terperinci pada bahan-bahan, zat-zat, ataupun aktivitas-aktivitas yang berkaitan dengan *land-based sources*, Protokol ini menjadi yang paling komprehensif dan terperinci, apabila dibandingkan dengan Protokol-Protokol sejenis.²²¹ Pada ANNEX 1, ketentuannya tidak jauh berbeda dengan ketentuan yang diatur di dalam ANNEX 1 Protokol ANNEX 1, yaitu mengenai kategori sumber, aktivitas, dan polutan yang terkait dengan *land-based sources*.²²² Selain ANNEX 1 yang mengatur secara umum, Protokol ini juga berisikan tiga ANNEX lainnya yang mengatur secara komprehensif mengenai baku mutu lingkungan, air pembuangan, dan limbah pertanian.

Protokol mengenai *land-based sources* pada Konvensi Cartagena menunjukkan bahwa ketentuan yang terperinci mengenai penanggulangan *land-based sources* dapat dimasukkan ke dalam sebuah perjanjian multilateral yang bersifat regional. Pada kenyataannya, Protokol ini memang membutuhkan waktu yang lama sejak tahun 1999 sampai dengan waktu *entry into force* pada tahun 2010.

2.4.3. Perjanjian Bilateral

Perjanjian bilateral adalah perjanjian yang dilakukan oleh dua pihak.²²³ Perjanjian bilateral memiliki kekuatan mengikat yang kuat karena ruang

²¹⁹ Ibid., Pasal 1 (e)

²²⁰ Ibid., Pasal 3.

²²¹ <http://www.cep.unep.org/cartagena-convention/lbs-protocol/protocol-concerning-pollution-from-land-based-sources-and-activities>, diunduh 22 April 2012.

²²² *Protocol Concerning Pollution from Land-Based Sources and Activities 1999*, ANNEX 1.

²²³ Sumaryo Suryokusumo, *Hukum Perjanjian Internasional*, hal. 13.

lingkupnya hanya di antara kedua belah pihak tersebut, sehingga tidak sulit untuk saling menjaga dan mengingatkan pengimplementasian dari perjanjian tersebut, walaupun di sisi lain sering timbul penafsiran yang berbeda.²²⁴ Dalam bagian ini, tidak hanya dijelaskan mengenai perjanjian bilateral pada umumnya, namun juga ketentuan mengenai *memorandum of understanding* (MOU) yang sifatnya sedikit berbeda. Pihak-pihak dalam perjanjian ini menunjukkan bahwa perjanjian-perjanjian semacam ini telah ada di beberapa bagian di belahan dunia. Selain itu, dua dari tiga perjanjian di bawah ini mengacu kepada sebuah konferensi maupun konvensi yang telah ditandatangani oleh para pihak dalam konferensi maupun konvensi tersebut.

2.4.3.1. *Agreement between the Government of the Russian Federation and the Government of People's Republic of China on cooperation in the sphere of environmental protection 1994*

Perjanjian ini dibuat oleh dua negara yang terletak di utara Benua Asia, yaitu Rusia dan Republik Rakyat Cina pada tahun 1994. Kedua negara tersebut terkenal dengan paham sosialis yang mereka anut, sehingga bukanlah sesuatu yang aneh untuk mereka bekerjasama. Selain itu, posisi mereka yang berdekatan dan posisi dari Laut Cina Timur dan Laut Vostok yang saling berkesinambungan mendukung dibuatnya perjanjian ini.²²⁵

Pada bagian pembukaan, perjanjian ini memasukan *Rio de Janeiro Conference 1992* sebagai salah satu bahan pertimbangannya,²²⁶ sehingga bukan sesuatu hal yang aneh untuk melihat adanya prinsip-prinsip hukum lingkungan

²²⁴ Hal ini dikemukakan oleh C.G. Fenwick dalam *International Law, Fourth Edition* sebagaimana dikutip dalam Sumaryo Suryokusumo, *Hukum Perjanjian Internasional*, (Jakarta: PT Tatanusa, 2008), hal. 15.

²²⁵ <http://www.worldatlas.com/webimage/countrys/as.htm>, diunduh pada 24 April 2012.

²²⁶ Federasi Rusia dan Republik Rakyat Cina, *Agreement between the Government of the Russian Federation and the Government of People's Republic of China on cooperation in the sphere of environmental protection 1994*, Preamble, Paragraf 7.

internasional di dalam perjanjian ini, dimana salah satu prinsipnya adalah prinsip antar generasi²²⁷ dan prinsip penggunaan teknologi bersih²²⁸.

Perjanjian ini lebih memusatkan kepada kerjasama antara dua negara dalam mengembangkan teknologi untuk melindungi lingkungan secara umum, namun bentuk-bentuk kerjasama yang dinyatakan di dalam Pasal 2 lebih condong kepada pencegahan pencemaran laut dari darat. Dalam bentuk-bentuk kerjasama tersebut, hal-hal seperti pengelolaan dan perlindungan aliran air yang terintegrasi, termasuk aliran air yang melewati beberapa negara, perlindungan terhadap lingkungan kota dan daerah industri, dan perlindungan yang diberikan terhadap lingkungan laut di zona barat laut Samudera Pasifik, sebagai bagian laut yang terintegrasi.²²⁹ Aliran air yang terintegrasi, kota, dan daerah industri menjadi sumber-sumber pencemaran laut dari *land-based sources*.

Walaupun perjanjian ini menekankan kepada kerjasama antar negara untuk kemudian membuat semacam *joint operation project* melalui pertukaran informasi dan ilmu pengetahuan mengenai hal tersebut, perjanjian antara Federasi Rusia dengan Republik Rakyat Cina tersebut hanya berisikan hal-hal yang umum saja untuk dapat digunakan sebagai kerangka berpikir dari perjanjian-perjanjian setelahnya.

2.4.3.2. *Memorandum of Understanding Between the United State of America and Brazil regarding Environmental Cooperation 1990*

Perjanjian kali ini dibuat ke dalam bentuk *memorandum of understanding* (MOU) yang merupakan salah satu bentuk perjanjian yang kekuatan mengikatnya tidak sekuat bentuk perjanjian lainnya. Walaupun begitu, MOU tetap dianggap penting dalam kerjasama antar negara. Dalam hal ini, para pihak di dalam MOU ini adalah Amerika Serikat dan Brazil pada tahun 1990. Isi dari perjanjian ini lebih menekankan kepada kerjasama antar organisasi pemerintah yang bergerak di bidang perlindungan lingkungan, yaitu *Environmental Protection Agency*

²²⁷ Ibid., Paragraf 2.

²²⁸ Ibid., Pasal 2 (4).

²²⁹ Ibid., Pasal 2.

(EPA) yang berasal dari Amerika Serikat dengan *Secretariat of the Environment of the Presidency of the Federative Republic of Brazil* (SEMAM) dan *Brazilian Institute of Environment and Renewable Natural Resource* (IBAMA) yang berasal dari Brazil.²³⁰

Pada pembukaannya, perjanjian ini menekankan kepada pembagian tugas di antara kedua organisasi pemerintah tersebut, yaitu EPA yang bertanggungjawab terhadap pengimplementasian hukum federasi yang dibuat untuk melindungi lingkungan di Amerika Serikat, sedangkan SEMAM bertanggung jawab terhadap perencanaan, koordinasi, dan supervisi terhadap kebijakan nasional yang berkaitan dengan lingkungan, serta IBAMA sebagai lembaga federal bertanggung jawab untuk mengimplementasikan “Kebijakan Nasional Brazil Mengenai Lingkungan” tersebut.

Perjanjian ini juga tidak memusatkan perhatiannya pada pengendalian pencemaran laut dari *land-based sources*, namun hal-hal yang termasuk ke dalam kewajiban kerjasama, seperti pencemaran udara, pencemaran air, pencemaran laut, lingkungan perkotaan,²³¹ adalah hal-hal yang berkaitan dengan sumber-sumber pencemaran dari *land-based sources*.

Tidak jauh berbeda dengan perjanjian yang dibuat antara Federasi Rusia dengan Republik Rakyat Cina, perjanjian ini juga mengedepankan adanya *joint operation project*. Kerjasama yang mereka lakukan termasuk pertukaran ilmuwan, insinyur, sarjana, spesialis, dan delegasi, serta sampel, material, data dan instrumen untuk percobaan, evaluasi, dan tujuan lainnya.²³²

Hal menarik yang diatur di dalam perjanjian ini adalah mengenai hak kekayaan intelektual berkaitan dengan pemberian kerjasama dalam bentuk ilmiah dan teknologi.²³³ Adanya pengaturan mengenai hak kekayaan intelektual menunjukkan pengambilan keuntungan dalam pengaplikasian kerjasama tersebut.

²³⁰ Amerika Serikat dan Brazil, *Memorandum of Understanding Between the United State of America and Brazil regarding Environmental Cooperation 1990*, Preamble, Paragraf 1.

²³¹ Ibid., Pasal 3.

²³² Ibid., Pasal 4.

²³³ Ibid., Pasal 8.

2.4.3.3. *Agreement on Environmental Cooperation Between the Government of the Republic of Turkey and the Government of Georgia 1997*

Perjanjian antara Republik Turki dengan Republik Georgia ini dilakukan dengan alasan kedua negara sama-sama berbagi Laut Hitam. Laut Hitam itu sendiri sudah memiliki Konvensi yang mengatur mengenai pengendalian pencemaran lingkungan pada wilayah tersebut,²³⁴ protokol mengenai *land-based* pun juga telah dibuat untuk mengatur lebih terperinci.²³⁵ Selain itu, Konvensi Laut Hitam menginstruksikan kepada negara-negara anggotanya untuk mengadopsi perjanjian bilateral di antara mereka dengan harapan memaksimalkan kerjasama dalam pengendalian pencemaran lingkungan laut.²³⁶ Maka dari itu, Republik Turki dan Republik Georgia membuat perjanjian ini.

Berbeda dengan dua perjanjian sebelumnya, perjanjian ini secara eksplisit mengatur mengenai pencemaran laut dari *land-based sources*.²³⁷ Kedua belah pihak menekankan kepada *land-based sources* melalui aliran air, dimana peningkatan mutu air tanah, pantai, dan minum, serta pengaplikasian sistem pembuangan domestik dan industrial yang aman.²³⁸ Walaupun begitu, perjanjian ini tidak hanya berpusat mengenai pencemaran laut dari *land-based sources*, dimana kerjasama-kerjasama lain seperti, perlindungan terhadap *biological diversity*,²³⁹ perlindungan satwa yang akan punah²⁴⁰ serta *dumping*²⁴¹ juga menjadi perhatian dalam perjanjian ini.

²³⁴ *Convention on the Protection of the Black Sea Against Pollution 1992*(Konvensi Bucharest).

²³⁵ *Protocol on Protection of the Black Sea Marine Environment Against Pollution from Land-Based Source 1992*.

²³⁶ Konvensi Bucharest, Pasal 3.

²³⁷ *Agreement on Environmental Cooperation Between the Government of the Republic of Turkey and the Government of Georgia 1997*, Pasal 3 (2).

²³⁸ *Ibid.*, Pasal 3 (3).

²³⁹ *Ibid.*, Pasal 3 (4).

²⁴⁰ *Ibid.*, Pasal 3 (5).

²⁴¹ *Ibid.*, Pasal 3 (11).

Bentuk kerjasama yang diinginkan di dalam perjanjian ini adalah dengan melakukan pertukaran informasi dan ilmu pengetahuan mengenai hal tersebut, selain itu, perjanjian ini juga mendorong kedua negara untuk membuat *joint operation project*, sama halnya dengan dua perjanjian sebelumnya. Sayangnya, perjanjian ini tidak mengatur mengenai pengendalian pencemaran laut secara terperinci, sehingga ketentuan-ketentuan semacam itu akan diatur di kemudian hari.

2.4.4. Ketentuan Hukum Internasional Lainnya

Ketentuan hukum internasional lainnya dalam hal ini adalah apa yang disebut dengan *soft law*. Instrumen ini relatif baru sehubungan dengan pertumbuhan badan perjanjian internasional antar negara. Mereka menawarkan strategi, memberlakukan kewajiban dengan cara yang kurang tepat dan fleksibel, serta dibentuk oleh pedoman normatif, namun tidak dibatasi oleh peraturan yang tepat.²⁴² Walaupun begitu, *soft law* telah memainkan peran yang penting dalam perkembangan hukum lingkungan internasional.

2.4.4.1. *Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land Based Sources 1985 (Montreal Guidelines)*

Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-Based Sources 1985 (Montreal Guidelines) merupakan inisiatif yang dibuat oleh UNEP yang diadopsi pada tahun 1985. Tujuan dari dibuatnya *Montreal Guidelines* adalah untuk memberikan bantuan bagi pemerintah dalam mengembangkan, terutama perjanjian-perjanjian bilateral, regional, dan multilateral, peraturan perundang-undangan nasional untuk melindungi lingkungan laut dari *land-based sources*. *Montreal Guidelines* memberikan daftar ketentuan-ketentuan yang dapat dipilih, diadopsi dan dikembangkan sesuai dengan keadaan yang ada oleh pemerintah, sehingga

²⁴² Kenneth W. Abbot dan Duncan Snidal, "Hard and Soft Law in International Governance," *International Organization*, Vol. 53, No. 3 (2000): 443.

memenuhi standarisasi di wilayah tertentu yang tercemar oleh *land-based sources*.²⁴³

Beberapa ketentuan di dalam *Montreal Guidelines* mengacu kepada UNCLOS dan beberapa perjanjian lainnya,²⁴⁴ terutama dalam penggunaan definisi,²⁴⁵ kewajiban umum,²⁴⁶ tindakan-tindakan khusus yang harus diambil,²⁴⁷ dan strategi spesifik,²⁴⁸ dimana ketentuan-ketentuan tersebut memasukan elemen-elemen dan prinsip-prinsip dari perjanjian-perjanjian sebelumnya mengenai *land-based sources*.²⁴⁹

Definisi dari *land-based sources* dielaborasi lebih baik dibandingkan dengan leluhurnya, yaitu UNCLOS. Pada *Guideline 1* dinyatakan bahwa salah satu sumber dari *land-based sources* adalah fasilitas lepas pantai, dimana hal ini baru pertama kali dimasukan ke dalam ruang lingkup *land-based sources*, sehingga *Montreal Guidelines* lebih sering dijadikan acuan dalam menanggulangi pencemaran laut dari *land-based sources* ketimbang UNCLOS.

Strategi-strategi spesifik di dalam *Montreal Guidelines* diatur di dalam ketiga ANNEX nya, yaitu ANNEX 1 mengatur mengenai strategi perlindungan, pelestarian dan peningkatan kualitas lingkungan laut, ANNEX 2 mengatur mengenai klasifikasi bahan-bahan yang termasuk ke dalam *black list* dan *grey list*, dan ANNEX 3 mengatur mengenai pemantauan dan pengelolaan data.²⁵⁰ Ketentuan mengenai *black list* dan *grey list* menunjukan adanya pengurangan dari

²⁴³ UNEP, "Protection of the Marine Environment Against Pollution from Land-Based Sources," *Environmental Policy and Law*, Vol. 14 (Montreal Guidelines, 1985): 77.

²⁴⁴ D.E. Fisher, "Land-based Pollution of the Marine Environment," *Environmental and Planning Law Journal*, Vol. 12 (1995): 140.

²⁴⁵ *Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-Based Sources 1985 (Montreal Guidelines)*, Guideline 1.

²⁴⁶ *Ibid.*, Guideline 2.

²⁴⁷ *Ibid.*, Guideline 4.

²⁴⁸ *Ibid.*, Annex 1-3.

²⁴⁹ *Paris Convention for the Prevention of Marine Pollution from Land-Based Sources 1974 (Konvensi Paris)*; *Convention on the Protection of the Marine Environment of the Baltic Sea 1974 (Konvensi Helsinki)* dan *Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-based Sources 1980 (Protokol Athens)*.

²⁵⁰ *Montreal Guidelines*, Annex 1-3.

ketentuan yang sama mengenai pengkategorian bahan-bahan pencemaran laut dari *land-based sources* yang diatur di dalam Konvensi Paris.²⁵¹

Montreal Guidelines pada dasarnya mengumpulkan dan mengulang elemen-elemen dan prinsip-prinsip dari perjanjian-perjanjian sejenis terdahulu ke dalam instrumen yang tidak mengikat, namun di sisi lain, *Montreal Guidelines* juga berhasil membawa permasalahan ini ke tingkat global dan dikenal sebagai instrumen global pertama yang secara eksklusif membahas mengenai *land-based sources* sehingga dapat dijadikan acuan bagi perjanjian-perjanjian internasional.²⁵²

2.4.4.2. ***Washington Declaration on Protection of the Marine Environment from Land-Based Activities 1995 (Deklarasi Washington)***

Washington Declaration on Protection of the Marine Environment from Land-Based Activities 1995 (Deklarasi Washington) lahir dari *Washington Conference 1995* yang tentunya diadakan di Washington DC dari tanggal 23 Oktober sampai dengan 3 November 1995 yang dikoordinasi oleh UNEP yang didatangi oleh 100 negara, 17 global dan regional organisasi internasional dan 27 organisasi non-pemerintah.²⁵³ Bersama-sama dengan Deklarasi Washington, Konferensi ini juga mengadopsi kerjasama lainnya, yaitu *Global Program of Action to Prevent, Reduce and Control Land-Based Sources Pollution* (GPA) yang akan dijelaskan pada bagian selanjutnya.²⁵⁴

Sama halnya dengan perjanjian-perjanjian multilateral sebelumnya, Deklarasi Washington mendorong negara-negara penandatanganannya untuk melakukan kerjasama di tingkat bilateral, regional, maupun multilateral dalam hal

²⁵¹ Lihat penjelasan 2.4.2.1. Convention for the Protection of the Marine Environment of the Northeast Atlantic 1992 (OSPAR) mengenai Konvensi Paris.

²⁵² Patricia Birnie dan Alan Boyle, *International Law and the Environment, Second ed.*, hal. 418.

²⁵³ UNEP Report, "Rio Follow up Marine Environment," *Environmental Policy and Law, Vol. 26* (1996): 11.

²⁵⁴ Hal ini dikemukakan oleh Mensah dalam *Note 42* sebagaimana dikutip di dalam Yoshifumi Tanaka, "Regulation of Land-Based Marine Pollution in International Law: a Comparative Analysis between Global and Regional Frameworks," hal. 546.

pendanaan untuk pembuatan program global mengenai pengendalian *land-based sources*.²⁵⁵

Di sisi lain, ada hal yang menarik di dalam Deklarasi Washington, yaitu penekanannya akan bantuan kepada negara-negara berkembang dan negara-negara kurang berkembang untuk dapat mengaplikasikan program-program penanggulangan *land-based sources* yang komprehensif, sesuai dengan situasi yang dihadapi di masing-masing wilayah.²⁵⁶ Hal ini kemudian didukung dengan pernyataan yang mendorong negara-negara maju untuk memperkenalkan teknologi bersih, pengetahuan dan keterampilan untuk mengatasi permasalahan *land-based sources* bagi negara-negara yang memerlukan.²⁵⁷ Hal ini berkaitan dengan prinsip penerapan *best available techniques* dan *best environmental practice* yang dianut oleh perjanjian-perjanjian multilateral sebelumnya.

Deklarasi Washington mendapatkan kesuksesan dengan persetujuan yang didapatkan dari semua negara dan organisasi yang hadir. Hal ini dianggap sebagai sebuah kontribusi besar dalam hal pengendalian pencemaran laut dari *land-based sources* dalam skala internasional, dimana Deklarasi Washington kemudian dapat dijadikan sebagai kerangka berpikir perjanjian-perjanjian multilateral lainnya dengan kekuatan mengikat.²⁵⁸

2.4.4.3. *Global Program of Action for the Protection of the marine Environment from Land-Based Activities (GPA)*

Sebagai salah satu hasil dari *Washington Conference*, *Global Program of Action for the Protection of the marine Environment from Land-Based Activities* (GPA) telah banyak membantu perkembangan pengendalian pencemaran laut yang berasal dari *land-based sources* melalui program-programnya. GPA

²⁵⁵ *Washington Declaration on Protection of the Marine Environment from Land-Based Activities 1995* (Deklarasi Washington), Paragraf 7.

²⁵⁶ *Washington Declaration on Protection of the Marine Environment from Land-Based Activities 1995* (Deklarasi Washington), Paragraf 4.

²⁵⁷ *Ibid.*, Paragraf 6.

²⁵⁸ PBB, Fifty First session. Agenda Item 24(1), *Report of the Secretary General (A/51/645*, 1 November 1996), paragraf 200.

dirancang untuk menjadi sumber pedoman konseptual dan praktis untuk digunakan dalam ruang lingkup nasional atau regional untuk menetapkan dan menerapkan tindakan berkelanjutan untuk mencegah, mengurangi, mengontrol dan/atau menghilangkan degradasi laut dari pencemaran *land-based sources*.²⁵⁹

Isi dari GPA itu sendiri dibagi menjadi lima bab, dimana di dalamnya dijelaskan mengenai tindakan yang dapat diambil pada tingkat nasional,²⁶⁰ kerjasama regional,²⁶¹ kerjasama internasional,²⁶² dan pendekatan yang direkomendasikan terhadap kategori sumber-sumber dari *land-based sources*²⁶³ yang menunjukkan betapa komprehensifnya program yang diusung UNEP tersebut.

GPA menjadi salah satu program yang secara jelas menyatakan perlunya pengaplikasian prinsip *precautionary*,²⁶⁴ *environmental impact assessment* (EIA),²⁶⁵ serta begitu juga dengan BET dan BEP.²⁶⁶ Kerjasama secara regional juga diatur di dalam program ini, dimana GPA mengajak negara-negara untuk aktif berpartisipasi dalam perjanjian regional dan subregional, konvensi dan perjanjian terkait, dan untuk menegosiasikan konvensi dan program regional baru.²⁶⁷ Untuk mengimplementasikan program ini secara sukses, GPA menekankan kerjasama untuk meningkatkan kapasitas bangunan, transfer teknologi, dan dukungan finansial.²⁶⁸

GPA kemudian diakhiri dengan ketentuan-ketentuan yang mengatur mengenai sembilan sumber utama dari *land-based sources* dan memberikan langkah-langkah untuk menghadapi pencemaran tersebut. Sumber-sumber yang

²⁵⁹ <http://www.gpa.depiweb.org/about-the-gpa.html>, diunduh pada 23 April 2012.

²⁶⁰ *Global Program of Action for the Protection of the marine Environment from Land-Based Activities* (GPA) 1995, Paragraf 16-28.

²⁶¹ *Ibid.*, Paragraf 29-35.

²⁶² *Ibid.*, Paragraf 36-90.

²⁶³ *Ibid.*, Paragraf 91-154.

²⁶⁴ *Ibid.*, Paragraf 24.

²⁶⁵ *Ibid.*, Paragraf 23 (d).

²⁶⁶ *Ibid.*, Paragraf 26 (a) (i).

²⁶⁷ *Ibid.*, Paragraf 31.

²⁶⁸ *Ibid.*, Paragraf 45.

dimaksud seperti saluran air, *persistent organic pollutants* (POPs), zat radioaktif, logam berat, *nutrients*, perpindahan sedimen, sampah plastik, serta perubahan fisik dan degradasi habitat laut.²⁶⁹

Bentuk dari GPA terstruktur dengan baik untuk mengidentifikasi permasalahan pencemaran laut yang bersumber dari *land-based sources*. Setidaknya, GPA telah memulai dan mengusulkan strategi yang berkesinambungan dan metodologi untuk mengembangkan program aksi di tingkat nasional, regional, dan internasional. Hal ini telah menghubungkan program kegiatan GPA dengan kebijakan hukum, ekonomi dan teknologi terpadu. GPA juga mempromosikan partisipasi publik dalam kebijakan lingkungan laut dalam mengontrol *land-based sources* karena dengan kesadaran akan lingkungan laut yang tinggi dari masyarakat, maka tingkat pencemaran laut dari *land-based sources* dapat ditekan seminimal mungkin.

²⁶⁹ Ibid., Chapter V.

BAB 3

PERBANDINGAN PRAKTEK BEBERAPA NEGARA MENGENAI PENCEMARAN LAUT DARI LAND-BASED SOURCES

Negara-negara yang dipilih sebagai bahan perbandingan ini, masing-masing memiliki alasan tersendiri. Peneliti memilih Amerika Serikat sebagai salah satu negara dalam praktek perbandingan ini dikarenakan salah satu negara bagian di Amerika Serikat, yaitu Hawaii telah menjadi korban dari kumpulan *land-based sources* terbesar di dunia yang terletak di Timur Laut Samudera Pasifik.²⁷⁰ Kemudian peneliti memilih Inggris sebagai negara selanjutnya berkaitan dengan kasus *the MOX Plant Case*, dimana Inggris sebagai tergugat dalam kasus tersebut.²⁷¹ Perancis sebagai negara ketiga yang dipilih juga sebagai tergugat dalam kasus *Étang de Berre*, dimana sama halnya dengan Inggris, pengetahuan mengenai peraturan perundang-undangan nasionalnya dapat memberikan keterangan lebih jauh mengenai bagaimana suatu negara mengendalikan pencemaran dari darat.²⁷² Negara terakhir yang dipilih adalah Indonesia sebagai salah satu perwakilan negara berkembang.

Bab ini kemudian akan menunjukkan apakah praktek di negara-negara tersebut telah sesuai dengan ketentuan hukum lingkungan internasional dan memenuhi tujuannya dalam melindungi lingkungan laut dari *land-based sources* secara komprehensif.

3.1. Amerika Serikat

Amerika Serikat sebagai negara maju dengan akses terhadap teknologi-teknologi terbaru seharusnya memiliki kemampuan untuk melakukan pengendalian terhadap pencemaran laut. Apabila dilihat dari sisi legislasi,

²⁷⁰ Thomas M. Kostigen, *You Are Here: Exposing the Vital Link Between What We Do and What That Does to Our Planet*, (New York: Harper Collins E-Books, 2008), hal. 145.

²⁷¹ MOX Plant Case (Ireland vs United Kingdom), “Dispute Concerning the MOX Plant, International Movements of Radioactive Materials, and the Protection of the Marine Environment of the Irish Sea,” *International Tribunal for The Law of the Sea (ITLOS)*, 2001.

²⁷² *Étang de Berre Case (France vs European Union)*, “Dispute Concerning the Discharge of Waste to the Lake of Étang de Berre,” *European Court of Justice*, 2007.

Amerika Serikat telah mengantongi beberapa peraturan perundang-undangan nasional yang dibuat oleh lembaga perlindungan lingkungan mereka melalui EPA (*Environmental Protection Agency*) yang mengatur mengenai pencemaran laut akibat *dumping*, tumpahan minyak dan beberapa pengaturan lainnya yang mengancam pencemaran laut.²⁷³ Amerika Serikat memiliki *National Environmental Policy Act* 1969 (NEPA)²⁷⁴ yang menjadi tolak ukur peraturan perundang-undangan nasional mengenai hukum lingkungan. Undang-undang ini tidak dibuat oleh EPA dan menjadi cikal bakal lahirnya EPA itu sendiri. Khusus mengenai pencemaran laut dari *land-based sources*, undang-undang yang menangani permasalahan tersebut adalah *Clean Water Act* 1972 (CWA)²⁷⁵ yang dibuat setelah lahirnya EPA. Undang-undang yang terakhir adalah *Marine Debris Research, Prevention and Reduction Act* 2006 (MDPRA) yang dibuat untuk menanggulangi polutan-polutan yang telah sampai ke laut.

3.1.1. *National Environmental Policy Act* 1969 (NEPA)

NEPA merupakan undang-undang pertama di Amerika Serikat yang mengatur mengenai perlindungan lingkungan secara luas, sehingga disebut sebagai “Magna Carta” hukum lingkungan.²⁷⁶ Undang-undang ini ditujukan kepada setiap lembaga pemerintahan di Amerika Serikat dalam melakukan “*environmental impact assessment process*” (EIA) terhadap setiap proyek yang berada di bawah kewenangan masing-masing lembaga pemerintahan tersebut.²⁷⁷ Berbeda dengan peraturan perundang-undangan nasional yang lahir pada awal tahun 1970-an, NEPA tergolong sebagai undang-undang yang pendek, sederhana, dan komprehensif yang melahirkan kebijakan-kebijakan nasional, lembaga baru bernama *Council on Environmental Quality* (CEQ), dan mewajibkan lembaga-

²⁷³ <http://www.epa.gov/lawsregs/laws/>, diunduh 15 Mei 2012.

²⁷⁴ Amerika Serikat (I), *National Environmental Policy Act*, 42 U.S.C. §4321 et seq. (1969).

²⁷⁵ Amerika Serikat (II), *Clean Water Act*, 33 U.S.C. §1251 et seq. (1972).

²⁷⁶ Council of Environmental Quality (Executive Office of the President), “A Citizen’s Guide to the NEPA: Having Your Voice Heard,” (Desember 2007), hal. 7.

²⁷⁷ Amerika Serikat (I), Pasal 102.

lembaga pemerintah untuk melakukan EIA terhadap proyek-proyek yang memiliki dampak besar terhadap lingkungan.²⁷⁸

NEPA terbagi menjadi 3 bagian penting, yaitu deklarasi kebijakan nasional lingkungan,²⁷⁹ pembentukan ketentuan tindakan memaksa lembaga-lembaga pemerintahan dalam menegakan tujuan dan kebijakan undang-undangan,²⁸⁰ serta pembentukan CEQ di Kantor Eksekutif Preisdan.²⁸¹

Deklarasi kebijakan nasional lingkungan yang dibawa oleh NEPA, berbunyi sebagai berikut:²⁸²

To declare national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation....

Dari deklarasi tersebut, NEPA bertujuan untuk menjembatani kepentingan manusia dan lingkungan sehingga keduanya dapat berjalan bersamaan tanpa harus merugikan salah satunya. Selain itu, NEPA juga menginginkan masyarakat Amerika Serikat untuk lebih menyadari pentingnya perlindungan lingkungan melalui informasi-informasi dan pengetahuan mengenai lingkungan.

Bagian kedua dari NEPA dapat dipenuhi melalui apa yang disebut dengan *NEPA Process*, dimana di dalam proses tersebut terdapat beberapa tingkatan yang harus dilalui oleh lembaga-lembaga pemerintahan terkait dalam pemberian izin proyek yang dapat menimbulkan efek signifikan terhadap lingkungan yang disebut dengan *Environmental Impact Statement (EIS)*. Tingkatan-tingkatan yang harus dilakukan adalah *Categorical Exclusion (CE)*, *Environmental Impact Assessment (EIA)* dan *Finding of No Significant Impact (FONSI)*.

CE merupakan kategori tindakan yang secara individu atau kumulatif tidak memiliki dampak yang signifikan terhadap lingkungan dan hal ini didasari

²⁷⁸ Alvin L. Alm, "NEPA: Past, Present, and Future," *EPA Journal* (Januari-Februari 1988), dapat diunduh pada <http://www.epa.gov/aboutepa/history/topics/nepa/01.html>.

²⁷⁹ Amerika Serikat (I), Pembukaan dan Pasal 101.

²⁸⁰ Ibid., Pasal 102-Pasal 104.

²⁸¹ Ibid., Pasal 201-Pasal 209.

²⁸² Ibid., Pembukaan.

pada penemuan sebelumnya yang ditemukan oleh lembaga pemerintahan menyatakan bahwa tindakan tersebut memiliki efek terhadap lingkungan, sehingga tidak diperlukan adanya penilaian dan pernyataan dampak lingkungan.²⁸³ Akan tetapi, CE yang dimiliki oleh satu lembaga pemerintahan tidak dapat digunakan oleh lembaga pemerintahan yang berbeda. Apabila suatu proyek tidak termasuk ke dalam CE, tingkatan selanjutnya yang harus dilewati adalah EIA, dimana EIA dimaksudkan untuk menentukan adanya efek lingkungan yang signifikan dari sebuah proyek dan mencari cara lain agar dapat memenuhi tujuan dari undang-undang.²⁸⁴ Isi dari EIA ada tiga, yaitu bukti dan analisis secara umum yang menentukan harus atau tidaknya sebuah proyek diberikan EIS, bantuan pemenuhan kriteria NEPA apabila tidak diperlukan EIS, serta memfasilitasi persiapan EIS apabila diperlukan.²⁸⁵ EIA kemudian disimpulkan dan menjadi bagian dari FONSI, apabila tidak ditemukan adanya alasan yang dapat menimbulkan efek yang signifikan dari dilakukannya proyek tersebut, atau EIA menjadi bagian dari EIS yang menunjukkan adanya efek yang signifikan terhadap lingkungan.²⁸⁶

Lembaga yang mengawasi jalannya tingkatan-tingkatan tersebut adalah CEQ yang berada di bawah kewenangan presiden. CEQ sebenarnya lahir dari *Employment Act 1946*,²⁸⁷ namun kewenangannya ditambah untuk mengawasi jalannya pemberian EIS dan posisinya yang berada langsung di bawah presiden diberikan melalui NEPA. Walaupun CEQ tidak memiliki kewenangan untuk memaksakan ketentuan undang-undangnya, CEQ diharuskan menjadi salah satu lembaga yang diikutsertakan dalam pemberian EIS.

Secara umum, NEPA telah memberikan awal yang cukup baik bagi perkembangan hukum lingkungan di Amerika Serikat dan menjadi cikal bakal

²⁸³ Amerika Serikat (III), *CEQ NEPA Regulations*, 40 C.F.R. § 1508.4.

²⁸⁴ Council of Environmental Quality (Executive Office of the President), "A Citizen's Guide to the NEPA: Having Your Voice Heard," hal. 11.

²⁸⁵ Amerika Serikat (III), 40 C.F.R. § 1508.9.

²⁸⁶ Amerika Serikat (IV), Government Printing Office Electronic Information Enhancement Act of 1993, 44 U.S.C. §§ 4101-4104.

²⁸⁷ Amerika Serikat (V), *Employment Act 1946*.

lahirnya banyak peraturan perundang-undangan terkait lingkungan yang lebih spesifik, seperti misalnya CWA pada tahun 1972. Laporan tahunan yang dibuat oleh CEQ tetap menjadi laporan tahunan yang terbaik dalam menanggapi isu-isu lingkungan terkini dan berhasil mengubah cara berpikir pemerintahan negara-negara bagian di Amerika Serikat.

3.1.2. *Clean Water Act 1972 (CWA)*

Undang-undang ini sebelumnya bernama *Federal Water Pollution Control Act* pada tahun 1948 yang kemudian diperbaharui dengan menambah ruang lingkungannya pada tahun 1972 dan berganti nama menjadi *Clean Water Act* yang kita ketahui sekarang.²⁸⁸ Pembaharuan yang dilakukan oleh Pemerintah dikarenakan meningkatnya perhatian publik Amerika Serikat akan permasalahan lingkungan. Pada tahun 1972, CWA dibuat dengan tujuan merestorasi dan mengelola limbah kimia, limbah padat, dan *biological integrity* dari air nasional, dimana tujuan ini kemudian ditambahkan pada pertengahan tahun 1983 (perairan yang dapat digunakan untuk berenang dan pemancingan) dan pada tahun 1985 (penekanan tingkat pembuangan polutan hingga nol persen).²⁸⁹

CWA terbagi menjadi 6 bagian, yaitu program dan penelitian terkait CWA, persyaratan pembangunan alat pengelolaan air, ketentuan baku dan pelaksanaannya, pemberian surat izin, ketentuan umum, dan pemberian bantuan dana dari pemerintah negara bagian untuk pembangunan dan pengelolaan saluran pembuangan limbah. Pada awalnya, undang-undang ini mengharuskan pemerintahan di semua negara bagian untuk menggunakan pendekatan dengan prinsip “*best practicable control technology*” (BPT) untuk membersihkan limbah buangan yang mana diberikan tenggat waktu sampai dengan tahun 1988.²⁹⁰ Dengan terpenuhinya tenggat waktu tersebut, pemerintah pusat pun kemudian menaikan ketentuan baku mereka mengenai prinsip yang digunakan dalam

²⁸⁸ <http://www.epa.gov/lawsregs/laws/cwa.html>, diunduh 15 Mei 2012.

²⁸⁹ Claudia Copeland, “Clean Water Act: A Summary of the Law,” *Congresional Research Service* (23 April 2010): 2.

²⁹⁰ *Ibid*, hal. 2-3.

pendekatan menjadi “*best available technology*” (BAT) yang sesuai dengan tingkat ekonomi masing-masing negara bagian untuk tidak hanya pembersihan limbah buangan, namun juga pengendalian zat-zat beracun dan berbahaya.²⁹¹ Keputusan ini dilakukan pada tahun 1989, satu tahun setelah terpenuhinya prinsip BPT di hampir 80% dari semua negara bagian pada saat itu.²⁹²

CWA kemudian mewadahi beberapa program untuk mendukung tujuan dari CWA itu sendiri, seperti:

- a) *National Water Quality Assessment* (NAWQA) yang memberikan informasi-informasi terbaru mengenai kualitas air di Amerika Serikat melalui penelitian jangka panjang dan jangka pendek;²⁹³
- b) *National Pollutant Discharge Elimination System* (NPDES) yang menangani permasalahan pemberian izin terhadap industri-industri yang sistem pembuangannya ditujukan langsung ke air tanah,²⁹⁴
- c) *Water Quality Criteria* yang memberikan informasi mengenai kriteria untuk kualitas air secara akurat berdasarkan penilaian ilmiah terhadap konsentrasi polutan dan efeknya terhadap kesehatan lingkungan dan manusia.²⁹⁵ Kriterianya dibagi menjadi dua, yaitu kriteria yang menunjukkan efeknya terhadap kehidupan laut dan terhadap kehidupan manusia.²⁹⁶ Bedanya dengan NAWQA terletak kepada lembaga yang menaunginya, dimana NAWQA berada di bawah *United States Geological Survey*,²⁹⁷ sedangkan program ini berada di bawah naungan lembaga *Environmental Protection Agency*.

²⁹¹ Amerika Serikat (II), Pasal 301 (2) (A).

²⁹² Claudia Copeland, “Clean Water Act: A Summary of the Law,” hal. 3.

²⁹³ Gary L. Rowe, et. al., “Design of Cycle 3 of the National Water-Quality Assessment Program, 2013-2023: (Part 1: Framework of Water-Quality Issues and Potential Approaches),” *United States Geological Survey* (2010): 1.

²⁹⁴ <http://cfpub.epa.gov/npdes/>, diunduh 15 Mei 2012.

²⁹⁵ <http://water.epa.gov/scitech/swguidance/standards/current/2004-table-fs.cfm>, diunduh 15 Mei 2012.

²⁹⁶ <http://water.epa.gov/scitech/swguidance/standards/criteria/index.cfm>, diunduh 15 Mei 2012.

²⁹⁷ <http://water.usgs.gov/nawqa/>, diunduh 15 Mei 2012.

- d) *Pretreatment of Wastewater* (Khusus untuk aktivitas industrial) menggunakan *Compliance Monitoring* yang diterapkan dengan mendirikan infrastruktur seperti *Publicly Owned Treatment Works* (POWTs) yang mengumpulkan limbah dari aktivitas rumah tangga dan industrial ke dalam rangkaian pipa yang kemudian dibersihkan dari kontaminasi zat-zat berbahaya oleh POWTs sebelum dibuang ke laut.²⁹⁸
- e) *Municipal Storm Water* yang mengkombinasikan tiga hal, yaitu penggunaan sistem pembuangan air luapan hujan yang membawa limbah rumah tangga dan limbah industrial yang terintegrasi, rangkaian pipa yang mengalirkan air-air luapan akibat badai, kerusakan sistem, dan pengrusakan secara disengaja ke dalam saluran-saluran pipa menuju POWTs, serta program yang mengawasi pemenuhan dua hal tersebut terhadap pemerintah negara bagian.

Selain program-program di atas, terdapat pula program-program lainnya yang menjadi bagian dari CWA, namun tidak terkait dengan *land-based sources*.

Undang-undang ini memiliki konsep yang keras, dimana semua pembuangan yang langsung ditujukan ke perairan nasional merupakan tindakan yang melanggar hukum, sehingga lebih dari 65000 pembuangan industrial dan lainnya harus mendapatkan izin dari EPA melalui Program NPDES.²⁹⁹ Tindakan ekstrim yang diambil oleh pemerintah ini dilakukan untuk memenuhi tujuan dari dibuatnya CWA itu sendiri, dimana salah satunya adalah penekanan jumlah pembuangan limbah berbahaya ke perairan nasional hingga nol persen.³⁰⁰ Pemberian izin ini merupakan pengerucutan dari ketentuan-ketentuan sebelumnya, sehingga adanya ruang untuk melakukan penyimpangan menjadi lebih sempit. Peran dari penggunaan BPT adalah untuk mengeliminasi unsur-unsur *land-based sources* yang masih konvensional, seperti bakteri dan

²⁹⁸ <http://www.epa.gov/compliance/monitoring/programs/cwa/wastewater.html>, diunduh 15 Mei 2012.

²⁹⁹ Amerika Serikat (II), Pasal 402 (a) (1).

³⁰⁰ Ibid., Pasal 101 (a).

organisme-organisme yang mengkonsumsi oksigen.³⁰¹ Kemudian BAT diterapkan untuk mengeliminasi unsur-unsur *land-based sources* yang berbahaya dan memiliki potensi pencemaran yang tinggi, seperti logam berat, pestisida, dan zat kimia organik lainnya.³⁰² Untuk menambahkan ketentuan yang sepertinya sudah mencakup seluruh unsur-unsur pencemaran yang dapat mencemari perairan nasional, undang-undang melalui EPA mengeluarkan daftar 65 kelas dan kategori bahan kimia beracun atau yang disebut dengan “*priority list*”.³⁰³

CWA selain itu juga memberikan kerangka kerja tata cara penggunaan dan pembuangan limbah cair, serta kerangka kerja pengendalian pembuangan limbah³⁰⁴ dari *land-based sources* ke laut,³⁰⁵ dimana terdapat undang-undang tersendiri yang mengatur mengenai negara-negara lain yang membuang limbahnya ke perairan nasional³⁰⁶.

Tidak dapat dipenuhinya ketentuan-ketentuan yang diatur di dalam CWA ini dapat mengakibatkan sanksi yang cukup berat, dimana EPA dapat mengajukan gugatan kepada pihak yang dianggap telah melanggar izin yang telah diberikan.³⁰⁷ Apabila diputuskan pihak tersebut bersalah oleh pengadilan, pihak tersebut akan dikenakan denda sebesar \$25000 sampai dengan \$250000 yang dapat ditambah dengan 15 tahun di penjara.³⁰⁸ Walaupun begitu, EPA juga memiliki kewenangan untuk memberikan denda administrasi dengan jumlah yang lebih kecil untuk pelanggaran-pelanggaran yang sifatnya administratif. Selain itu, pihak yang dapat mengajukan gugatan ke pengadilan mengenai baku ketentuan baku dan pembatasan limbah efluen tidak hanya EPA saja, namun masyarakat diperbolehkan untuk mengajukan gugatan kelompok.

³⁰¹ Claudia Copeland, “Clean Water Act: A Summary of the Law,” hal. 6.

³⁰² Amerika Serikat (II), Pasal 307 dan Pasal 402

³⁰³ Ibid., Pasal 216 dan Pasal 604.

³⁰⁴ Ibid., Pasal 405.

³⁰⁵ Ibid., Pasal 403.

³⁰⁶ Amerika Serikat (III).

³⁰⁷ Claudia Copeland, “Clean Water Act: A Summary of the Law,” hal. 6.

³⁰⁸ Amerika Serikat (II), Pasal 311.

3.1.3. *Marine Debris Research, Prevention and Reduction Act 2006 (MDPRA)*

NEPA memberikan batu loncatan bagi peraturan perundang-undangan nasional Amerika Serikat terkait dengan permasalahan lingkungan, sedangkan CWA memberikan perlindungan terhadap kualitas air dari pencemaran-pencemaran yang timbul dari pembuangan infrastruktur-infrastruktur darat. Berbeda dengan kedua undang-undang tersebut, MDPRA menangani hal yang lebih khusus dari NEPA, namun tidak sama dengan ketentuan yang diatur di dalam CWA. MDPRA mendirikan program-program untuk membantu mengidentifikasi, menentukan sumber, menilai, mengurangi dan mencegah serpihan-serpihan sampah laut (*marine debris*) dan dampak negatifnya terhadap lingkungan laut dan keselamatan navigasinya.³⁰⁹ Berbeda dengan CWA yang memberikan perlindungan di hulu permasalahan pencemaran laut *land-based sources*, MDPRA dimaksudkan untuk memberikan perlindungan di hilir permasalahan. *Marine debris* yang mencemari lingkungan laut tidak hanya bersumber dari laut itu sendiri, namun juga sumber-sumber dari darat,³¹⁰ sehingga ketentuan di dalam undang-undang ini melengkapi ketentuan di dalam CWA dalam memerangi pencemaran yang dapat mempengaruhi lingkungan laut.

Marine debris di dunia didominasi oleh plastik, kaca, styrofoam, karet, dan sampah-sampah yang dihasilkan dari aktivitas perkapalan, dimana plastik mendominasi sebanyak 60% sampai dengan 80% dari total seluruh *marine debris* tersebut.³¹¹ Hal ini tidak jauh berbeda dengan situasi yang dialami di Amerika Serikat.³¹² MDPRA mengatasi permasalahan ini dengan tiga cara, yaitu:

³⁰⁹ Amerika Serikat (VI), *Marine Debris Research, Prevention and Reduction Act*, 33 U.S.C. §1951-1958 et. seq. (2006), Pasal 2 (1).

³¹⁰ National Oceanic and Atmospheric Administration, “2008-2009 Progress Report on the Implementation of the Marine Debris Research, Prevention, and Reduction Act”, (Silver Spring, 2010), hal. 3.

³¹¹ U.S. Environmental Protection Agency, “Marine Debris in the North Pacific (A Summary of Existing Information and Identification of Data Gaps,)” (San Francisco, 2011), hal. 1.

³¹² Susan L. Dautel, “Transoceanic Trash: International and United States Strategies for the Great Pacific Garbage Patch,” *Golden Gate University Law Journal Vol. 3, Issue 1* (2009): 182.

- a) Program pencegahan dan pembersihan *marine debris* melalui *National Oceanic and Atmospheric Administration*³¹³(NOAA) dalam meningkatkan kemampuannya menelusuri mengurangi efek dari *marine debris*;³¹⁴
- b) Mendorong *U.S. Coast Guard* melaksanakan, merubah dan memperluas ketentuan di dalam peraturan perundang-undangan nasional untuk mengurangi *marine debris*;³¹⁵
- c) Menambahkan tugas dari *Interagency Marine Debris Committee*³¹⁶ (IMDC), yaitu memfasilitasi kerjasama internasional serta memberikan nasehat-nasehat kepada Kongres, dimana IMDC diharuskan untuk memberikan laporan setiap tahunnya terkait dampak yang diberikan oleh *marine debris* terhadap ekologi, ekonomi, dan sosial masyarakat.³¹⁷

Seperti yang telah peneliti ungkapkan sebelumnya, undang-undang ini menangani permasalahan pencemaran laut dari *land-based sources* di hilir, sehingga program-program yang diajukan pun ditujukan untuk menanggulangi *marine debris* yang telah sampai di laut.

Lembaga pertama yang diberikan kewenangan oleh MDPRA adalah NOAA yang memiliki program-program sebagai berikut:³¹⁸

- a) *Research, Assessment and Understanding* adalah program yang menilai dan mengidentifikasi *marine debris*, dimana mengingat sumber dari

³¹³ “NOAA merupakan lembaga yang memberikan informasi prakiraan cuaca, peringatan badai, pemantauan iklim untuk pengelolaan perikanan, melakukan restorasi pantai, mengkaji keadaan lingkungan dan hal-hal lain terkait kelautan, dan mendukung perdagangan laut,” <http://www.noaa.gov/about-noaa.html>, diunduh 3 Juni 2012.

³¹⁴ Jane Hetherington, et. al., “The Marine Debris Research, Prevention and Reduction Act: A Policy Analysis,” (New York: Columbia University, 2005), hal. 6.

³¹⁵ Ibid.

³¹⁶ “IMDC merupakan badan perantara yang bertanggung jawab atas pengembangan dan perekomendasi pendekatan komprehensif dan multi-disiplin untuk mengurangi dampak dan sumber dari *marine debris* dari lingkungan laut nasional, sumber daya alam, keamanan masyarakat, dan ekonomi. IMDC memastikan koordinasi antar lembaga-lembaga federal yang menangani *marine debris* baik secara nasional maupun internasional, begitu pula dengan merekomendasikan prioritas penelitian, pemantauan teknis, program pendidikan, dan aksi resmi dari lembaga-lembaga federal tersebut,” <http://marinedebris.noaa.gov/about/imdcc.html>, diunduh 3 Juni 2012.

³¹⁷ Jane Hetherington, et. al., hal. 6-7.

³¹⁸ National Oceanic and Atmospheric Administration, “2008-2009 Progress Report on the Implementation of the Marine Debris Research, Prevention, and Reduction Act”, hal. 16-21.

marine debris begitu luas, sehingga salah satu cara penanggulangannya adalah untuk mengetahui dari mana *marine debris* tersebut dibuang. Cara untuk mengetahuinya adalah dengan menggunakan metode “*mapping, modeling and tracing marine debris technologies*”,³¹⁹ dimana selain untuk mengetahui sumber dari *marine debris* itu sendiri, metode ini juga dapat digunakan untuk mengetahui dampaknya terhadap lingkungan laut;³²⁰

- b) *Removal and Recycling* adalah program untuk membantu pemindahan *marine debris* dalam ukuran besar yang sulit untuk dibersihkan masyarakat setempat. *Marine debris* dalam ukuran besar tersebut kemudian didaur ulang menjadi energi oleh pembangkit listrik yang dapat membakarnya dengan aman;
- c) *Prevention, Education and Outreach* adalah program peningkatan kesadaran di tingkat masyarakat dan regulator mengenai pengertian dan permasalahan *marine debris*, visi dan misi dari NOAA, dan program-program yang ada di dalam NOAA, sehingga NOAA menjadi pusat informasi terpercaya terkait dengan *marine debris*;
- d) *Partnerships* adalah program yang mendorong adanya kerjasama pada tingkatan yang berbeda dengan entitas yang berbeda untuk memastikan upaya di daerah tertentu dilakukan pada tingkat yang paling efektif. Secara internasional, NOAA kini sedang bekerjasama dengan Republik Korea dan secara nasional, NOAA kini sedang bekerjasama dengan *Ocean Conservancy and the National Marine Sanctuary Foundation*.

U.S. Coast Guard mengemban tanggung jawab yang lebih ringan dibandingkan dengan tanggung jawab yang diemban oleh NOAA. *U.S. Coast Guard* memiliki program-program sebagai berikut:³²¹

³¹⁹ “Teknologi yang digunakan adalah (1) penggunaan *global positioning system* (GPS) oleh *U.S. Coast Guard* (2) *Remotely Operated Vehicle* (ROV) yang menggunakan kamera bawah laut (3) *Ocean Surface Currents Simulation* (OSCURS) untuk memperkirakan arus laut dan ombak yang membawa *marine debris* dan (4) *National Marine Debris Program* (NMDMP) yang memberikan hasil penelitian paling komprehensif mengenai *marine debris* yang bersumber dari *land-based sources*,” Jane Hetherington, et. al., hal. 18-19.

³²⁰ Amerika Serikat (IV), Pasal 3 (b) (1).

³²¹ National Oceanic and Atmospheric Administration, “2008-2009 Progress Report on the Implementation of the Marine Debris Research, Prevention, and Reduction Act”, hal. 23-28.

- a) *Compliance and Enforcement* yang diterapkan dalam bentuk *Ship-Generated Garbage: Waste Reception Facilities* dan *Shipboard Compliance and Enforcement* yang memastikan kapal-kapal beserta pelabuhan-pelabuhan mengelola tempat pembuangan sampah dan plastik dengan baik, serta membandingkan kelengkapan data-data kapal dengan ketentuan pelabuhan;³²²
- b) *Debris Removal* adalah program yang dijalankan untuk membersihkan sampah-sampah yang ditinggalkan dan terbengkalai yang letaknya dekat dengan wilayah kelautan Amerika Serikat berkaitan dengan pencegahan dan mitigasi terkait insiden pencemaran, contohnya pembersihan *marine debris* setelah badai Katrina dan Rita serta pembersihan saluran air di Louisiana dan Mississippi;
- c) Program kerjasama antar lembaga yang dilakukan dengan NOAA, *Army Corps of Engineers*, dan *Department of Defensive Dive Programs*.

Di satu sisi, pemberian tugas-tugas tersebut kepada *U.S. Coast Guard* merupakan kebijakan yang tepat karena badan tersebut telah ada sejak lama sehingga telah memiliki anggota yang kompeten dalam mengimplementasikan ketentuan undang-undang. Akan tetapi, hal tersebut juga merupakan bumerang dalam pelaksanaannya karena badan tersebut juga memiliki tanggung jawab atas program-program lainnya yang telah ada lebih dulu.³²³

Hal terakhir yang diusung di dalam undang-undang ini adalah keberadaan IMDC yang menjembatani pemberian informasi-informasi antar badan pemerintah dan memberikan laporannya kepada Kongres, Komite Perdagangan, Ilmu Pengetahuan dan Transportasi Senat, serta Komite Sumber Daya di Dewan Perwakilan.³²⁴ Salah satu tugas utama dari keberadaan IMDC adalah mendorong lembaga-lembaga di pemerintahan untuk membuat program-program terkait

³²² Jane Hetherington, et. al., hal. 20.

³²³ Jane Herthington, et. al., hal. 23.

³²⁴ Amerika Serikat (IV), Pasal 5.

permasalahan *marine debris*.³²⁵ Terdapat empat hal yang menjadi topik utama dalam pembuatan program-program tersebut, yaitu:³²⁶

- a) Program pencegahan *marine debris* melalui pendidikan, penyuluhan, pembuatan regulasi dan kebijakan, serta insentif;
- b) Program yang memberikan respon terhadap *marine debris* yang sudah ada di lingkungan laut Amerika Serikat melalui pengimplementasian peraturan dan pembersihan; dan
- c) Penelitian dan peningkatan teknologi untuk dapat mengetahui tindakan selanjutnya, mengurangi ketidakefisienan data, mengurangi material-material memasuki lingkungan Amerika Serikat dan dampak terhadap mitigasi;

Dalam prakteknya, timbul kebingungan dalam pembagian kewenangan. NOAA memiliki kewenangan untuk mengembangkan tata cara pemberian izin penelitian organisasi-organisasi independen dan NOAA diharuskan untuk berkoordinasi dengan IMDC dalam pembuatannya.³²⁷ Akan tetapi, undang-undang tidak memberikan pembagian tanggung jawab yang jelas perihal ini, sehingga sulit untuk menentukan kepentingan siapa yang lebih diprioritaskan dan prioritas siapa yang tidak.

3.2. Inggris

Lingkungan laut Inggris terus mendapatkan tekanan dari keberadaan manusia, dimana manusia semakin berusaha untuk memanfaatkan barang dan jasa yang diberikan oleh laut. Beberapa aktivitas manusia di laut telah berlangsung selama bertahun-tahun seperti penangkapan ikan komersial dan pembuangan limbah ke laut dari beberapa sumber, namun di sisi lain juga ada peningkatan yang dilakukan seperti pengembangan pembangkit listrik menggunakan tenaga angin dan skema pembangunan dengan energi yang

³²⁵ National Oceanic and Atmospheric Administration, "2008-2009 Progress Report on the Implementation of the Marine Debris Research, Prevention, and Reduction Act", hal. 4.

³²⁶ Ibid.

³²⁷ Jane Herthington, et. al., hal. 25.

terbarukan.³²⁸ Kadangkala kerusakan dapat terjadi melalui efek kumulatif dari beberapa kegiatan dan bukan dari satu kegiatan saja, dimana hal ini tergantung kepada sifat, skala dan lokasi kegiatan tersebut, serta sejauh mana mereka dikendalikan.³²⁹ Terkait dengan pencemaran laut yang berasal *land-based sources*, Inggris merupakan negara yang tidak terlalu besar, namun sebanyak 33.500 tempat di Inggris membutuhkan pembersihan dari pencemaran tersebut.³³⁰ Selain itu, limbah juga dapat bermigrasi dari lokasi yang tercemar tersebut ke wilayah negara tetangga, seperti yang terjadi di dalam *the MOX Plant Case* terhadap Republik Irlandia.³³¹

Inggris merupakan negara kesatuan dengan empat negara bagian, yaitu Inggris itu sendiri, Skotlandia, *Wales*, dan Irlandia Utara, dimana Inggris, Skotlandia dan *Wales* yang termasuk ke dalam kategori Britania Raya. Hal inilah yang membuat Inggris memiliki nama asli *United Kingdom of Great Britain and Northern Ireland*.³³² Inggris memberikan, Skotlandia, *Wales* dan Irlandia Utara pemerintahan administratif tersendiri, dimana otonomi yang diberikan kepada Inggris baru diberikan pada tahun 2000 ketika rakyat London memilih Gubernur dan kabinetnya yang disebut dengan *the Greater London Authority*.³³³ Walaupun pembagian kekuasaan diberikan kepada masing-masing wilayah, pemerintah pusat tetap memegang peranan penting dalam pembuatan peraturan perundang-undangan dengan ruang lingkup nasional. Terkait dengan kasus yang akan dibahas pada Bab IV, yaitu *the MOX Plant Case*, maka undang-undang yang akan dibahas pada bagian akan terkait dengan ruang lingkup negara bagian Inggris dan *Wales*.

³²⁸ <http://www.naturalengland.org.uk/ourwork/marine/threats/default.aspx>, diunduh 16 Mei 2012.

³²⁹ Ibid.

³³⁰ <http://www.environmentlaw.org.uk/rte.asp?id=30>, diunduh 16 Mei 2012.

³³¹ MOX Plant Case (Ireland vs United Kingdom), “Dispute Concerning the MOX Plant, International Movements of Radioactive Materials, and the Protection of the Marine Environment of the Irish Sea.”

³³² http://europa.eu/about-eu/countries/member-countries/unitedkingdom/index_en.htm, diunduh 16 Mei 2012.

³³³ <http://webarchive.nationalarchives.gov.uk/+http://www.number10.gov.uk/Page823>, diunduh 16 Mei 2012.

3.2.1. *Environmental Protection Act 1990*

Peraturan perundang-undangan di Inggris terkait lingkungan pada tahun 1970-an dan 1980-an lebih condong kepada peraturan yang bersifat informal, reaktif dan seringkali sebagai hasil negosiasi antara pemerintah dan aktor industri.³³⁴ Permasalahan pelepasan polusi ke udara, air dan tanah diatur pada peraturan perundang-undangan yang terpisah. Hal ini kemudian berubah pada tahun 1990, dimana pada tahun tersebut lahirlah *Environmental Protection Act 1990* yang memperkenalkan konsep *Integrated Pollution Control* (IPC) yang ditujukan untuk mengurangi efek merusak dari bahan-bahan hasil pembuangan terhadap lingkungan.³³⁵ IPC kemudian berkembang menjadi *Integrated Pollution Prevention and Pollution* (IPPC) dan diadopsi di dalam kebijakan Uni Eropa yang akan dijelaskan pada sub-bagian berikutnya. Undang-undang ini telah mengalami banyak perubahan perihal ruang lingkup yang lebih luas dan lembaga yang diberikan kewenangan dalam mengelola lingkungan. Oleh karena itu, peneliti akan memberikan ketentuan yang terbaru pada bagian-bagian yang dilakukan perubahan.

Definisi limbah dalam undang-undang ini dibagi menjadi dua, yaitu definisi limbah secara umum³³⁶ dan definisi limbah secara khusus di bawah nama limbah yang terkontrol³³⁷. Lingkungan yang terpengaruh oleh pencemaran tersebut tidak terbatas di darat saja, dimana pada Pasal 29 ayat 2 dijelaskan mengenai ruang lingkup lingkungan sebagai darat, air, dan udara.³³⁸ Undang-undang ini menekankan kepada tempat pengelolaan atau penyimpanan limbah

³³⁴ Andrew Jordan, et. al., "Policy Innovation or 'Muddling Through'? 'New' Environmental Policy Instruments in the United Kingdom," 'New' Instruments of Environmental Governance? National Experiences and Prospects (London: Frank Cass & Co. Ltd., 2003): 173.

³³⁵ Parliamentary Office of Science and Technology, "Environmental Policy and Innovation," *Postnote* (Januari 2012, Nomor 212), hal. 1.

³³⁶ "Limbah adalah setiap bahan atau objek dalam kategori yang sangat luas yang ditetapkan di dalam *Schedule 2B*," Inggris (I), Pasal 75 (2).

³³⁷ "Limbah terkontrol adalah limbah rumah tangga, limbah industri dan limbah komersial atau limbah lainnya yang sejenis," *Ibid.*, Pasal 75 (4).

³³⁸ *Ibid.*, Pasal 29 (2).

terkontrol maupun limbah ekstratif³³⁹ hasil pengelolaan di permukaan tanah, di bawah air, maupun di bawah permukaan tanah.³⁴⁰ Bahaya yang ditimbulkan dari pembuangan limbah tersebut dikategorikan sebagai bahaya bagi kesehatan organisme atau yang merupakan bagian dari sistem ekologi dan dalam hal efek yang ditimbulkan terhadap manusia, bahaya tersebut ditujukan kepada salah satu indera atau merugikan harta bendanya, sedangkan perihal hal-hal yang tidak membahayakan merupakan kebalikan dari definisi bahaya tersebut.³⁴¹

Pada tahun 1995, ditambahkan ke dalam undang-undang ini mengenai kewajiban bagi pemerintah pusat dan daerah dalam menangani limbah melalui *National Waste Strategies for England and Wales, and Scotland*,³⁴² dimana ‘*waste collection authority*’ diharuskan mengambil limbah rumah tangga dengan cara membangun pipa-pipa, saluran air, dan infrastruktur lainnya untuk dapat dikelola.³⁴³ ‘*Waste collection authority*’ harus menyalurkan limbah-limbah yang telah dikumpulkannya kepada ‘*waste disposal authority*’ untuk didaur ulang atau dikelola.³⁴⁴ Pemegang tanggung jawab dari kedua otoritas tersebut adalah pemerintah daerah, namun yang berbeda hanyalah kewenangannya saja yang diberikan kepada dua badan yang berbeda. Pada tahun 2010, ‘*waste collection authority*’ di negara bagian Inggris diharuskan memiliki dua jenis tempat pendaurulangan limbah, kecuali pengaplikasian hal ini dapat menimbulkan biaya yang begitu besar.³⁴⁵ Hal ini juga diharuskan pada negara bagian *Wales*.³⁴⁶

Bagi pihak-pihak yang telah memiliki izin untuk membuang limbah (pada umumnya limbah industri) tidak diperbolehkan untuk melakukan tindakan-

³³⁹ “Limbah terkontrol dan limbah ekstraktif yang dikelola, disimpan, dan dideposit di tanah dan di dalam pabrik tetap yang mengelola, menyimpan, dan mendeosit limbah tersebut,” Inggris (I), *Environmental Permitting (England and Wales) (Amendment) Regulations*, S.I. 2009/1799, *Schedule 2* Paragraf 1 (2) (b).

³⁴⁰ Inggris (II), *Environmental Act*, S.I. 1995/25, Pasal 29 (8).

³⁴¹ *Ibid.*, Pasal 29 (5).

³⁴² *Ibid.*, Pasal 44A-44B.

³⁴³ *Ibid.*, Pasal 45 (9).

³⁴⁴ *Ibid.*, Pasal 48-51.

³⁴⁵ Inggris (III), *Environmental Permitting (England and Wales) (Amendment) (No. 2) Regulations*, S.I. 2010/2172, Pasal 45A.

³⁴⁶ *Ibid.*, Pasal 45B.

tindakan diluar dari izin yang telah diberikan tersebut.³⁴⁷ Pelanggaran atas izin tersebut dapat dikenakan denda, penahanan, penyitaan barang-barang terkait pelanggaran dan biaya pembersihan.³⁴⁸ Izin tersebut diberikan oleh ‘*waste management authorities*’ yang diberikan kepada masing-masing pemerintah daerah,³⁴⁹ namun persyaratan yang harus dipenuhi untuk mendapatkan izin tersebut ditentukan oleh Sekretaris Negara.³⁵⁰ Ketentuan pada bagian limbah tersebut dimaksudkan untuk menekan jumlah pencemaran yang dapat ditimbulkan di darat, sehingga tidak mempengaruhi lingkungan lainnya, seperti air dan udara.

Terkait permasalahan sampah, undang-undang ini tidak memperbolehkan individu-individu untuk membuang sampah sembarangan pada tempat-tempat yang tidak sesuai dengan ketentuan undang-undang ini, apabila hal ini tetap dilakukan, maka orang tersebut telah melanggar ketentuan yang berlaku.³⁵¹ Permasalahan limbah radioaktif juga diatur di dalam undang-undang ini, namun kemudian lahir *Radioactive Substance Act 1993* yang menggantikan ketentuan ini dan digantikan kembali dengan *Environmental Permitting (England and Wales) Regulations 2010*.³⁵²

3.2.2. *Water Resources Act 1991 (WRA)*

WRA berlaku untuk wilayah Inggris dan Wales, dimana undang- undang ini bertujuan untuk mengkonsolidasikan peraturan air yang telah ada sebelumnya mengenai sumber daya air, dimana undang-undang ini mendefinisikan tanggung jawab *Environment Agency* (Badan Lingkungan Hidup) atau disingkat dengan

³⁴⁷ Inggris (I), Pasal 34 (1).

³⁴⁸ Ibid., Pasal 34A.

³⁴⁹ Ibid., Pasal 30.

³⁵⁰ Ibid., Pasal 40.

³⁵¹ Ibid., Pasal 87 (5).

³⁵² Inggris (IV), *Environmental Permitting (England and Wales) Regulations*, S.I. 2010/675 Instruments.

sebutan EA untuk mencegah pencemaran sungai dan air tanah.³⁵³ Undang-Undang ini panjang dan telah mengalami beberapa kali perubahan. Bentuk pertama dari WRA lahir pada tahun 1989.³⁵⁴ Bersama-sama dengan *Environmental Permitting (England and Wales) Regulations 2010* mengimplementasikan Konvensi OSPAR dalam melindungi kehidupan dan lingkungan laut.³⁵⁵

Ketentuan mengenai pencemaran air dituliskan di dalam Bagian III dari Undang-Undang ini. Yang menjadi perhatian utama dari Bagian ini adalah perlindungan yang diberikan untuk “*controlled waters*”³⁵⁶ dan klasifikasi-klasifikasi yang salah satunya atau lebih dipenuhi, seperti:³⁵⁷

- a) persyaratan umum yang sesuai dengan tujuan dari klasifikasi ini;
- b) persyaratan khusus mengenai zat-zat yang harus ada di dalam air dan zat-zat yang seharusnya tidak ada di dalam air atau seharusnya ada di dalam air;
- c) persyaratan khusus untuk karakteristik lain dari perairan tersebut.

Bagi pihak-pihak yang ingin membuang air limbahnya langsung ke air permukaan, seperti sungai besar, sungai kecil, kanal, air tanah dan air laut diperbolehkan untuk melakukan hal tersebut, namun dibutuhkan izin dari EA.³⁵⁸ Pemberian izin tersebut dilakukan untuk mencegah terjadinya pelanggaran-pelanggaran terhadap ketentuan di dalam Undang-Undang, terutama yang bersangkutan dengan ketentuan “*controlled waters*”. Tindakan-tindakan yang dianggap sebagai pelanggaran adalah:³⁵⁹

³⁵³ RRC Training (I), “Water Resources Act 1991,” *RRC Environmental Health & Safety Law & Case Law Guide* (London, 2010): 170.

³⁵⁴ <http://www.coastlaw.uct.ac.za/iczm/notes/note6.htm>, diunduh 16 Mei 2012.

³⁵⁵ Ibid.

³⁵⁶ “Perairan teritorial yang relevan, perairan pesisir, *inland freshwaters* (termasuk danau dan kolam) dan air tanah,” Inggris (II), *Water Resources Act 1991*, Pasal 82 (1).

³⁵⁷ Inggris (II), Pasal 82 (2).

³⁵⁸ <http://www.environment-agency.gov.uk/business/sectors/32425.aspx>, diunduh 16 Mei 2012.

³⁵⁹ Inggris (II), Pasal 85 (1).

- a) mereka yang secara sadar mengizinkan zat-zat beracun, berbahaya atau limbah padat dimasukkan ke dalam “*controlled waters*”;
- b) mereka yang secara sadar mengizinkan hal apapun, selain perdagangan limbah atau limbah buangan, memasuki perairan “*controlled waters*” dengan cara pembuangan melalui selokan yang bertentangan dengan ketentuan ini;
- c) mereka yang secara sadar menyebabkan atau mengetahui adanya pemberian izin pembuangan limbah efluen untuk dibuang ke “*controlled waters*” dan pipa yang ditujukan ke batas luar laut;
- d) mereka yang secara sadar mengizinkan pembuangan limbah efluen dari infrastruktur menuju tanah dan danau atau kolam.

Sanksi yang diberikan apabila pelanggaran ini dilakukan dapat berupa sanksi administratif maupun sanksi pidana.³⁶⁰ Selain itu, Undang-Undang ini juga menganut prinsip *precautionary approach* dan pengaturan tersendiri mengenai area-area yang dilindungi, seperti *water protection zones*³⁶¹ dan *nitrate sensitive area*. Inggris, seperti beberapa negara lainnya yang akan dijelaskan, memberikan pengaturan mengenai limbah dan pembuangannya ke air permukaan sangat erat kaitannya dengan pencemaran laut dari *land-based sources* karena air permukaan tersebut pada akhirnya akan mengalir ke laut.

3.2.3. *Environmental Permitting (England and Wales) Regulation 2010* (Terkait dengan Ketentuan Bahan Radioaktif)

Environmental Permitting (England and Wales) Regulation 2010 (EPR10) merupakan instrumen undang-undang yang mengatur pemberian izin aktivitas-aktivitas yang terkait dengan tiga hal, yaitu izin pembuangan ke air, izin penggunaan air tanah, dan izin penggunaan dan pembuangan bahan radioaktif.³⁶² Peraturan ini menunjukkan tingkat efisiensi yang tinggi, dimana pengaturannya

³⁶⁰ Ibid., Pasal 85 (6).

³⁶¹ Ibid., Pasal 92.

³⁶² <http://archive.defra.gov.uk/environment/policy/permits/2010regs.htm>, diunduh 3 Juni 2012.

tidak hanya untuk para pelaku bisnis saja, namun juga para pejabat dan pihak-pihak terkait lainnya.³⁶³ Dari ketiga hal tersebut, peneliti hanya akan membahas lebih jauh mengenai ketentuan-ketentuan izin pembuangan bahan radioaktif terkait dengan kasus *the MOX Plant Case* yang akan dibahas oleh peneliti pada Bab selanjutnya.

Secara umum, peraturan ini mengatur mengenai pembagian kewenangan dalam memberikan izin lingkungan kepada perusahaan-perusahaan yang hendak membuang limbahnya ke salah satu tempat tersebut beserta dengan persyaratan yang harus dipenuhi oleh pengusaha untuk mendapatkan izin tersebut.³⁶⁴ Selain itu, peraturan ini juga mengatur mengenai sanksi dari akibat tindakan pelanggaran yang dilakukan, baik oleh pengusaha maupun kelalaian yang dilakukan oleh pejabat yang bersangkutan.³⁶⁵ Oleh karena itu, peraturan ini dianggap cukup komprehensif.

Secara khusus, peraturan ini mengatur mengenai hal-hal terkait dengan bahan radioaktif. Sebelum dikeluarkannya EPR10, Inggris telah mengeluarkan dua undang-undang sebelumnya yang mengatur mengenai bahan radioaktif, yaitu *Radioactive Substances Act 1969* dan *Radioactive Substances Act 1993* (RPA93). *Schedule 23* di dalam EPR10 dibuat untuk menggantikan seluruh ketentuan di dalam RPA93, dimana hal ini dilakukan karena beberapa alasan, dimana salah satunya adalah untuk memenuhi *EU Directives*³⁶⁶ terkait dengan bahan radioaktif.³⁶⁷

³⁶³ <http://archive.defra.gov.uk/environment/policy/permits/change.htm>, diunduh 3 Juni 2012.

³⁶⁴ Inggris (IV), Bab 2 Bagian 1, Bagian 2, dan Bagian 3.

³⁶⁵ *Ibid.*, Bab 5 Bagian 4.

³⁶⁶ *The Basic Safety Standards Directive* (96/29/Euratom); *The Control of High-Activity Sealed Sources and Orphan Sources* (2003/122/Euratom).

³⁶⁷ “Inggris telah menjadi anggota Uni Eropa sejak tahun 1973, walaupun Inggris tidak mau menggunakan mata uang Euro sebagai mata uang nasional dan internasional mereka. Uni Eropa mengharuskan negara-negara anggotanya untuk mengikuti *directives* yang dibuat terkait dengan permasalahan pertanian,” http://europa.eu/about-eu/countries/member-countries/unitedkingdom/index_en.htm, diunduh 3 Juni 2012.

Schedule 23 di dalam *EPR10* memberikan definisi bahan radioaktif³⁶⁸ dan limbah radioaktif³⁶⁹, dimana hal ini ditentukan oleh sebuah tabel yang berisikan kriteria-kriteria yang membedakan bahan radioaktif dan limbah radioaktif.³⁷⁰ Selain kedua definisi tersebut, peraturan ini juga memberikan definisi dari aktivitas terkait bahan radioaktif yang mana melingkupi kedua hal tersebut di atas dan termasuk pula aktivitas pengelolaan bahan radioaktif.³⁷¹ Aktivitas semacam itu memerlukan izin dari EA sebagai lembaga berdasarkan pedoman yang dituliskan di dalam *EPR10*. Dalam hal inilah, *EU Directives* mulai menancapkan ketentuan-ketentuan yang dimilikinya.

EU Directives yang pertama adalah *The Basic Safety Standards Directive* yang memberikan dasar-dasar keselamatan masyarakat yang tinggal di sekitar tempat radioaktif akan bahaya yang ditimbulkan dari proses ionisasi radiasi. Operator diwajibkan untuk mengaplikasikan prinsip hukum lingkungan internasional, yaitu *Best Available Technology* (BAT) terkait dengan pembuangannya dan dampak yang ditimbulkan dari pembuangan tersebut kepada masyarakat.³⁷² Standarisasi akan tingkat radiasi yang boleh dimiliki oleh masing-masing orang yang dipancarkan radiasi diatur di dalam Bab 4 Paragraf 2, *Schedule 23*. EA harus memiliki tenaga ahli untuk dapat melakukan pemeriksaan kelayakan yang kualitas dari tenaga ahli tersebut juga ditentukan di dalam peraturan ini.³⁷³

EU Directives yang kedua adalah *the Control of High-Activity Sealed Sources and Orphan Sources* yang memberikan dasar-dasar keselamatan para pekerja dari ionisasi radiasi yang timbul dari sumber radioaktif yang sangat

³⁶⁸ “Bahan radioaktif adalah bahan yang tidak termasuk ke dalam kategori limbah dan memenuhi ketentuan di dalam paragraf 4, 5, dan 6,” Inggris IV, *Schedule 23*, Bab 2, Paragraf 3 (1).

³⁶⁹ “Limbah radioaktif adalah bahan yang termasuk ke dalam kategori limbah dan memenuhi kriteria ketentuan di dalam paragraf 4, 5, dan 6,” Ibid.

³⁷⁰ Ibid., Bab 3, Tabel 1 (Konsentrasi *radionuclides*: NORM Aktivitas Industri) dan Tabel 2 (Konsentrasi *radionuclides*).

³⁷¹ Ibid., Bab 2, Paragraf 11.

³⁷² Ibid., Bab 4 Paragraf 1.

³⁷³ *The Basic Safety Standards Directive* (96/29Euratom), definisi tenaga ahli.

tertutup (*High-Activity Sealed Radioactive Sources*(HASS)) dan sumber radioaktif yang tidak diketahui pemiliknya (*'orphan sources'*). Persyaratannya diatur di dalam *Schedule 23*, Bab 5 yang membedakan persyaratan untuk HASS³⁷⁴ dan *'orphan sources'*. Terkait dengan *'orphan sources'*, tanggung jawab tersebut dibebankan kepada EA mengingat pemilih dari sumber radioaktif tersebut tidak diketahui dan tidak diatur di dalam peraturan ini.³⁷⁵

Tanggung jawab tidak hanya dibebankan kepada operator saja, namun juga dibebankan kepada pemangku kekuasaan, yaitu EA itu sendiri. EA harus bisa memastikan bahwa pemegang dari izin tersebut mengaplikasikan hirarki yang didefinisikan di dalam peraturan, dimana sang pemegang izin diharuskan untuk mempersiapkan rencana pengelolaan limbah secara proporsional yang timbul dari skenario spesifik.³⁷⁶ Selain itu, EA juga harus menginformasikan dan menghimbau operator-operator untuk menggunakan teknologi yang bersih, seperti yang diatur di dalam *Managing Radioactive Waste Safely* (MRWS) *White Paper* yang dibuat pada tahun 2008 dan *National Discharges Strategy 2005-2030* yang juga mendorong penggunaan BAT dan ketentuan-ketentuan terkait lainnya mengenai pembuangan limbah.³⁷⁷

3.3. Perancis

Perancis sebagai salah satu negara anggota di dalam Uni Eropa (EU) telah melakukan banyak perubahan di dalam legislasinya yang berkaitan dengan keselamatan lingkungan. Selain karena keanggotaannya di dalam EU, Perancis melakukan perubahan dalam hukum lingkungannya untuk menghadapi

³⁷⁴ "Operator HASS harus memberikan peraturan tersendiri yang dibuatnya untuk mencegah adanya bahaya yang ditimbulkan terhadap para pekerja yang bekerja dengan HASS tersebut, dimana peraturan tersebut harus memuatkan EA, namun tidak boleh dituliskan di dalam surat izin yang diberikan," *The Control of High-Activity Sealed Sources and Orphan Sources* (2003/122/Euratom).

³⁷⁵ *National Counter Terrorism Security Office: Security Requirements for Radioactive Resources*, (Mei 2008)

³⁷⁶ Department for Environment, Food and Rural Affairs (DEFRA), "Environmental Permitting Guidance: Radioactive Substances Regulation for the Environmental Permitting (England and Wales) Regulations 2010," (September 2011): 18.

³⁷⁷ *Ibid.*, hal. 18-25.

industrialisasi dan pembangunan perkotaan dengan kerangka legislatif yang komprehensif yang diterapkan di berbagai tingkat di dalam lembaga-lembaga pemerintahan terkait. Perubahan tersebut kemudian dilakukan pada tahun 1990, dimana perubahan tersebut melahirkan pengelolaan sumber daya alam yang lebih efisien, pembentukan program-program baru terkait permasalahan lingkungan, turunnya jumlah pengeluaran terkait permasalahan kesehatan masyarakat dan peningkatan kualitas lingkungan perkotaan.³⁷⁸ Saat ini, Perancis telah berhasil mengontrol keadaan udara yang dikeluarkan oleh aktivitas-aktivitas industri dan keadaan pencemaran air, serta membentuk peraturan dasar untuk sistem pengelolaan sampah yang efektif, isu-isu lingkungan terkait pertanian dan pencemaran lingkungan yang berasal dari alat transportasi, kualitas udara di kota besar, perluasan jaringan kawasan hutan lindung dan perlindungan yang diberikan terhadap wilayah pesisir.³⁷⁹

Perancis mencapai hal-hal tersebut melalui direktif-direktif yang diberikan oleh EU (*European Union Directives*)³⁸⁰ yang kemudian diterapkan ke dalam kodifikasi peraturan perundang-undangan Perancis terkait dengan hukum lingkungan yang disebut dengan *Environmental Code*, dimana kodifikasi ini terakhir kali dilakukan perubahan pada tahun 2011. Terkait dengan *land-based sources*, kedua ketentuan tersebut berisikan hal-hal yang berkaitan dengan pembuangan limbah dan pengelolaannya sebelum sampai ke laut, serta pengelolaan air itu sendiri.

3.3.1. *French Environmental Code 2010*

French Environmental Code merupakan kodifikasi hukum-hukum lingkungan di Perancis yang berisikan peraturan-peraturan terkait lingkungan

³⁷⁸ Organization for Economic Co-operation and Development (OECD), “Conclusion and Recommendation,” dalam *Environmental Performance Review of France-A Positive but Demanding Assesment* (Paris: OECD, 2005), hal. 2.

³⁷⁹ Ibid.

³⁸⁰ *Environmental Impact Assessment, Integrated Pollution Prevention and Control, Water Framework Directive, Urban Waste Water Directive, dan Waste Framework Directive.*

dalam ruang lingkup yang luas. Pengkodifikasian ini dilakukan karena beberapa hal, yaitu:³⁸¹

- a. berlimpahnya legislasi mengenai peraturan lingkungan, sehingga menambah beban administrasi;
- b. legislasi yang terlalu khusus dan terperinci, sehingga membebani pengusaha dan pihak-pihak lain terkait lingkungan;
- c. undang-undang sejauh ini mengatur secara fragmentaris dan acra, sehingga tidak ada konsep sistematis dan harmonis hukum lingkungan hidup.

French Environmental Code mencakup semua hukum lingkungan disahkan oleh Parlemen dan semua instrumen peraturan (keputusan), dimana semua ketentuan dan hukum disertakan sebagai pasal tertentu dari *French Environmental Code*. Kode ini mencakup dua bagian, yaitu bagian legislatif, yang meliputi semua ketentuan hukum (pasal dengan awal penulisan "L."), dan bagian peraturan, meliputi keputusan (pasal dengan awal penulisan "R.").³⁸² Proses kodifikasi bertujuan untuk memfasilitasi akses ke kerangka hukum, karena hukum yang diklasifikasikan tematis dan sistematis. Penelitian ini juga mengacu pada artikel *French Environmental Code*.³⁸³ Ada sekitar 60 Kode di Perancis, dan *French Environmental Code* merupakan salah satu dari mereka.³⁸⁴

French Environmental Code mengandung prinsip-prinsip hukum lingkungan internasional yang dituliskan di dalam ketentuan umumnya, sehingga setiap ketentuan lainnya yang mengatur hal-hal yang lebih khusus menganut prinsip-prinsip tersebut dalam pembuatannya. Prinsip-prinsip hukum lingkungan internasional yang dimaksud seperti prinsip *precautionary approach*, prinsip *preventive action*, prinsip *polluter-pays*, prinsip perbaikan, dan prinsip

³⁸¹ Hannes Veinla, "Basic Structures of the Draft General Part of the Environmental Code Act," *Juridica International XVII* (2010): 129.

³⁸² Armelle Guignier dan Michel Prieur, "Legal Framework for Protected Areas: France," *IUCN-EPLP No. 81* (London, 2010): 9 (footnote).

³⁸³ *Ibid.*

³⁸⁴ www.legifrance.gouv.fr, diunduh 18 Mei 2012.

partisipasi.³⁸⁵ Dalam ketentuan umum tersebut, kewajiban untuk menjaga lingkungan tidak hanya diberikan kepada individu-individu saja, namun juga diberikan kepada lembaga-lembaga pemerintahan dan pihak swasta untuk memenuhi kewajiban-kewajiban yang dituliskan di dalam *French Environmental Code*.³⁸⁶

Terkait dengan pencemaran laut dari *land-based sources*, *French Environmental Code* tidak memberikan suatu ketentuan spesifik menggunakan istilah *land-based sources*, namun terdapat pengaturan-pengaturan terkait mengenai limbah dan tata cara pembuangan, serta pengelolaannya.³⁸⁷ Limbah didefinisikan sebagai dua hal, yaitu limbah secara umum dan limbah luar biasa. Limbah secara umum dinyatakan sebagai, “residu dari suatu proses produksi, transformasi atau penggunaan, zat, bahan, produk atau barang yang merupakan sisa-sisa produksi oleh pemegangnya,” sedangkan yang dimaksud dengan limbah luar biasa sebagai, “limbah, baik yang dihasilkan atau tidak dari pengolahan limbah, yang tidak mungkin diperlakukan dalam kondisi saat ini, terutama melalui ekstraksi yang dapat digunakan kembali.”³⁸⁸ Maka dari itu, limbah yang kemudian akan digunakan kembali tetap tergolong ke dalam limbah dan tidak lepas dari pengawasan Kode ini.

Sebuah aktivitas industri tidak diperbolehkan untuk mendaur ulang sendiri limbahnya atau membuangnya langsung ke perairan di tempat keberadaan aktivitas industri dilakukan, kecuali tempat aktivitas industri itu dilakukan juga merupakan tempat mendaurulang limbah-limbah lainnya yang telah diberikan izin oleh pemerintah.³⁸⁹ Limbah-limbah yang dihasilkan, baik oleh aktivitas industri maupun aktivitas-aktivitas *land-based sources* lainnya, harus dialirkan ke tempat pendaurulangan yang telah disediakan di masing-masing daerah untuk

³⁸⁵ Perancis, *Environmental Code*, Act no. 2002-276 of 27 February 2002 Article 132 Official Journal of 28 February 2002, Pasal L110-1

³⁸⁶ *Ibid.*, Pasal L110-2.

³⁸⁷ Perancis, *Environmental Code*, Pasal L541-1 - Pasal L542-12.

³⁸⁸ *Ibid.*, Pasal L541-1.

³⁸⁹ *Ibid.*, Pasal L323-3.

kemudian dibersihkan terlebih dahulu sebelum digunakan kembali atau dibuang ke laut.

Selain melalui perantara air, Kode ini juga memberikan pengaturan mengenai pencemaran yang menggunakan perantara udara, dimana aktivitas industri harus dioperasikan sebaik mungkin agar tidak memproduksi emisi yang dapat menimbulkan pencemaran udara. Penggunaan BAT juga dipakai dalam penerapannya, sehingga adanya biaya yang lebih besar dibutuhkan untuk mewujudkan ketentuan ini.³⁹⁰

French Environmental Code juga berisikan sanksi-sanksi yang dapat diberikan kepada pihak-pihak yang melanggar ketentuan dalam Kode ini. Sanksi yang bisa diberikan dapat berupa sanksi administratif maupun sanksi pidana. *French Environmental Code* juga menganut prinsip *strict liability*, dimana sekalipun pihak-pihak yang telah memiliki izin untuk melakukan aktivitasnya di suatu daerah tetap menimbulkan pencemaran, maka siapapun yang mengoperasikannya tetap dikenakan pertanggungjawaban untuk membersihkan efek pencemaran tersebut.

3.3.2. *European Union Directives*

Sebuah *directives* atau direktif adalah sebuah undang-undang yang dilahirkan oleh EU yang mengharuskan negara-negara anggotanya untuk mencapai tujuan yang diinginkan undang-undang tersebut.³⁹¹ Perancis sebagai salah satu anggota EU³⁹² tentunya memiliki kewajiban untuk mengharmonisasikan peraturan perundang-undangan nasionalnya sesuai dengan EU *Directives* tersebut, walaupun negara-negara anggota tersebut memiliki kewenangan untuk memilih bentuk dan metode tersendiri dalam

³⁹⁰ Ibid., Pasal L515-28.

³⁹¹ Ralph H. Folsom, Ralph B. Lake, dan Ved P. Nanda, (ed), *European Union Law After Maastricht: A Practical Guide for Lawyers Outside the Common Market*, (Hague: Kluwer Law International, 1996), hal. 5.

³⁹² http://europa.eu/about-eu/countries/index_en.htm, diunduh 18 Mei 2012.

menjalankannya.³⁹³ Perihal lingkungan juga tidak luput dari pandangan EU, dimana terdapat beberapa direktif yang diberikan dan kemudian harus diterapkan ke dalam peraturan perundang-undangan nasional. Terkait dengan pencemaran laut dari *land-based sources*, EU mengeluarkan beberapa direktif, yaitu *Environmental Impact Assessment*,³⁹⁴ *Integrated Pollution Prevention and Control*,³⁹⁵ dan *Urban Waste Water Directive*,³⁹⁶ dimana penjelasannya adalah sebagai berikut:

3.3.1.1. *Environmental Impact Assessment (EIA)*

Definisi *Environmental Impact Assessment (EIA)* yang digunakan di dalam EU *Directives* diambil dari *International Association for Impact Assessment (IAIA)*, yaitu proses mengidentifikasi, memprediksi, mengevaluasi dan mengurangi dampak relevan biofisik, sosial dan usulan pengembangan sebelum keputusan besar atau komitmen yang diambil.³⁹⁷ EIA dibuat untuk memenuhi beberapa tujuan, yaitu:³⁹⁸

- a. untuk memastikan bahwa pertimbangan lingkungan secara eksplisit ditangani dan dimasukkan ke dalam pengembangan proses pengambilan keputusan;
- b. untuk mengantisipasi dan menghindari, mengurangi atau mengimbangi dampak buruk yang signifikan serta relevan terhadap keadaan biofisik, sosial dan hal-hal lain di dalam proposal pembangunan;
- c. untuk melindungi produktivitas, kapasitas alam, dan proses ekologi sehingga dapat mempertahankan fungsi mereka masing-masing; dan

³⁹³ European Council (I), *Treaty Establishing the European Community (EC)*, Official Journal C 224 , 31/08/1992 P. 0065, Pasal 288.

³⁹⁴ European Council (II), *Environmental Impact Assessment*, Council Directive 85/337/EEC of 27 June 1985.

³⁹⁵ European Council (III), *Integrated Pollution Prevention and Control*, Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008.

³⁹⁶ European Council (V), *Urban Waste Water Directive*, Council Directive 91/271/EEC of 21 May 1991.

³⁹⁷ IAIA, *Principles of Environmental Impact Assessment Best Practice*, (Lincoln: IAIA, 1996), hal. 2.

³⁹⁸ *Ibid.*, hal. 3.

d. untuk mempromosikan pembangunan yang berkelanjutan, mengoptimalkan penggunaan sumber daya, dan peluang manajemen.

Di dalam EU sendiri, prosedur wajib dan pilihan untuk menilai dampak lingkungan, dimana analisa dampak lingkungan tersebut dikenal sebagai EIA yang pertama kali diperkenalkan pada tahun 1985 dan diubah pada tahun 1997. Perubahan terakhir dilakukan pada tahun 2003, setelah EU menandatangani Konvensi Aarhus pada tahun 1998.³⁹⁹ Ada tujuh area kunci yang harus diperhatikan di dalam EIA menurut EU, yaitu deskripsi proyek,⁴⁰⁰ alternatif cara yang dipertimbangkan,⁴⁰¹ deskripsi keadaan lingkungan yang akan digunakan,⁴⁰² deskripsi mengenai dampak signifikan terhadap lingkungan,⁴⁰³ mitigasi,⁴⁰⁴ ringkasan hal-hal non-teknis,⁴⁰⁵ dan kesulitan hal-hal teknis⁴⁰⁶.

Apabila dikaitkan dengan pengendalian *land-based sources*, EIA merupakan salah satu cara pencegahan yang baik, dimana setiap proyek-proyek yang dapat menyebabkan efek yang signifikan terhadap lingkungan dapat diketahui sebelumnya.

3.3.1.2. *Integrated Pollution Prevention and Control (IPPC)*

IPPC merupakan salah satu EU *Directives* yang ditujukan untuk mengelola pembuangan limbah yang berasal dari dua aktivitas pencemaran yang berasal dari *land-based sources*, yaitu aktivitas pertanian dan aktivitas industrial.⁴⁰⁷ Terdapat 50000 instalasi industri di daratan Eropa yang terdiri dari

³⁹⁹ Michael Watson, "Environmental Impact Assessment and European Community Law," *Introductory paper at the XIV International Conference* (Beograd, 2003), <http://www.members.tripod.com/~danubedita/library/2003watson2.htm>, diunduh 18 Mei 2012.

⁴⁰⁰ European Council (II), Pasal 2, Pasal 4, Annex I.

⁴⁰¹ *Ibid.*, Pasal 3.

⁴⁰² *Ibid.*

⁴⁰³ *Ibid.*, Pasal 7.

⁴⁰⁴ *Ibid.*, Pasal 4.

⁴⁰⁵ *Ibid.*, Pasal 5 (2).

⁴⁰⁶ *Ibid.*, Pasal 5 (1).

⁴⁰⁷ <http://www.environment-agency.gov.uk/business/regulation/109813.aspx>, diunduh 18 Mei 2012.

sektor energi, produksi dan pemrosesan logam, kimia, pengelolaan limbah tertentu, dan pertanian intensif yang mana dengan diimplementasikannya IPPC, diharapkan aktivitas-aktivitas tersebut mendapatkan izin sesuai dengan ketentuan yang berlaku.⁴⁰⁸ Dengan dipenuhinya izin-izin tersebut, perusahaan yang mengajukan proyek diharapkan untuk bertanggungjawab terhadap pencemaran-pencemaran yang mungkin ditimbulkan oleh bisnis mereka.⁴⁰⁹

Untuk mendapatkan izin tersebut, perusahaan tentunya harus memenuhi kewajiban-kewajiban tertentu yang dituliskan di dalam IPPC *Directives* tersebut, terutama:

- a. menggunakan semua tindakan pencegahan pencemaran yang tepat, seperti *Best Available Techniques* (BAT);⁴¹⁰
- b. mencegah pencemaran dalam skala besar;⁴¹¹
- c. mencegah, mendaur ulang atau membuang limbah dengan cara yang sesedikit mungkin dapat menimbulkan polusi yang baru;⁴¹²
- d. menggunakan energi secara efisien;⁴¹³
- e. memastikan pencegahan kecelakaan dan pembatasan kerusakan;⁴¹⁴ dan
- f. mengembalikan keadaan wilayah yang digunakan di dalam aktivitas seperti keadaan dimana sebelum aktivitas tersebut dilakukan pada wilayah tersebut.

Dengan diterapkannya IPPC di dalam pemberian izin untuk aktivitas-aktivitas tersebut, efek negatif yang ditimbulkan dari peningkatan penginstalasian industrial dapat ditekan sejauh mungkin oleh negara-negara anggota, dimana

⁴⁰⁸ Alexander Neubauer, *Convergence with EU IPPC Policies: Short Guide for ENP Partners and Russia*, (Berlin: Institute for International and European Environmental Policy, 2007), hal. 7.

⁴⁰⁹ http://europa.eu/legislation_summaries/environment/waste_management/128045_en.htm, diunduh 18 Mei 2012.

⁴¹⁰ European Council (III), Pasal 10.

⁴¹¹ *Ibid.*, Annex IV.

⁴¹² *Ibid.*, Pasal 3 (1) (b).

⁴¹³ *Ibid.*, Pasal 3 (1) (d).

⁴¹⁴ *Ibid.*, Pasal 14.

BAT menjadi salah satu cara untuk memaksa perusahaan-perusahaan tersebut menggunakan teknologi terbaru dalam menekan angka pencemaran tersebut.⁴¹⁵

3.3.1.3. *Urban Waste Water Directive*

Direktif ini dibuat pada tahun 1991 dengan tujuan melindungi keselamatan lingkungan dari air limbah perkotaan dan air limbah yang datang dari aktivitas industrial.⁴¹⁶ Direktif ini merupakan salah satu rangkaian dari *European Union Water Policy* yang dimaksudkan untuk membuat suatu kebijakan komprehensif dalam menjaga kebersihan air.⁴¹⁷ Lahirnya direktif ini didukung juga oleh timbulnya permasalahan menyangkut tingginya tingkat kematian anjing laut dan ganggang laut di Laut Utara Eropa.⁴¹⁸

Elemen penting dari direktif ini adalah penggunaan identifikasi yang membedakan daerah sensitif dan daerah yang kurang sensitif berdasarkan ketentuan-ketentuan di dalam direktif.⁴¹⁹ Daerah-daerah yang termasuk ke dalam wilayah sensitif adalah:⁴²⁰

- a. air permukaan (air tanah, muara dan pesisir) terkait permasalahan eutrofikasi;
- b. air bersih permukaan yang ditujukan sebagai air konsumsi dengan konsentrasi nitrat lebih dari $>50 \text{ mg l}^{-1}$;
- c. wilayah-wilayah lain yang memerlukan perawatan lebih lanjut agar dapat memenuhi persyaratan yang ada.

Daerah yang kurang sensitif adalah daerah-daerah yang menjadi tempat pembuangan air limbah, namun air limbah tersebut tidak mengakibatkan

⁴¹⁵ Alexander Neubauer, *Convergence with EU IPPC Policies: Short Guide for ENP Partners and Russia*, hal. 8.

⁴¹⁶ European Council (IV), Pasal 1.

⁴¹⁷ Wenke Hansen dan R. Andreas Kraemer, *Development and Requirements of the Urban Waste Water Treatment Directive (91/271/EEC)*, (Berlin: Ecologic - Centre for International and European Environmental Research, 2000), hal. 5.

⁴¹⁸ *Ibid.*, hal. 4.

⁴¹⁹ European Council (IV), Pasal 5 (1).

⁴²⁰ *Ibid.*, Annex II.

morfologi, hidrologi atau kondisi tertentu yang mencemari wilayah tersebut.⁴²¹ Elemen-elemen yang harus dipertimbangkan oleh negara-negara anggota dalam mengidentifikasi daerah yang kurang sensitif adalah daerah yang teluk, muara dan pesisir yang terbuka dengan pertukaran air yang baik dan tidak mudah terkena eutrofikasi atau kekurangan oksigen yang disebabkan oleh pembuangan air limbah perkotaan.⁴²²

Dengan adanya pengkategorian antara daerah sensitif dan daerah kurang sensitif, negara-negara anggota dapat memberikan perawatan yang sesuai dengan pengkategorian tersebut. Mengingat aktivitas industri telah diberikan banyak peraturan yang meregulasinya, *Urban Waste Water Directive* menunjukkan adanya perhatian terhadap aktivitas-aktivitas yang menyebabkan timbulnya pencemaran yang berasal dari perkotaan, seperti limbah-limbah domestik.

3.4. Indonesia

Indonesia sebagai satu-satunya contoh negara berkembang dalam penelitian ini menunjukkan tingginya tingkat pencemaran laut yang ditimbulkan dari *land-based sources*. Hal ini dikarenakan belum adanya sistem yang terintegrasi dalam menangani limbah-limbah yang dibuang, baik melalui perantara sungai, maupun langsung ke laut, sebelum dialirkan ke laut. Pemerintah memberikan kewajiban tersebut kepada masing-masing perusahaan untuk melakukan pendaurulangan sebelum dilakukan pembuangan. Indonesia adalah negara kepulauan yang memiliki lebih dari 17500 pulau dengan luas wilayah perairan laut lebih dari 75% dan panjang garis pantai mencapai 81000 km, sehingga pengelolaan sumber daya pesisir dan laut secara berkelanjutan merupakan bagian terpenting dalam strategi pembangunan untuk meningkatkan daya saing nasional.⁴²³ Di Indonesia sendiri telah ada peraturan perundang-undangan tersendiri yang mengatur secara umum dan secara khusus mengenai perlindungan lingkungan.

⁴²¹ Ibid.

⁴²² Ibid.

⁴²³ Mukhtasor, *Pencemaran Pesisir dan Laut*, hal. 2.

3.4.1. Undang-Undang Republik Indonesia Nomor 32 Tahun 2009 Tentang Perlindungan dan Pengelolaan Lingkungan Hidup (UU No. 32/2009)

Sebelum adanya UU No. 32/2009, Indonesia telah memiliki undang-undang nasional yang mengatur perihal yang sama pada tahun 1999.⁴²⁴ Perbedaan mendasar yang terdapat di dalam UU No. 32/2009 dengan pendahulunya adalah penguatan prinsip-prinsip perlindungan dan pengelolaan lingkungan hidup yang didasarkan pada tata kelola pemerintahan yang baik karena dalam seriap proses perumusan dan penerapan instrumen pencegahan pencemaran dan/atau kerusakan lingkungan hidup serta penanggulangan dan penegakan hukum mewajibkan pengintegrasian aspek transparansi, partisipasi, akuntabilitas dan keadilan.⁴²⁵ UU No. 32/2009 merupakan sebuah loncatan besar dalam upaya Indonesia untuk melindungi dan mengelola lingkungan hidup karena untuk pertama kalinya, Indonesia mempunyai sebuah instrumen hukum yang mewajibkan dan mengatur bagaimana caranya mengimplementasikan paradigma pembangunan berkelanjutan melalui Kajian Lingkungan Hidup Strategis (KLHS), AMDAL, izin lingkungan, sampai pada pengawasan dan penegakan hukum yang jauh lebih ketat.⁴²⁶

Hal-hal terkait permasalahan pencemaran lingkungan yang berasal dari *land-based sources* diatur di dalam Undang-Undang ini, namun tidak diberikan definisi tersendiri mengenai *land-based sources* tersebut. Akan tetapi, seperti yang telah dijelaskan sebelumnya mengenai hal-hal terkait *land-based sources*, Undang-Undang ini mengatur hal-hal tersebut secara umum.

Terkait aktivitas industri, Undang-Undang ini mengharuskan segala aktivitas yang dilakukan yang dapat berdampak kepada lingkungan memiliki apa

⁴²⁴ Indonesia (I), Undang-Undang Tentang Pengelolaan Lingkungan Hidup, UU No. 23 Tahun 1997, LN No. 68 Tahun 1997, TLN No. 3699.

⁴²⁵ Indonesia (II), Undang-Undang Tentang Perlindungan dan Pengelolaan Lingkungan Hidup, UU No. 32 Tahun 2009, LN No. 140 Tahun 2009, TLN No. 5059, Penjelasan UU No. 32/2009, Bagiam Umum.

⁴²⁶ A. Sonny Keraf, *Etika Lingkungan Hidup*, (Jakarta: Kompas Media Nusantara, 2010), hal. XIV.

yang disebut dengan izin lingkungan⁴²⁷. Setelah izin lingkungan tersebut didapat, pihak yang ingin melakukan aktivitas tersebut baru bisa mengajukan AMDAL dan/atau UKL-UPL, dimana pemberian AMDAL dan/atau UKL-UPL tergantung kepada seberapa besar dampak lingkungan yang diberikan dari aktivitas yang akan dilakukan tersebut.⁴²⁸ Pemberian izin lingkungan dan pengajuan AMDAL dan/atau UKL-UPL merupakan penerapan dari prinsip *due diligence*, dimana dilakukan pengkajian mendalam sebelum sebuah aktivitas dilakukan, sehingga mencegah terjadinya pencemaran yang disebabkan dari aktivitas tersebut. Ketika AMDAL dan/atau UKL-UPL tersebut diajukan, banyak sekali pihak yang lulus dan kemudian mendapatkan izin usaha, namun pencemaran tetap terjadi karena pemerintah seringkali tidak melakukan kajian terlebih dahulu terhadap sungai yang menjadi sarana pembuangan air limbah tersebut.⁴²⁹ Aktivitas tersebut memang telah memenuhi ketentuan untuk mendapatkan AMDAL dan/atau UKL-UPL, namun sebenarnya daya tampung⁴³⁰ dari sungai itu sendiri tidak lagi dapat menampung adanya industri lagi yang membuang air limbahnya ke sungai tersebut.⁴³¹

Apabila pencemaran tetap terjadi, pihak yang melakukan pencemaran tersebut bertanggung jawab untuk melakukan tindakan-tindakan penanggulangan, sehingga pencemaran tersebut tidak menyebar lebih luas lagi.⁴³² Setelah dilakukan penanggulangan, pihak yang bertanggungjawab tersebut kemudian

⁴²⁷ “Izin lingkungan adalah izin yang diberikan kepada setiap orang yang melakukan usaha dan/atau kegiatan yang wajib AMDAL atau UKL-UPL dalam rangka perlindungan dan pengelolaan lingkungan hidup sebagai prasyarat untuk memperoleh izin usaha dan/atau kegiatan,” Indonesia (II), Pasal 1 Angka 35.

⁴²⁸ Wawancara tertulis dengan Bapak Sabar Ginting, Asisten Deputi Manufaktur, Prasarana dan Jasa Kementerian Lingkungan Hidup, Jakarta, 4 Mei 2012.

⁴²⁹ Wawancara tertulis dengan Bapak Yazid Nurhuda, Asisten Perjanjian Internasional Lingkungan Kementerian Lingkungan Hidup, Jakarta, 30 April 2012.

⁴³⁰ “Daya tampung lingkungan hidup adalah kemampuan lingkungan hidup untuk menyerap zat, energi, dan/atau komponen lain yang masuk atau dimasukkan ke dalamnya,” Indonesia (II) Pasal 1 angka 8.

⁴³¹ Ibid.

⁴³² “Penanggulangan pencemaran: (a) pemberian informasi peringatan pencemaran dan/atau kerusakan lingkungan hidup kepada masyarakat; (b) pengisolasian pencemaran dan/atau kerusakan lingkungan hidup; dan/atau (c) cara lain yang sesuai dengan perkembangan ilmu pengetahuan (*best available technology*),” Indonesia (II), Pasal 53 (2).

melakukan pemulihan keadaan agar daerah yang tercemar kembali ke keadaan sebelum pencemaran.⁴³³ Bagi pihak-pihak yang diketahui melanggar ketentuan yang berlaku di dalam Undang-Undang ini, sanksi-sanksi administratif maupun pidana dapat menjerat mereka. Selain itu, Undang-Undang ini juga mengenal adanya *strict liability*, *class action*, dan *citizen suit*, serta sanksi pidana.⁴³⁴

Pada akhirnya, UU No. 32/2009 telah memberikan gambaran umum bagi, baik pemerintah maupun masyarakat umum, mengenai ketentuan hukum lingkungan di Indonesia. UU No. 32/2009 lebih menekankan kepada pemberian izin terhadap aktivitas-aktivitas yang berdampak terhadap lingkungan di Indonesia.

3.4.2. Peraturan Pemerintah Republik Indonesia Nomor 19 Tahun 1999 Tentang Pengendalian Pencemaran dan/atau Perusakan Laut (PP No. 19 Tahun 1999)

PP No. 19/1999 lahir dua tahun sebelum PP No. 82/2001 dikeluarkan, namun PP No. 82/2001 tidak mengambil PP No. 19/1999 sebagai salah satu peraturan pemerintah dalam bahan pertimbangannya, sehingga secara formil keduanya tidak saling berkaitan. Walaupun begitu, PP No. 19/1999 mengaitkan dirinya dengan Peraturan Pemerintah Tentang Pengendalian Pencemaran Air yang dikeluarkan pada tahun 1990⁴³⁵ yang merupakan cikal bakal dibuatnya PP no. 82/2001.⁴³⁶ Oleh karena itu, secara materiil keduanya pada dasarnya saling berkaitan.

Peraturan pemerintah ini secara eksplisit menyatakan keterkaitannya dengan konvensi internasional, namun tidak menyebutkan konvensi apa yang dimaksud dalam keterkaitannya tersebut.⁴³⁷ Walaupun dapat dilihat dari isinya,

⁴³³ Indonesia (II), Pasal 54 (1).

⁴³⁴ Ibid., Pasal 76-83, Pasal 91, Pasal 88, dan Pasal 97-120.

⁴³⁵ Indonesia (III), *Peraturan Pemerintah Tentang Pengendalian Pencemaran Air*, PP No. 20 Tahun 1990.

⁴³⁶ Indonesia, *Peraturan Pemerintah Tentang Pengendalian Pencemaran dan/atau Perusakan Air Laut*, PP No. 19 Tahun 1999, TLN No. 3816, Penjelasan PP No. 19/1999, Bagian Umum.

⁴³⁷ Ibid.

PP No. 19/1999 mengacu kepada UNCLOS dalam hal definisi pencemaran laut, dan kewajiban yang diberikan kepada pihak-pihak yang ingin melakukan eksploitasi untuk bertanggung jawab atas apa yang dilakukannya.⁴³⁸ Hal ini membedakannya dengan peraturan pemerintah sebelumnya yang tidak mengaitkan dirinya dengan konvensi internasional apapun, begitu pula dengan UU No. 32/2009, walaupun pada kenyataannya, Indonesia telah meratifikasi banyak konvensi internasional terkait dengan pencemaran laut dan unsur-unsur terkait lainnya.

Pencemaran laut itu sendiri dikatakan telah terjadi ketika dimasukkannya makhluk hidup, zat, energi dan/atau komponen lain ke dalam lingkungan laut oleh kegiatan manusia, sehingga kualitasnya turun sampai ke tingkat tertentu yang menyebabkan lingkungan laut tidak sesuai dengan baku mutu dan/atau fungsinya.⁴³⁹ Selain itu, juga sangat berguna bagi penentuan status mutu laut karena sanga erat kaitannya antara tingkat pencemaran laut dengan status mutu laut itu sendiri.⁴⁴⁰ Sedangkan perusakan laut itu sendiri,⁴⁴¹ lebih ditujukan kepada tindakan yang dilakukan oleh para pihak tersebut, ketimbang keadaan dari laut seperti yang dijelaskan di dalam definisi pencemaran laut.

Peraturan ini lebih menekankan kepada tindakan-tindakan yang dilakukan di laut,⁴⁴² walaupun peraturan ini tidak mengesampingkan tindakan-tindakan yang dilakukan di darat yang memberikan dampak yang signifikan terhadap baku mutu air laut.⁴⁴³ Misalnya hal ini dilakukan oleh pabrik-pabrik yang langsung membuang air limbahnya ke laut berdasarkan posisinya yang memang berada di pesisir, dimana lebih mudah dan murah baginya untuk membuang air limbahnya

⁴³⁸ PBB, *United Nations Convention on the Law of the Sea*, Pasal 192 dan Pasal 194.

⁴³⁹ *Ibid.*, Pasal 1 angka 2.

⁴⁴⁰ *Ibid.*, Penjelasan PP No. 19/1999, Bagian Umum.

⁴⁴¹ “Perusakan Laut adalah tindakan yang menimbulkan perubahan langsung atau tidak langsung terhadap fisik dan/atau hayatinya yang melampaui kriteria baku kerusakan laut,” Indonesia (V), Pasal 1 angka 4.

⁴⁴² Indonesia (V), Pasal 12.

⁴⁴³ *Ibid.*, Pasal 9.

ke laut ketimbang mengalirkannya dahulu ke sungai.⁴⁴⁴ Hal ini sebenarnya diperbolehkan oleh peraturan perundang-undangan, namun tetap harus sesuai dengan kriteria-kriteria yang telah diberikan berdasarkan izin-izin yang telah dipenuhi oleh pabrik-pabrik tersebut.⁴⁴⁵

Pada bagian ganti rugi atau terkait dengan sanksi yang diberikan kepada pihak-pihak yang lalai atau dengan sengaja melanggar ketentuan peraturan perundang-undangan, PP No. 19/1999 belum memberikan pengaturan yang komprehensif mengenai pemberian sanksi tersebut. Pasal 24 dan Pasal 25 di dalam PP No. 19/1999 hanya mewajibkan pihak yang bertanggung jawab atas kegiatan yang mengakibatkan pencemaran laut tersebut untuk menanggung biaya penanggulangan pencemaran dan biaya ganti rugi terhadap pihak yang dirugikan oleh pencemaran tersebut. Hal ini sangat berbeda dengan PP No. 82/2001 yang dibuat memiliki pengaturan yang sedikit lebih terperinci, dimana untuk sanksi administratif, PP No. 82/2001 memberikan kewenangan kepada Bupati/Walikota untuk menetapkan jumlah yang harus dibayarkan oleh pihak tersebut.⁴⁴⁶ Terkait dengan sanksi pidana, PP No. 82/2001 mengacu kepada ketentuan UU No. 23/1997 yang sudah diganti dengan UU No. 32/2009,⁴⁴⁷ sehingga ketentuan sanksi pidananya juga berganti dan telah disesuaikan secara otomatis.

Pada akhirnya, PP No. 19/1999 tidak memberikan pengaturan yang signifikan mengenai pengendalian pencemaran dan/atau perusakan laut, dimana hal ini dapat dilihat dari jumlah pasal yang ada di dalamnya, hanya sampai dengan 28 pasal. Selain itu, PP No. 19/1999 hanya memusatkan permasalahan pencemaran laut dari *dumping*⁴⁴⁸ dan hanya secara umum mendorong masyarakat untuk tidak mencemari laut.

⁴⁴⁴ Wawancara tertulis dengan Bapak Yazid Nurhuda, Asisten Deputi Perjanjian Lingkungan Internasional Lingkungan, Jakarta, 30 April 2012.

⁴⁴⁵ Ibid.

⁴⁴⁶ Indonesia (III), Pasal 48.

⁴⁴⁷ Ibid., Pasal 51.

⁴⁴⁸ Indonesia (V), Pasal 18.

3.4.3. Peraturan Pemerintah Republik Indonesia Nomor 82 Tahun 2001 Tentang Pengelolaan Kualitas Air dan Pengendalian Pencemaran Air (PP No. 82/2001)

PP No. 82/2001 erat hubungannya dengan pencemaran laut yang disebabkan oleh *land-based sources* mengingat perantara yang digunakannya adalah air. Dengan adanya PP No. 82/2001, kualitas air di Indonesia dapat dijaga dengan baik dan menekan tingginya pencemaran yang terjadi di sungai-sungai di Indonesia. PP No. 82/2001 itu sendiri memberikan pengaturan teknis dalam menangani pengelolaan dan pengendalian pencemaran air, dimana peraturan pemerintah ini tidak hanya ditujukan kepada kualitas dari air itu sendiri dan bagaimana caranya agar kualitas air itu tetap terjaga. Air sebagai komponen lingkungan akan mempengaruhi dan dipengaruhi oleh komponen lainnya, sehingga penurunan kualitas air akan menurunkan dayaguna, hasil guna, produktivitas, daya dukung dan daya tampung dari sumber daya air yang pada akhirnya akan menurunkan kekayaan sumber daya alam (*natural resources depletion*).⁴⁴⁹ Sayangnya, peraturan pemerintah ini masih mengacu kepada undang-undang lingkungan hidup pada tahun 1997, namun ketentuan di dalam peraturan pemerintah ini tidak bertentangan dengan UU No. 32/2009 sehingga dapat digunakan.

Kewenangan dari pemerintah provinsi dan kabupaten/kota lebih ditekankan di dalam PP No. 82/2001 karena pada Pasal 6, pemerintah pusat diperbolehkan untuk melimpahkan tugasnya dalam mengelola air kepada pemerintah provinsi atau pemerintah kabupaten/kota yang bersangkutan.⁴⁵⁰ Pemerintah pusat memiliki peran yang lebih condong sebagai pengawas saja, ketimbang sebagai pelaksana di lapangan.

Pengkategorian air dalam PP No. 82/2001 adalah semua air yang berada di permukaan dan di bawah permukaan tanah, kecuali air laut dan air fosil,⁴⁵¹

⁴⁴⁹ Indonesia (IV), *Peraturan Pemerintah Tentang Pengelolaan Kualitas Air dan Pengendalian Pencemaran Air*; PP No. 82 Tahun 2001, TLN No. 4161, Penjelasan PP No. 82/2001, Bagian Umum.

⁴⁵⁰ Indonesia (IV), Pasal 6.

⁴⁵¹ *Ibid.*, Pasal 1 angka 1.

maka air inilah yang kemudian harus dijaga mutunya sehingga dapat digunakan dalam aktivitas-aktivitas masyarakat. Mutu air itu sendiri diklasifikasikan menjadi empat kelas,⁴⁵² sehingga pemerintah tidak salah dalam memberikan informasi penggunaan air-air tersebut. Penetapan mutu air tersebut dilakukan berdasarkan pengkajian yang dilakukan oleh laboratorium yang dipilih oleh Gubernur,⁴⁵³ dimana PP No. 82/2001 juga memberikan pedoman mengenai parameter klasifikasi mutu air tersebut.⁴⁵⁴

Berkaitan dengan pencemaran, PP No. 82/2001 kemudian memberikan penekanan kepada penilaian yang diambil dari baku mutu air limbah. Pada pengelolaan air, baku mutu air itu sendiri yang dijadikan tolak ukur apakah air tersebut masuk ke dalam salah satu klasifikasi mutu air. Sedangkan dalam penilaian baku mutu air limbah, penilaian dilakukan kepada air yang memang digunakan sebagai sarana pembuangan air limbah, dimana baku mutu air limbah tersebut juga telah ditentukan oleh pemerintah itu sendiri. Pada sarana-sarana air yang digunakan sebagai sarana pembuangan air limbah, pemerintah memberikan perhitungan yang cermat terhadap daya tampung beban pencemaran air pada sumber air. Maka, ketika dilakukan pengkajian berkala dan perhitungannya menunjukkan bahwa daya tampungnya telah berlebihan, pemerintah dapat dengan segera melakukan penanganan.

PP No. 82/2001 mewajibkan pihak-pihak yang ingin membuang limbahnya ke air untuk mencegah dan menanggulangi pencemaran air.⁴⁵⁵ Selain itu, mereka juga diwajibkan untuk mendapatkan izin pembuangan air limbah dari

⁴⁵² “Klasifikasi mutu air: (a) kelas satu, air yang peruntukannya dapat digunakan untuk air baku air minum, dan atau peruntukan lain yang mempersyaratkan mutu air yang sama dengan kegunaan tersebut; (b) kelas dua, air yang peruntukannya dapat digunakan untuk prasarana/sarana rekreasi air, pembudidayaan ikan air tawar, peternakan, air untuk mengairi pertanaman, dan atau peruntukan lain mempersyaratkan mutu air yang sama dengan kegunaan tersebut; (c) kelas tiga, air yang peruntukannya dapat digunakan untuk pembudidayaan ikan air tawar, peternakan, air untuk mengairi pertanaman, dan atau peruntukan lainnya yang mempersyaratkan air yang sama dengan kegunaan tersebut; (d) kelas empat, air yang peruntukannya dapat digunakan untuk mengairi, pertanaman dan atau peruntukan lainnya yang mempersyaratkan mutu air yang sama dengan kegunaan tersebut,” Indonesia (III), Pasal 8 (1).

⁴⁵³ Indonesia (IV), Pasal 16.

⁴⁵⁴ Ibid., Lampiran PP No. 82/2001.

⁴⁵⁵ Ibid., Pasal 37.

Bupati/Walikota daerah tempat limbah itu dibuang.⁴⁵⁶ Ketika terjadi pencemaran, pemerintah bersama-sama dengan pihak yang bertanggung jawab atas pencemaran tersebut untuk memberitahukan masyarakat mengenai bahayanya terhadap kesehatan dan ekosistem, sumber pencemaran dan/atau penyebab lainnya, dampaknya terhadap kehidupan masyarakat, dan langkah-langkah yang kemudian akan diambil oleh pemerintah untuk menanggulangi pencemaran tersebut.⁴⁵⁷

3.4.4. Peraturan Menteri Lingkungan Hidup Nomor 12 Tahun 2006 Tentang Persyaratan dan Tata Cara Perizinan Pembuangan Air Limbah ke Laut (Permen LH No. 12/2006)

Berbeda dengan dua peraturan sebelumnya, peraturan menteri memiliki fungsi dan ruang lingkup yang berbeda. Ada empat fungsi peraturan menteri, yaitu menyelenggarakan pengaturan secara umum dalam rangka penyelenggaraan kekuasaan pemerintahan di bidangnya, menyelenggarakan pengaturan lebih lanjut ketentuan dalam Peraturan Presiden, menyelenggarakan pengaturan lebih lanjut ketentuan dalam Undang-Undang yang tegas-tegas menyebutnya dan menyelenggarakan pengaturan lebih lanjut ketentuan dalam Peraturan Pemerintah yang tegas-tegas menyebutnya.⁴⁵⁸ Dari keempat fungsi tersebut, Permen LH No. 12/2006 berfungsi sebagai penyelenggaraan kekuasaan pemerintah di bidangnya dan menyelenggarakan pengaturan lebih lanjut ketentuan dalam Peraturan Pemerintah yang tegas-tegas menyebutnya, sehingga peraturan ini ditujukan untuk pejabat-pejabat terkait yang menangani persyaratan dan tata cara pembuangan air limbah ke laut dalam pengimplementasiannya kepada masyarakat.⁴⁵⁹ Permen LH No. 12/2006 merupakan peraturan yang dibuat

⁴⁵⁶ Ibid., Pasal 40 (1).

⁴⁵⁷ Ibid., Penjelasan Pasal 33.

⁴⁵⁸ Maria Farida Indrati S., *Ilmu Perundang-Undangan 1 (Jenis, Fungsi, dan Materi Muatan)*, (Yogyakarta: Kanisius, 2007), hal. 225-228.

⁴⁵⁹ Ibid., hal. 225-226.

berdasarkan ketentuan di dalam Pasal 9, Peraturan Pemerintah Nomor 19 Tahun 1999 Tentang Pengendalian Pencemaran dan/atau Perusakan Air Laut.

Tindakan pembuangan air limbah yang langsung ke laut pada umumnya dilakukan oleh infrastruktur-infrastruktur yang dibangun di pesisir pantai, sehingga penyaluran air limbah ke sungai terlebih dahulu dianggap kurang efektif. Selain itu, biaya yang dikeluarkan juga menjadi lebih sedikit dalam membangun saluran atau pipa yang langsung dialirkan ke laut mengingat lokasi dari infrastruktur tersebut. Oleh karena itu, infrastruktur-infrastruktur tersebut lebih memilih untuk membuang air limbahnya langsung ke laut.

Permen LH No. 12/2006 memberikan persyaratan dan tata cara perizinan yang harus diperhatikan oleh pejabat-pejabat di bawah kewenangan Kementerian Lingkungan Hidup serta pihak-pihak lain terkait perihal pembuangan air limbah ke laut. Dalam peraturan ini, air limbah dikategorikan sebagai sisa dari proses usaha dan/atau kegiatan yang berwujud cair, namun tidak termasuk dalam hal ini adalah limbah radioaktif.⁴⁶⁰ Berkaitan dengan tindakan pembuangan air limbah itu sendiri ke dalam laut, peraturan ini memberikan definisinya sebagai proses pembuangan sisa usaha dan/atau kegiatan dari proses produksi dalam bentuk cair ke laut yang dilakukan secara terus menerus dan/atau periodik.⁴⁶¹ Aktivitas-aktivitas pembuangan air limbah ke laut yang tidak dilakukan secara terus menerus dan/atau periodik tidak termasuk ke dalam ruang lingkup peraturan ini. Maka dari itu, infrastruktur-infrastruktur yang secara terus menerus dan/atau periodik pada umumnya adalah infrastruktur-infrastruktur aktivitas industri, seperti pabrik.

Pemberian izin untuk pembuangan air limbah ke laut diberikan oleh Menteri,⁴⁶² namun kewenangan ini dapat didelegasikan kepada Gubernur tempat

⁴⁶⁰ Kementerian Lingkungan Hidup, *Peraturan Menteri Lingkungan Hidup Tentang Persyaratan dan Tata Cara Perizinan Pembuangan Air Limbah ke Laut*, Permen LH No. 12/2006, Pasal 1 Angka 3.

⁴⁶¹ *Ibid.*, Pasal 1 Angka 6.

⁴⁶² “Menteri adalah menteri yang menyelenggarakan urusan pemerintahan di bidang perlindungan dan pengelolaan lingkungan hidup,” Indonesia (II), Pasal 1 Angka 39.

infrastruktur tersebut akan beroperasi.⁴⁶³ Permohonan izin hanya diajukan kepada salah satu pejabat saja, sehingga tidak menimbulkan tumpang tindih kewenangan. Hal ini ditunjukkan di dalam penggunaan kata atau pada Pasal 8 dan Pasal 9 Permen LH No. 12/2006, namun terkait laporan pemantauan persyaratan pembuangan air limbah ke laut diberikan oleh penanggungjawab usaha kepada Menteri dan/atau Gubernur yang ditunjukkan pada Pasal 10.

Peraturan ini mengharuskan penanggungjawab usaha untuk mengolah air limbahnya tersebut sebelum dibuang ke laut, dimana tolak ukur dari pengolahan tersebut didasarkan kepada lima hal, yaitu perhitungan daya tampung lingkungan laut, karakteristik air limbah yang dibuang, rona awal badan air (laut/estuari), dampak pembuangan, serta upaya pengendalian dampak dan rencana pemantauan.⁴⁶⁴ Selain itu, peraturan ini juga memberikan lampiran mengenai contoh berkas-berkas yang berisikan hal-hal yang harus dipenuhi oleh penanggungjawab usaha. Kelima tolak ukur di atas juga termasuk ke dalam hal-hal yang harus dipenuhi di dalam berkas-berkas tersebut. Lampiran pertama berisikan formulir izin pembuangan limbah cair ke laut,⁴⁶⁵ sedangkan lampiran kedua berisikan kajian pembuangan air limbah ke laut.⁴⁶⁶

Keuntungan dari dibuatnya peraturan ini adalah adanya pedoman yang dapat digunakan oleh para pejabat terkait dalam memberikan izin pembuangan air limbah ke laut kepada usaha dan/atau kegiatan yang terletak di wilayah pesisir. Kelemahan dari peraturan ini adalah besarnya porsi yang harus dipenuhi oleh para penanggungjawab dan banyaknya hal yang harus diperiksa oleh pejabat terkait, sehingga diperlukan beberapa waktu untuk dapat memeriksa dan meneliti

⁴⁶³ Kementerian Lingkungan Hidup, Pasal 3.

⁴⁶⁴ Ibid., Pasal 2.

⁴⁶⁵ "Isi dari formulir tersebut termasuk identitas pemohon, izin dan dokumen lingkungan yang telah diperoleh, proses pengolahan air limbah yang digunakan, rata-rata jumlah air limbah yang diproduksi, lokasi titik pembuangan, lokasi badan air penerima (laut/estuari) dan karakteristik dari air limbah yang dibuang," Ibid., Lampiran 1.

⁴⁶⁶ "Kajian Pembuangan Air Limbah ke Laut berisikan rona awal badan air (laut/estuari) yang menjelaskan kondisi lingkungan perairan tempat pengambilan dan pembuangan limbah, dampak dari pembuangan tersebut terhadap lingkungan dan ketentuan upaya-upaya mitigasi untuk menekan dampak terhadap lingkungan, kesehatan manusia, navigasi dan estetika," Ibid., Lampiran 2.

dengan baik apakah persyaratan-persyaratan tersebut telah dipenuhi. Pada akhirnya, para pejabat terkait dituntut untuk bekerja lebih teliti dan lebih baik untuk memperkecil ruang kesalahan dalam memberikan izin pembuangan air limbah ke laut sebagai salah satu sumber pencemaran laut dari *land-based sources*.

3.4.5. Efektivitas Peraturan Perundang-Undangan Indonesia dalam Mencegah *Land-Based Sources Pollution*

Dilihat dari banyaknya peraturan perundang-undangan di atas yang telah memberikan pengaturan terkait *land-based sources*, Indonesia telah memiliki peraturan perundang-undangan yang cukup komprehensif. UU No. 32/2009 memberikan gambaran umum terkait dengan pengelolaan lingkungan dan sanksi-sanksi yang dapat diberikan terhadap para pihak yang melanggar ketentuan-ketentuan tersebut. Secara khusus Indonesia juga mengatur mengenai pencemaran air laut, dimana di dalam Pasal 9, PP No. 19/1999 mewajibkan bagi setiap orang atau penanggung jawab usaha dan/atau kegiatan untuk tidak melakukan usaha dan/atau kegiatan yang dapat mencemari lingkungan laut dan pada Pasal 10 mewajibkan pihak-pihak tersebut untuk memenuhi persyaratan yang berlaku. Persyaratan-persyaratan tersebut salah satunya dituliskan di dalam Permen LH No. 12/2006 terkait dengan infrastruktur-infrastruktur darat yang mau membuang sisa-sisa produksinya langsung ke laut. Pada PP No. 82/2001, kualitas air harus dijaga oleh masing-masing pemerintah daerah dari pencemaran, sehingga mendorong pemerintah daerah untuk mencegah terjadinya pencemaran dari sumber-sumber pencemaran di darat.

Akan tetapi, peraturan perundang-undangan yang sudah cukup komprehensif tidak mengakibatkan tingginya efektivitas peraturan perundang-undangan tersebut di lapangan. Wilayah Indonesia yang berbentuk kepulauan menimbulkan kesulitan-kesulitan dalam pendistribusian tenaga ahli. Pemerintah daerah sudah seringkali diberikan penyuluhan dan buku-buku terkait peraturan terbaru terkait lingkungan laut, namun ketika terjadi pencemaran,

pengimplementasiannya kurang karena tidak adanya tenaga ahli yang memang mengerti permasalahan tersebut.⁴⁶⁷

Kurangnya efektivitas peraturan perundang-undangan tersebut dapat dilihat di ibukota, dimana Sungai Ciliwung sebagai jantung ibukota tingkat pencemarannya begitu tinggi dengan sampah per hari yang mengotori sungai Ciliwung mencapai 360 m³; setahun sampah sungai Ciliwung mencapai 131.400 m³ setara dengan dua candi Borobudur (1 candi volumenya 55.000 m³).⁴⁶⁸ Selain di Ciliwung, pencemaran yang disebabkan oleh pembuangan aktivitas industri pertambangan timah terjadi di Bangka Belitung, dimana dampak yang disebabkan oleh pertambangan timah terhadap perairan darat adalah timbulnya busa-busa air yang kemudian menutup air sungai sehingga terjadi eutrofikasi. Hal ini terlihat di air kolong Dam Keramat, Dusun Dam Keramat, Kecamatan Pemali.⁴⁶⁹

⁴⁶⁷ Wawancara tertulis dengan Bapak Sabar Ginting, Asisten Deputi Manufaktur, Prasarana dan Jasa Kementerian Lingkungan Hidup, Jakarta, 4 Mei 2012.

⁴⁶⁸ <http://jakarta.tribunnews.com/2012/06/05/hidayat-sungai-ciliwung-sekarang-jadi-sumber-bencana>, diunduh 15 Juni 2012.

⁴⁶⁹ http://greenmining.or.id/index.php?option=com_content&task=view&id=445&Itemid=44, diunduh 5 Juni 2012

BAB 4

**TINJAUAN KASUS LAND-BASED SOURCES POLLUTION:
THE EASTERN PACIFIC GARBAGE PATCH, THE MOX PLANT CASE,
DAN THE ÉTANG DE BERRE CASE**

Setelah Bab 2 yang memberikan informasi mengenai *land-based sources* secara umum dan perjanjian-perjanjian internasional terkait hal tersebut, kemudian Bab 3 memberikan informasi mengenai praktek dari beberapa negara terkait hal yang sama, peneliti akan mencoba membahas kasus-kasus maupun keadaan pencemaran laut dari *land-based sources* sebagai contoh yang dapat digunakan untuk mengimplementasikan teori-teori serta peraturan-peraturan terkait tersebut.

Peneliti pertama-tama akan membahas mengenai “*the Eastern Pacific Garbage Patch*” sebagai bagian timur dari kumpulan sampah terbesar di dunia, yaitu “*the Great Pacific Garbage Patch*”.⁴⁷⁰ Dalam kasus tersebut, akan dibahas mengenai latar belakang terbentuknya perkumpulan sampah tersebut dan kemudian memberikan bentuk peraturan yang dapat diterapkan berdasarkan ruang lingkup tersebarnya kumpulan sampah tersebut, dalam hal ini adalah negara bagian Hawaii, Amerika Serikat.

Peneliti kemudian akan membahas mengenai *the MOX Plant Case*,⁴⁷¹ kasus yang terjadi antara Inggris dengan Republik Irlandia. Pada kasus tersebut, Inggris memberikan izin kepada sebuah pabrik pembangkit listrik tenaga nuklir yang terletak di Sellafield untuk membuang limbah radioaktifnya ke Laut Irlandia yang berseberangan langsung dengan Republik Irlandia. Republik Irlandia menganggap tindakan pemberian izin tersebut telah melanggar perjanjian internasional terkait *land-based sources* yang telah diratifikasi oleh Inggris.

⁴⁷⁰ Thomas M. Kostigen, *You Are Here: Exposing the Vital Link Between What We Do and What That Does to Our Planet*, (New York: Harper Collins E-Books, 2008), hal. 145.

⁴⁷¹ MOX Plant Case (Ireland vs United Kingdom), “Dispute Concerning the MOX Plant, International Movements of Radioactive Materials, and the Protection of the Marine Environment of the Irish Sea,” *International Tribunal for The Law of the Sea* (ITLOS), 2001.

Peneliti akan melakukan analisa berdasarkan fakta-fakta yang ada di dalam kasus tersebut.

Kasus terakhir adalah kasus yang terjadi di Perancis, dimana lebih tepatnya terjadi di Laguna Étang de Berre.⁴⁷² Para nelayan yang sering menangkap ikan disana mengajukan tuntutan ke pengadilan negeri di Perancis terkait pencemaran laut yang terjadi akibat salah satu pabrik yang membuang limbahnya ke Laguna tersebut. Kasus ini menjadi kasus yang melibatkan pihak internasional karena air dari Laguna tersebut mengalir menuju Laut Mediterania yang masuk ke dalam ruang lingkup *Convention of the Protection of the Marine Environment and the Coastal Region of the Mediterranean 1995*, dimana Perancis merupakan negara anggota yang telah meratifikasi konvensi tersebut.

Selain itu, peneliti juga akan memberikan beberapa contoh kasus di Indonesia sebagai satu-satunya contoh negara berkembang. Indonesia sendiri belum pernah terkena kasus yang signifikan terkait dengan pencemaran laut dari *land-based sources*, sehingga peneliti akan menggunakan dua contoh kasus yang memiliki kemungkinan besar mempengaruhi lingkungan laut negara tetangga.

4.1. The Eastern Pacific Garbage Patch (Negara Bagian Hawaii, Amerika Serikat)

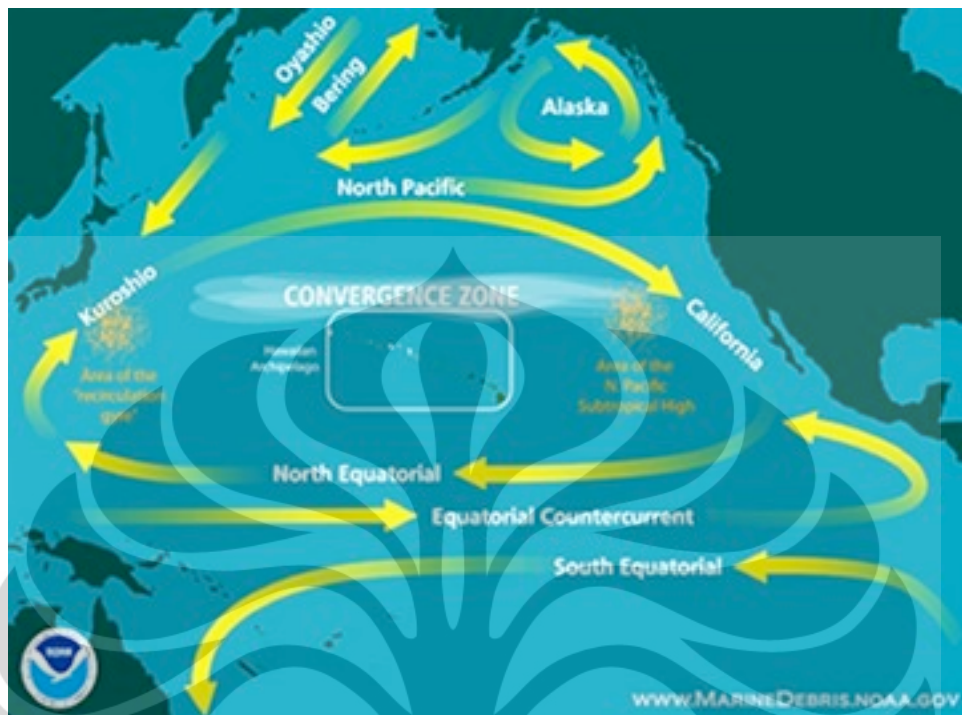
4.1.1. Latar Belakang

Di Samudera Pasifik sebelah utara, sampah-sampah dari negara-negara yang berbatasan langsung dengan Samudera Pasifik berkumpul disana dan melahirkan sebuah kumpulan sampah yang sangat besar, yaitu “*the Great Pacific Garbage Patch*” (PGP).⁴⁷³ Sampah-sampah tersebut berkumpul disana karena terbawa oleh kombinasi arus air dan arus angin di Pasifik yang dikenal dengan

⁴⁷² Étang de Berre Case (France vs European Union), “Dispute Concerning the Discharge of Waste to the Lake of Étang de Berre,” *European Court of Justice*, 2007.

⁴⁷³ “Drowning in Plastic: The Great Pacific Garbage Patch is Twice the Size of France,” *Telegraph.co.uk*. (April 2009), hal. 1.

nama “*the North Pacific Subtropical Gyre*” yang merupakan salah satu dari lima arus spiral (*gyre*) terbesar di dunia dengan luas 10 juta mil per segi.⁴⁷⁴



Gambar 1.1. Ilustrasi Fitur Oseanografi di Samudera Pasifik Utara

Foto ini diambil dari: <http://marinedebris.noaa.gov/marinedebris101/movement.html>

Arus spiral tersebut mendistribusikan panas dan *nutrients* di laut, dimana panas mengubah berat jenis air dan membiarkan air dingin yang kaya akan oksigen dan *nutrients* ke permukaan laut.⁴⁷⁵ Gerakan arus spiral ditentukan oleh tekanan atmosfer yang tinggi dan perputaran bumi, sehingga putaran spiral tersebut searah dengan putaran jarum jam.⁴⁷⁶ Arus spiral yang terluar berputar sangat cepat sehingga mendorong benda-benda apapun yang ada di arus terluar ke tengah putaran.⁴⁷⁷ Pada dasarnya, arus spiral yang sangat cepat tersebut bertujuan untuk meningkatkan konsentrasi plankton dan organisme lainnya yang tinggal di area

⁴⁷⁴ <http://daisydumas.com/2007/08/01/landfill-on-sea-ecologist-augsept-2007/>, diunduh 30 Mei 2012.

⁴⁷⁵ University of California Marine Science Centre, “Introduction to Climate and Currents,” <http://www.msc.ucla.edu/oceanglobe/pdf/climatecurrents/currentsentire.pdf>, diunduh 30 Mei 2012.

⁴⁷⁶ <http://www.mindfully.org/Plastic/Ocean/Moore-Trashed-PacificNov03.htm>, diunduh 30 Mei 2012.

⁴⁷⁷ Ibid.

tersebut, namun seiring dengan terus meningkatnya aksi pembuangan sampah ke laut, kini arus tersebut justru membawa sampah-sampah dari negara-negara yang berbatasan langsung dengan Samudera Pasifik dan membuatnya terperangkap disana.⁴⁷⁸ Hasil dari sampah-sampah inilah yang kemudian melahirkan PGP.

Setelah terjadinya tsunami di Jepang pada tahun 2011 lalu,⁴⁷⁹ timbul kekhawatiran bagi warga pesisir barat Amerika Serikat akan datangnya sampah-sampah yang terbawa arus laut hingga ke wilayah mereka.⁴⁸⁰ Kekhawatiran tersebut berubah menjadi kenyataan, dimana baru-baru ini, sebuah bagian dari pelabuhan di Jepang telah sampai di Pantai Oregon yang terletak di pesisir barat Amerika Serikat akibat dari hempasan tsunami pada tahun 2011.⁴⁸¹ Hal ini menunjukkan bahwa arus laut yang terletak di antara Amerika Serikat dan Jepang memiliki kekuatan untuk membawa benda sebesar itu hingga sampai ke daratan, walaupun membutuhkan waktu 1 tahun untuk benda tersebut sampai.

PGP kemudian dibagi menjadi dua, kumpulan sampah yang terletak di antara Hawaii dan Jepang disebut dengan “*Western Garbage Patch*” dan kumpulan sampah yang terletak di antara Hawaii dan California disebut dengan “*Eastern Garbage Patch*” (EGP).⁴⁸² Dari kedua kumpulan sampah tersebut, EGP lebih sering menjadi sorotan karena letaknya yang masih berdekatan dengan wilayah berpenghuni (Hawaii dan California), ukurannya yang dua kali lebih besar daripada negara bagian Texas,⁴⁸³ dan besar dampak yang ditimbulkan terhadap lingkungan laut.⁴⁸⁴ EGP mengandung 100 ton sampah yang terbentang

⁴⁷⁸ Ibid.

⁴⁷⁹ <http://www.bbc.co.uk/news/world-asia-pacific-12709598>, diunduh 30 Mei 2012.

⁴⁸⁰ <http://www.foxnews.com/us/2012/02/29/tsunami-debris-floating-across-pacific-toward-us/>, diunduh 30 Mei 2012.

⁴⁸¹ <http://internasional.kompas.com/read/2012/06/07/13470443/Tersapu.Tsunami.Dermaga.Jepang.Terdampar.di.AS>, diunduh 30 Mei 2012.

⁴⁸² Susan L. Dautel, “Transoceanic Trash: International and United States Strategies For the Great Pacific Garbage Patch,” *Golden Gate University Law Journal* (2009): 182-183.

⁴⁸³ <http://www.independent.co.uk/environment/green-living/the-worlds-rubbish-dump-a-tip-that-stretches-from-hawaii-to-japan-778016.html>, diunduh 30 Mei 2012.

⁴⁸⁴ Thomas M. Kostigen, “Where the Currents Take Our Trash: The Eastern Garbage Patch, Pacific Ocean,” dalam *You Are Here: Exposing the Vital Link Between What We Do and What That Does to Our Planet* (New York: HarperCollins e-books, 2008), hal. 143-144.

sejauh 500 nautikal mil dari pesisir California,⁴⁸⁵ namun hal ini tidak terlihat dari satelit luar angkasa dikarenakan sampah-sampah tersebut mengambang di bawah permukaan laut.⁴⁸⁶

Wilayah yang paling terpengaruhi oleh keberadaan EGP tersebut adalah Hawaii, salah satu negara bagian Amerika Serikat. Beberapa kepulauan yang ada di Hawaii berperan sebagai sisir bagi sampah-sampah tersebut,⁴⁸⁷ dimana wilayah yang paling terkena dampak adalah Pantai Kamilo yang berada di Bagian Hawaii sebelah timur.⁴⁸⁸

4.1.2. Dampak Terhadap Lingkungan Laut Hawaii

Dampak yang ditimbulkan dari EGP terhadap lingkungan Laut Hawaii sangat berkaitan antara jenis sampah yang terkandung di dalam EGP itu sendiri dan objek yang terkena dampak langsung dari sampah tersebut. Apabila dilihat dari jenisnya, EGP didominasi oleh sampah plastik. Arus laut membawa sampah ke EPG dari berbagai tempat di belahan dunia dan akhirnya sampah-sampah tersebut sampai di pesisir Amerika Serikat. Penyumbang terbesar dari sampah-sampah tersebut adalah plastik, dimana menurut penelitian, persentase jumlah plastik di dalam EPG sebesar 60-80% dan 90% dari jumlah plastik tersebut mengapung di permukaan laut.⁴⁸⁹ Sebanyak 80% dari jumlah plastik di EPG berasal dari *land-based sources* dan 20% nya berasal dari sumber laut.⁴⁹⁰

⁴⁸⁵ <http://www.independent.co.uk/environment/green-living/the-worlds-rubbish-dump-a-tip-that-stretches-from-hawaii-to-japan-778016.html>, diunduh 30 Mei 2012.

⁴⁸⁶ http://www.latimes.com/news/la-me-ocean2aug02_0_4917201.story, diunduh 30 Mei 2012.

⁴⁸⁷ Thomas M. Kostigen, hal. 145.

⁴⁸⁸ <http://www.honolulumagazine.com/Honolulu-Magazine/July-2008/Getting-Trashed/>, diunduh pada 30 Mei 2012.

⁴⁸⁹ Hal ini dikemukakan oleh Werthmann dalam *Pelagic Plastic* sebagaimana dikutip dalam Elizabeth Bockstiegel, "The North Pacific Garbage Patch: Problems and Potential Solutions," (Tesis Universitas Indiana, Indiana, 2010), hal. 3

⁴⁹⁰ <http://algalita.org/education.html>, diunduh 29 Mei 2012.

Berbeda dengan unsur-unsur organik di dalam laut, plastik terurai dengan cara *photo-degradation*⁴⁹¹, dimana plastik membutuhkan waktu hingga beberapa dekade, bahkan berabad-abad untuk terurai secara alami (*biodegrade*) dan di laut, plastik-plastik tersebut membutuhkan waktu yang lebih lama lagi untuk terurai dengan air dingin dan rumput laut yang dapat menahan sinar ultraviolet bekerja sebagai pengawet plastik-plastik tersebut sehingga plastik-plastik yang dibuang 50 tahun yang lalu, keberadaannya belum hancur seluruhnya hingga saat ini.⁴⁹² Pada akhirnya, plastik-plastik tersebut hanya terurai menjadi serpihan-serpihan berukuran sangat kecil yang seringkali salah dikonsumsi oleh organisme laut sebagai makanan mereka. Penelitian terakhir menunjukkan bahwa 30%-60% plankton yang ada di laut mengandung plastik.⁴⁹³ Hal ini sangat berbahaya bagi makhluk laut lainnya dan juga manusia, dimana plankton berada di tingkat paling bawah rantai makanan, sehingga kontaminasi yang dihadapi oleh makhluk hidup laut telah dimulai sejak awal. Secara global, sebanyak 267 spesies yang telah tercemar oleh plastik, dimana 86% nya adalah penyu, 44% nya adalah burung laut, dan 43% nya adalah mamalia laut.⁴⁹⁴ Angka yang didapat untuk persentase mamalia laut pada kenyataannya bisa mencapai lebih dari 44% karena banyak mamalia laut yang akhirnya mati tenggelam ke dasar laut atau dimakan oleh predator yang lebih besar, sehingga tidak terhitung.⁴⁹⁵

⁴⁹¹ “*Photodegradation* berbeda dengan *biodegradation* karena *photodegradation* dengan menggunakan sinar ultraviolet matahari tidak dapat mengurai zat yang diuraikannya hingga habis terurai, namun lebih kepada potongan-potongan kecil dan mengambang di bawah permukaan laut,” http://findarticles.com/p/articles/mi_m1134/i_9_112/ai_110737009/pg_2/?tag=content:coll, diunduh 29 Mei 2012; <http://toxics.usgs.gov/definitions/biodegradation.html>, diunduh 29 Mei 2012.

⁴⁹² Jessica R. Coulter, “A Sea Change to Change the Sea: Stopping the Spread of the Pacific Garbage Patch with Small-Scale Environmental Legislation,” *William and Mary Law Review Vol. 51* (2010): 1962.

⁴⁹³ Charles Moore, et. al., “Measuring the Effectiveness of Voluntary Plastic Industry Efforts,” AMRS’s Analysis of Operation Clean Sweep (1999-2004), [http://www.algalita.org/pdf/Measuring&20Effectiveness%20of%20Voluntary%20Indust.%20Efforts\(2\).pdf](http://www.algalita.org/pdf/Measuring&20Effectiveness%20of%20Voluntary%20Indust.%20Efforts(2).pdf), diunduh 30 Juni 2012.

⁴⁹⁴ Jose G.B. Derraik, “The Pollution of the Marine Environment by Plastic Debris: A Review,” *Marine Pollution Bulletin Vol. 22* (2002): 842 dan 844.

⁴⁹⁵ Hal ini dikemukakan oleh Douglas A. Wolfe dalam *Persistent Plastic and Debris in the Ocean: An International Problem of Ocean Disposal* sebagaimana dikutip dalam U.S. Environmental Agency, “Marine Debris in the North Pacific (A Summary of Existing Information and Identification of Data Gaps),” (San Fransisco, November 2011), hal. 10.

Dampak lainnya yang ditimbulkan oleh sampah plastik adalah tidak sengaja tersangkut plastik.⁴⁹⁶ Terdapat 135 spesies invertebrata, ikan, burung laut, penyu, singa laut, anjing laut, lumba-lumba dan paus tercatat pernah tersangkut ke dalam plastik-plastik tersebut, ditambah lagi banyak spesies lainnya yang mengalami luka dan bahkan kematian⁴⁹⁷

Di Hawaii itu sendiri, terdapat satu spesies yang terancam punah, dimana salah satu penyebab utamanya adalah tidak sengaja tersangkut plastik, yaitu hewan yang disebut dengan “*Hawaiian Monk Seals*”. Mamalia ini berkembang biak di pasir, terumbu karang, dan batu-batu vulkanik, namun lebih senang untuk berkembang biak di pasir yang dikelilingi air dangkal.⁴⁹⁸ Mengingat jumlah populasi dari “*Hawaiian Monk Seals*” yang sangat kecil, tingginya tingkat tidak sengajanya mamalia ini tersangkut plastik (0,7%) menimbulkan dampak yang signifikan terhadap keberlangsungan spesies.⁴⁹⁹

Pantai yang menjadi tempat yang paling terkena dampak dari sampah-sampah yang dibawa oleh EGP adalah Pantai Kamilo yang terletak di Tenggara Pulau Hawaii.⁵⁰⁰ Menurut Charles Moore, hampir 90% sampah-sampah yang mendarat di Pantai Kamilo bukan berasal dari daerah tersebut.⁵⁰¹ Sampah-sampah yang berserakan sepanjang pantai tersebut menunjukkan betapa besarnya dampak yang ditimbulkan dari EGP. Yang paling dirugikan dari keberadaan sampah-sampah tersebut tentunya adalah habitat laut yang tinggal pada daerah tersebut.

⁴⁹⁶ Sheavly S.B., Ibid.

⁴⁹⁷ D.W. Laist, “Impacts of Marine Debris: Entanglement of Marine Life in Marine Debris Including a Comprehensive List of Species with Entanglement and Ingestion Records,” dalam *Marine Debris, Sources, Impacts, Solutions* (New York: Springer-Verlag Inc., 1997), hal. 99-139.

⁴⁹⁸ Hal ini dikemukakan oleh National Oceanic and Atmospheric Administration (NOAA) dalam *Interagency Report on Marine Debris Sources, Impacts, Strategies & Recommendations* sebagaimana diungkapkan dalam U.S. Environmental Agency, hal. 11.

⁴⁹⁹ U.S. Environmental Agency, hal.12.

⁵⁰⁰ <http://www.honolulumagazine.com/Honolulu-Magazine/July-2008/Getting-Trashed/>, diunduh pada 30 Mei 2012.

⁵⁰¹ Ibid.

Ketika dilakukan pembedahan pada bangkai hewan yang tergeletak di pantai tersebut, perutnya berisikan sampah-sampah plastik yang dikonsumsinya.⁵⁰²

Hawaii memiliki keindahan alam yang luar biasa, dimana pariwisata menjadi salah satu komoditi pemasukan negara bagian tersebut.⁵⁰³ Kerusakan lingkungan bukanlah sebuah keadaan yang dapat diterima oleh Hawaii karena keadaan tersebut dapat mempengaruhi mata pencaharian utama mereka.

4.1.3. Strategi Penanggulangan dan Pencegahan Penyebaran Eastern Pacific Garbage Patch

Terkait dengan penanggulangan dan pencegahan penyebaran sampah-sampah tersebut menjadi lebih luas lagi, Pemerintah Pusat Amerika Serikat bersama-sama dengan Pemerintah Daerah Negara Bagian Hawaii bekerjasama dalam menemukan solusi dan strategi terbaik. Apabila dilihat dari regulasi, Amerika Serikat memiliki beberapa peraturan perundang-undangan yang dibuat untuk mencegah dan menanggulangi pencemaran laut, yaitu *Clean Water Act* 1972 (CWA)⁵⁰⁴ dan *Marine Debris Research, Prevention and Reduction Act* 2006 (MDPRA)⁵⁰⁵.

CWA adalah undang-undang yang memberikan perlindungan terhadap kualitas perairan darat dari limbah kimia dan limbah padat, sehingga perairan tersebut dapat digunakan kembali untuk berenang, pemancingan, dan aktivitas-aktivitas lainnya.⁵⁰⁶ Perairan darat yang dimaksud dalam hal ini adalah sungai, Laguna, saluran air, dan air tanah. Setiap infrastruktur yang ingin membuang limbahnya ke salah satu perairan tersebut harus mendapatkan izin dari U.S. *Environmental Protection Agency* (EPA) berdasarkan salah satu ketentuan di dalam CWA, yaitu program “*National Pollutant Discharge Elimination System*

⁵⁰² Michelle Allsopp, et. al., hal. 19.

⁵⁰³ <http://www.hawaii.newsnow.com/story/16634840/outstanding-year-for-hawaiiis-tourism-industry>, diunduh pada 30 Mei 2012.

⁵⁰⁴ Amerika Serikat (II), *Clean Water Act*, 33 U.S.C. §1251 et seq. (1972).

⁵⁰⁵ Amerika Serikat (VI), *Marine Debris Research, Prevention and Reduction Act*, 33 U.S.C. §1951-1958 et. seq. (2006).

⁵⁰⁶ Claudia Copeland, “Clean Water Act: A Summary of the Law,” *Congresional Research Service* (23 April 2010): 2.

(NPDES)”⁵⁰⁷ Infrastruktur-infrastruktur tersebut didorong untuk menggunakan “*Best Practicable Technology*” (BPT) dan “*Best Available Technology*” (BAT) dalam mengolah limbah tersebut sebelum dibuang ke salah satu perairan tersebut. Selain infrastruktur swasta yang ingin membuang limbah ke salah satu perairan tersebut,⁵⁰⁸ Pemerintah Negara Bagian Hawaii juga diwajibkan oleh undang-undang untuk mengaplikasikan BAT dalam mengelola kebersihan perairan darat tersebut sebelum bermuara ke laut, dimana pembelian teknologi tersebut disesuaikan dengan tingkat ekonomi masing-masing negara bagian melalui dua program yang diusung oleh CWA, yaitu “*Pre-treatment of Wastewater*”⁵⁰⁹ yang dikhususkan untuk limbah hasil aktivitas industri dan “*Municipal Storm Water*” yang dibuat untuk mengelola limbah secara umum, seperti limbah hasil aktivitas rumah tangga.

Terkait dengan EPG yang sumbernya sulit untuk dilacak kembali karena ruang lingkupnya yang begitu luas, CWA lebih menekankan kepada sumber-sumber pencemaran lokal sebagai penyumbang polutan di dalam EPG. Peran dari penggunaan BPT adalah untuk mengeliminasi unsur-unsur *land-based sources* yang masih konvensional, seperti bakteri dan organisme-organisme yang mengkonsumsi oksigen.⁵¹⁰ Kemudian BAT diterapkan untuk mengeliminasi unsur-unsur *land-based sources* yang berbahaya dan memiliki potensi pencemaran yang tinggi, seperti logam berat, pestisida, dan zat kimia organik lainnya.⁵¹¹ Walaupun pengaruhnya tidak terlalu besar dalam mengurangi banyaknya *marine debris* dan bahan-bahan lainnya yang terkandung di dalam EPG, CWA dapat digunakan untuk mencegah bertambahnya pencemaran tersebut secara lokal.

Apabila CWA digunakan untuk menekan jumlah pencemaran yang dibuat ke laut, MDPRA dibuat untuk menangani pencemaran yang sudah ada di laut dan

⁵⁰⁷ <http://cfpub.epa.gov/npdes/>, diunduh 31 Juni 2012.

⁵⁰⁸ Amerika Serikat (II), Pasal 301 (2) (A).

⁵⁰⁹ <http://www.epa.gov/compliance/monitoring/programs/cwa/wastewater.html>, diunduh 31 Juni 2012.

⁵¹⁰ Claudia Copeland, “Clean Water Act: A Summary of the Law,” hal. 6.

⁵¹¹ Amerika Serikat (II), Pasal 307 dan Pasal 402

dari judul undang-undangnya saja sudah diketahui bahwa undang-undang ini dikhususkan untuk membersihkan *marine debris*. MDPRA mendirikan program-program untuk membantu mengidentifikasi, menentukan sumber, menilai, mengurangi dan mencegah serpihan-serpihan sampah laut (*marine debris*) dan dampak negatifnya terhadap lingkungan laut dan keselamatan navigasinya.⁵¹² Undang-undang ini pertama kali dicetuskan oleh seorang senator yang berasal dari Hawaii, yaitu Senator Daniel Inouye dan senator dari Alaska, yaitu Senator Ted Stevens yang membuat rancangan undang-undang untuk menjembatani penanganan serius permasalahan *marine debris* yang terjadi di bagian timur Samudera Pasifik.⁵¹³ Hal ini didukung pula dengan pernyataan yang diberikan oleh Jennifer Samson, *Principle Scientist of Clean Ocean Action*,⁵¹⁴ yaitu peraturan perundang-undangan nasional yang ada sekarang tidak cukup untuk menanggulangi pencemaran yang diakibatkan oleh *marine debris* yang secara luas telah mempengaruhi lingkungan laut Amerika Serikat, terutama daerah Hawaii.⁵¹⁵

Undang-undang ini menggabungkan tiga lembaga di Amerika Serikat yang masing-masing memberikan kontribusi yang berbeda. Lembaga yang pertama adalah *National Oceanic and Atmospheric Administration* (NOAA)⁵¹⁶

⁵¹² Amerika Serikat (VI), *Marine Debris Research, Prevention and Reduction Act*, 33 U.S.C. §1951-1958 et. seq. (2006), Pasal 2 (1).

⁵¹³ <http://commerce.senate.gov/pdf/SUMMARY%20-%20Marine%20Debris.pdf> (Legislative Summary of the Marine Debris Research and Reduction Act), diunduh pada 1 Juni 2012.

⁵¹⁴ “*Clean Ocean Action* (COA) adalah lembaga penelitian nasional dan regional terkemuka yang bergerak di bidang perlindungan air menggunakan ilmu pengetahuan, hukum, penelitian, pendidikan dan *citizen action*. COA berisikan koalisi dari 125 perkumpulan yang bergerak di bidang bisnis, komunitas, konservasi, lingkungan, perikanan, pelayaran, penyelaman, mahasiswa, peselancar, perlindungan hak wanita, dan jasa. Lembaga ini dibentuk pada tahun 1984 untuk melakukan investigasi terhadap sumber, dampak dan solusi pencemaran laut,” <http://www.cleanoceanaction.org/index.php?id=2>, diunduh 1 Juni 2012.

⁵¹⁵ Hal ini dikemukakan oleh Jennifer Samson Principal Scientist dari Clean Ocean Action dalam *Fisheries Conservation, Wildlife and Oceans: Hearing on S.362 Before the Subcomm. on Fisheries Conservation, Wildlife and Oceans, Subcomm. on Coast Guard and Maritime Transportation, Comm. on House Resources, Comm. on House Transportation and Infrastructure* sebagaimana dikemukakan dalam Susan L. Dautel, hal. 196.

⁵¹⁶ “NOAA merupakan lembaga yang memberikan informasi prakiraan cuaca, peringatan badai, pemantauan iklim untuk pengelolaan perikanan, melakukan restorasi pantai, mengkaji keadaan lingkungan dan hal-hal lain terkait kelautan, dan mendukung perdagangan laut,” <http://www.noaa.gov/about-noaa.html>, diunduh 3 Juni 2012.

yang bertugas untuk mengidentifikasi sumber dari *marine debris* dengan cara “*mapping, modeling and tracing marine debris technologies*”,⁵¹⁷ dimana selain untuk mengetahui sumber dari *marine debris* itu sendiri, metode ini juga dapat digunakan untuk mengetahui dampaknya terhadap lingkungan laut.⁵¹⁸ Lembaga yang kedua adalah U.S. *Coast Guard* yang bekerja langsung di lapangan dan memastikan bahwa masyarakat dan pihak-pihak terkait menjalankan regulasi yang ada terkait dengan *marine debris*.⁵¹⁹ Dalam prakteknya, U.S. *Coast Guard* kewalahan dalam melakukan pengawasan aktivitas-aktivitas *marine debris* yang mana tanggung jawab tersebut diberikan oleh MDPRA, sedangkan tugas yang telah diembannya sebelum keberadaan undang-undang tersebut sudah cukup banyak,⁵²⁰ walaupun tugas lainnya tersebut juga mendukung pencegahan *marine debris*. Lembaga yang terakhir adalah *Interagency Marine Debris Committee* (IMDC)⁵²¹, yaitu lembaga yang memfasilitasi kerjasama internasional serta memberikan nasehat-nasehat kepada Kongres, dimana IMDC diharuskan untuk memberikan laporan setiap tahunnya terkait dampak yang diberikan oleh *marine debris* terhadap ekologi, ekonomi, dan sosial masyarakat.⁵²² Walaupun MDPRA telah dibuat secara komprehensif, praktek di lapangan sulit untuk dieksekusi

⁵¹⁷ “Teknologi yang digunakan adalah (1) penggunaan *global positioning system* (GPS) oleh U.S. *Coast Guard* (2) *Remotely Operated Vehicle* (ROV) yang menggunakan kamera bawah laut (3) *Ocean Surface Currents Simulation* (OSCURS) untuk memperkirakan arus laut dan ombak yang membawa *marine debris* dan (4) *National Marine Debris Program* (NMDMP) yang memberikan hasil penelitian paling komprehensif mengenai *marine debris* yang bersumber dari *land-based sources*,” Jane Hetherington, et. al., hal. 18-19.

⁵¹⁸ Amerika Serikat (IV), Pasal 3 (b) (1).

⁵¹⁹ Ibid., Pasal 4.

⁵²⁰ Jane Herthington, et. al., “The Marine Debris Research, Prevention and Reduction Act: A Policy Analysis,” (New York: Columbia University, 2005), hal. 23.

⁵²¹ “IMDC merupakan badan perantara yang bertanggung jawab atas pengembangan dan perekomendasi pendekatan komprehensif dan multi-disiplin untuk mengurangi dampak dan sumber dari *marine debris* dari lingkungan laut nasional, sumber daya alam, keamanan masyarakat, dan ekonomi. IMDC memastikan koordinasi antar lembaga-lembaga federal yang menangani *marine debris* baik secara nasional maupun internasional, begitu pula dengan merekomendasikan prioritas penilitan, pemantauan teknis, program pendidikan, dan aksi resmi dari lembaga-lembaga federal tersebut,” <http://marinedebris.noaa.gov/about/imdcc.html>, diunduh 3 Juni 2012.

⁵²² Jane Hetherington, et. al., hal. 6-7.

karena kurangnya dana yang dikucurkan mengingat luasnya pencemaran yang terjadi.⁵²³

Sampai saat ini, belum ada tuntutan yang diajukan atas tercemarnya lingkungan laut di Hawaii secara internasional. Walaupun begitu, besarnya kumpulan sampah-sampah tersebut dan dampak yang ditimbulkan terhadap organisme dan habitat laut, serta diketahui bahwa sumber dari EGP didominasi oleh sumber-sumber di luar Amerika Serikat menunjukkan bahwa penanganan dari EGP tidak hanya di tingkat nasional saja, namun juga di tingkat internasional.

4.2. The MOX Plant Case 2001 (Ireland v United Kingdom)

4.2.1. Latar Belakang

Inggris memiliki Sellafield, yaitu sebuah tempat fasilitas pengolahan nuklir yang berdiri di sebelah timur Laut Irlandia.⁵²⁴ Fasilitas ini berdiri sejak tahun 1947 dengan nama “*Sellafield’s Nuclear Site*” yang kemudian memiliki fasilitas pembangkit listrik tenaga nuklir komersial pertama di dunia dengan nama “*Calder Hall*”.⁵²⁵ Kemudian fasilitas ini dikembangkan dengan memiliki reaktor nuklir yang memproduksi plutonium untuk perang dengan nama “*Windscale Nuclear Reactor*”.⁵²⁶ Sayangnya reaktor nuklir tersebut mengalami kecelakaan pada tahun 1957 dan mencemari lingkungan di sekitarnya dengan melepaskan radiasi isotop ke udara yang tidak diketahui jumlahnya hingga saat ini.⁵²⁷ Selain memproses ulang bahan bakar nuklir yang telah digunakan, fasilitas

⁵²³ <http://the.honoluluadvertiser.com/article/2005/Mar/17/In/In29p.html>, diunduh 1 Juni 2012.

⁵²⁴ <http://www.visitcumbria.com/wc/sellafield-nuclear-reprocessing-facility.htm>, diunduh 1 Juni 2012.

⁵²⁵ <http://www.nda.gov.uk/sites/sellafield/>, diunduh 1 Juni 2012.

⁵²⁶ Ibid.

⁵²⁷ Ireland Memorial dalam *Permanent Court of Arbitration*, (Ireland v United Kingdom: the MOX Plant Case, 2001), hal. 16.

ini juga memiliki apa yang disebut dengan “*Thermal Oxide Reprocessing Plant*”⁵²⁸ (THORP) dan “*Mixed Oxide*” (MOX)⁵²⁹.

Pengembangan fasilitas ini dengan memproduksi MOX adalah tindakan yang tepat mengingat ada beberapa negara di dunia yang memiliki pembangkit listrik tenaga nuklir yang menggunakan bahan bakar MOX, yaitu Jepang, Jerman, Swiss, Swedia, dan Belanda.⁵³⁰ Hal ini sangat menguntungkan mengingat sisa plutonium hasil daur ulang THORP dapat digunakan kembali sebagai bahan bakar setelah dicampur kembali dengan uranium melalui MOX.⁵³¹

Pemilik dari fasilitas ini adalah perusahaan milik negara *British Nuclear Fuels Limited* (BNFL) yang bergerak di bidang pengembangan nuklir.⁵³² Pada tahun 1992, BNFL mengajukan pembuatan MOX *Plant* tersebut kepada EA dan kemudian pada tahun yang sama, EA mengeluarkan pernyataan lingkungan (*environmental statement*) yang menyatakan bahwa sisa pembuangan dari MOX *Plant* tidak berbahaya bagi lingkungan dan pada tahun 1995, MOX *Plant* pun selesai dibangun.⁵³³ Pada tahun 1996, BNFL mengajukan banyak permohonan izin terkait pembuangan yang dilakukan oleh MOX *Plant* sesuai dengan *Radioactive Substances Act* 1993 (sekarang sudah digantikan oleh *Environmental Permitting (England and Wales) Regulations 2010*)⁵³⁴. Permohonan tersebut tidak tanpa kontroversi, dimana telah dilakukan 5 kali dengar pendapat bersama publik

⁵²⁸ “*Thermal Oxide Reprocessing Plant* (THORP) adalah fasilitas pendaur ulang bahan-bahan sisa dari pembangkit listrik tenaga nuklir dengan cara memanaskan bahan-bahan sisa tersebut menjadi *nitric acid* dan campuran bahan kimia lainnya,” <http://www.independent.co.uk/news/uk/question-time-thorp-britains-controversial-nuclear-plant-whats-it-for-how-will-it-work-should-it-go-ahead-1482857.html>, diunduh pada 1 Juni 2012.

⁵²⁹ “*Mixed Oxide Plant* (MOX) adalah fasilitas yang memproduksi bahan bakar campuran oxide, yaitu antara plutonium dan uranium sehingga dapat digunakan kembali sebagai bahan bakar pembangkit listrik tenaga nuklir,” <http://www.world-nuclear.org/info/inf29.html>, diunduh pada 1 Juni 2012.

⁵³⁰ <http://www.world-nuclear.org/info/inf29.html>, diunduh pada 1 Juni 2012.

⁵³¹ <http://www.independent.co.uk/news/uk/question-time-thorp-britains-controversial-nuclear-plant-whats-it-for-how-will-it-work-should-it-go-ahead-1482857.html>, diunduh 1 Juni 2012.

⁵³² http://www.world-nuclear-news.org/C_BNFL_reaches_its_end_1510103.html, diunduh pada 1 Juni 2012.

⁵³³ Counter-Memorial Inggris dalam *Permanent Court of Arbitration*, (Ireland v United Kingdom: the MOX Plant Case, 2001), hal. 19-20.

⁵³⁴ Inggris (VI), *Schedule 23*.

dan terjadinya pemalsuan data yang dilakukan oleh perusahaan, namun pada tahun 2001 Departemen Kesehatan dan Keselamatan Inggris akhirnya memberikan izin terkait pengawasan plutonium yang dihasilkan di dalam MOX *Plant* berdasarkan *Nuclear Installation Act 1965*.⁵³⁵

Mulai bekerjanya fasilitas MOX *Plant* di Sellafield menimbulkan kekhawatiran bagi Irlandia, dimana Irlandia beranggapan bahwa MOX *Plant* akan mencemari Laut Irlandia (yang langsung berseberangan dengan Irlandia) baik secara langsung maupun tidak langsung. Pada kenyataannya, Laut Irlandia telah memiliki kadar radioaktif yang cukup tinggi, dimana berdasarkan laporan yang dibuat oleh OSPAR dalam “OSPAR *Quality Status Report*” pada tahun 2000 menunjukkan 200kg plutonium mencemari Laut Irlandia yang membuat Laut Irlandia sebagai Laut dengan tingkat radioaktif tertinggi di dunia.⁵³⁶ Dibangunnya MOX *Plant* sebagai salah satu pendukung fasilitas di Sellafield tentunya menimbulkan kekhawatiran besar bagi Irlandia mengingat mereka sangat bergantung dari Laut Irlandia dan terdapat jumlah yang cukup signifikan masyarakat yang tinggal di tepi pantai Laut Irlandia.⁵³⁷ Oleh karena itu, Irlandia melakukan upaya-upaya hukum agar Inggris menghentikan aktivitas nuklirnya sehingga tidak menambah tingkat pencemaran yang terjadi di Laut Irlandia.

4.2.2. Posisi Kasus

Dalam perjalanan Irlandia memperjuangkan hak-haknya, terdapat beberapa lembaga peradilan yang harus berurusan dengannya. Lembaga pertama adalah lembaga arbitrase yang bertempat di *the Hague*, Belanda yaitu

⁵³⁵ “Application for Permission to Construct MOX Plant,” <http://cnic.jp/english/newsletter/nit106/nit106articles/nw106.html>, diunduh pada 1 Juni 2012.

⁵³⁶ Hal ini dikemukakan oleh Michael Hartnett dalam *A Review of the Oceanography of the Irish Sea* sebagaimana dikemukakan dalam M. Bruce Volbeda, “The MOX Plant Case: The Question of “Supplemental Jurisdiction” for International Environmental Claims Under UNCLOS,” *Texas International Law Journal Vol. 42* (2006): 214.

⁵³⁷ Ibid.

“*Permanent Court of Arbitration*” (PCA)⁵³⁸. Selain PCA, kasus ini kemudian ditangani oleh dua lembaga peradilan lainnya terkait dengan penggunaan ketentuan lainnya di luar UNCLOS (*provisional measure*) dalam gugatannya ke lembaga arbitrase PCA, yaitu “*International Tribunal on the Law of the Sea*” (ITLOS)⁵³⁹ dan “*European Court of Justice*”⁵⁴⁰ (ECJ).

Irlandia mengajukan gugatan ke PCA melawan Inggris mengenai MOX *Plant* berdasarkan Pasal 287 UNCLOS terkait peraturan prosedural penyelesaian sengketa.⁵⁴¹ Dalam gugatannya, Irlandia menyatakan bahwa dengan dibangunnya MOX *Plant* dan bagaimana reaktor tersebut memberikan kontribusi besar terkait pencemaran laut radioaktif yang telah terjadi di Laut Irlandia menjadi lebih buruk.⁵⁴² Hal ini dikarenakan Inggris akan menggunakan dasar pembenar, dimana perhitungan akan efek radioaktif yang dihasilkan hanya dihitung dari MOX *Plant* itu sendiri dan tidak diakumulasikan dengan THORP. Inggris mendasari argumennya tersebut atas U.K. *Radioactive Substances (Basic Safety Standards) Direction 2000* yang menyatakan bahwa emisi yang dapat dikeluarkan tidak boleh melebihi 0.3 milisieverts per tahun.⁵⁴³ Inggris menyatakan dalam pembelaannya bahwa EA telah mengeluarkan pernyataan mengenai dosis dari

⁵³⁸ “PCA adalah sebuah organisasi antar pemerintah dengan lebih dari seratur negara anggota. Organisasi ini didirikan pada tahun 1899 untuk memfasilitasi arbitrase dan bentuk-bentuk penyelesaian sengketa antar negara. PCA memberikan layanan bagi penyelesaian sengketa yang melibatkan berbagai kombinasi negara, badan negara, organisasi antar pemerintah, dan pihak swasta,” http://www.pca-cpa.org/showpage.asp?pag_id=1027, diunduh 2 Juni 2012.

⁵³⁹ “ITLOS adalah pengadilan internasional yang dibentuk oleh UNCLOS sebagai badan pengadilan independen yang menangani persoalan hukum laut terkait sengketa yang timbul dari penafsiran dan penerapan UNCLOS. Pengadilan ini memiliki yurisdiksi atas setiap sengketa perihal interpretasi atau penerapan UNCLOS dan hal-hal lain yang diatur di dalam perjanjian lain yang memasukan ITLOS sebagai yurisdiksinya berdasarkan Pasal 21 UNCLOS,” <http://www.itlos.org/index.php?id=15>, diunduh 2 Juni 2012.

⁵⁴⁰ “ECJ didirikan pada tahun 1952 di Luxembourg yang ditujukan untuk dapat memastikan bahwa undang-undang Uni Eropa ditafsirkan dan diterapkan sama dengan semua negara di Uni Eropa. Pengadilan juga memastikan bahwa negara-negara Uni Eropa dan lembaga melakukan apa yang hukum telah tentukan,” <http://www.eurofound.europa.eu/areas/industrialrelations/dictionary/definitions/EUROPEANCOURTOFJUSTICE.htm>, diunduh 2 Juni 2012.

⁵⁴¹ Press Release: MOX Plant Arbitral Tribunal Issues Order No. 6 Terminating Proceedings dalam *Permanent Court of Arbitration*, (Ireland v United Kingdom: the MOX Plant Case, 2002).

⁵⁴² Ireland Memorial dalam *Permanent Court of Arbitration*, hal. 20.

⁵⁴³ Counter-Memorial Inggris dalam *Permanent Court of Arbitration*, hal. 14.

pembuangan gas yang dikeluarkan oleh *MOX Plant* adalah 0.000002 milisieverts per harinya (2000/1.000.000 sievert⁵⁴⁴ per harinya), sedangkan rata-rata radiasi yang dikeluarkan oleh masyarakat Inggris yang datang dari sumber-sumber alami adalah sebesar 2.2. miliseverts per harinya.⁵⁴⁵ Dihitung pula mengenai efek yang ditimbulkan oleh *MOX Plant* terhadap masyarakat Irlandia adalah sebanyak 0.000000024 millisieverts per tahun (240.00/1.000.000 sievert per tahun).⁵⁴⁶ Bahkan menurut Inggris, dalam kasus terburuk yang mungkin terjadi, ekpos yang akan diterima oleh masyarakat Irlandia adalah sampai dengan 1.98 microsieverts yang menurut standarisasi Komisi Eropa tidak signifikan efeknya terhadap kesehatan.⁵⁴⁷

Di sisi lain, walaupun Irlandia mendasari banyak argumennya atas dibangunnya *MOX Plant*, Irlandia mewaspadaai bahwa dibangunnya *MOX Plant* dapat memperpanjang operasi yang dilakukan oleh *THORP Plant*.⁵⁴⁸ Menurut Irlandia, argumen dari Inggris yang tidak mengaitkan *MOX Plant* dengan *THORP Plant* adalah tidak mungkin karena berdasarkan perhitungan ekonomis yang dilakukan oleh pihak Irlandia, tidaklah mungkin bagi *MOX Plant* untuk bekerja sendiri karena biaya yang dikeluarkan terkait keamanan saja sudah melebihi pemasukan yang didapat oleh *MOX Plant* secara individu, tanpa menggunakan pemasukan dari *THORP Plant*.⁵⁴⁹

Berdasarkan kewenangan di dalam Annex II UNCLOS, pembacaan dilakukan di ITLOS pada tahun 2001 di Hamburg. Pada Desember 2001, ITLOS menyatakan bahwa:⁵⁵⁰

⁵⁴⁴ “Sievert adalah unit ukuran radiasi yang menggantikan ukuran radiasi Rem yang menghitung perbedaan angka kerusakan yang disebabkan oleh masing-masing jenis radiasi terhadap makhluk hidup, dimana 1 sievert (Sv) = 100 rem,” R.B. Clark, hal. 130.

⁵⁴⁵ Counter-Memorial Inggris dalam *Permanent Court of Arbitration*, hal. 60.

⁵⁴⁶ Ibid., hal 61.

⁵⁴⁷ Ibid., hal. 62.

⁵⁴⁸ Memorial Ireland dalam *Permanent Court of Arbitration*, hal. 3, 5, 13.

⁵⁴⁹ Ibid., hal. 73, 19-20.

⁵⁵⁰ *MOX Plant Case (Ireland vs United Kingdom)* dalam ITLOS, Case No. 10, Order, hal. 13, paragraf 1.

- a. Pertukaran informasi lebih lanjut mengenai konsekuensi yang mungkin terjadi terhadap Laut Irlandia yang timbul dari kehadiran MOX *Plant*;
- b. Memantau resiko atau efek dari operasi Pabrik MOX untuk Laut Irlandia; dan
- c. Merancang langkah-langkah yang sesuai untuk mencegah pencemaran lingkungan laut yang mungkin timbul dari pengoperasian MOX *Plant*.

Akan tetapi, Inggris dan Irlandia tidak mengalami titik temu terkait hal ini dan Irlandia pun memasukan *memorial* nya ke PCA pada tahun 2003.⁵⁵¹

Dalam pembelaannya, Inggris menantang kedudukan yang dimiliki oleh ITLOS dalam kewenangannya menangani kasus tersebut karena salah satu ketentuan yang digunakan oleh Irlandia adalah ketentuan di dalam OSPAR 1992 terkait Protokol *Land-Based Sources*, perjanjian-perjanjian Komisi Eropa, dan/ atau Perjanjian EURATOM.⁵⁵² Akan tetapi, ITLOS menolak argumen yang diajukan oleh Inggris tersebut berdasarkan ketentuan di dalam Pasal 282 UNCLOS yang mengatur mengenai dapat dilakukannya penyelesaian sengketa antara negara-negara penandatanganan UNCLOS.⁵⁵³ Akan tetapi, hal ini bukanlah tanpa perlawanan dari pihak Inggris. Bersama-sama dengan Komisi Eropa, mereka menuntut Republik Irlandia di hadapan ECJ mengenai pelanggaran yang dilakukan oleh Republik Irlandia dengan mengajukan gugatan terkait dengan “*provisional measure*” di lembaga peradilan ITLOS dan bukan di ECJ, dimana pada tahun 2006 lalu, ECJ memutuskan bahwa Republik Irlandia telah melakukan pelanggaran terhadap ketentuan Pasal 10 EC dan Pasal 292 EC serta Pasal 192 EA dan Pasal 193 EA.⁵⁵⁴

Pada akhirnya, Irlandia menghentikan proses hukum yang terjadi di PCA dengan alasan telah banyaknya dana yang dikucurkan untuk menyelesaikan

⁵⁵¹ Memorial Ireland dalam *Permanent Court of Arbitration*, hal. 251-253.

⁵⁵² MOX Plant Case (Ireland vs United Kingdom) dalam ITLOS, Case No. 10, Order, hal. 10, paragraf 53.

⁵⁵³ Ibid.

⁵⁵⁴ The MOX Plant Case Judgement Summary dalam *European Court of Justice*, (European Commission dan Inggris v Irlandia dan Sweden, 2006), hal. 44.

permasalahan tersebut tanpa adanya kepastian mengenai waktu penyelesaian yang telah berlalu-lalu.⁵⁵⁵

Pada tahun 2005 lalu, THORP *Plant* mengalami kebocoran sebanyak 20 ton bahan uranium dan plutonium melalui pipa menuju ruangan *stainless steel* yang tidak dapat dimasuki.⁵⁵⁶ Kebocoran ini tidak mempengaruhi masyarakat dari sudut kesehatan, namun mempengaruhi masyarakat dari sudut ekonomi, dimana THORP *Plant* telah berhasil memberikan pemasukan sebanyak 1 juta poundsterling per tahun.⁵⁵⁷ MOX *Plant* pun harus ditutup pada tahun 2011 lalu karena salah satu konsumen terbesarnya, yaitu Fasilitas Pembangkit Listrik Tenaga Nuklir di Jepang, yaitu Fukushima Daichi mengalami kerusakan parah akibat terjadinya tsunami pada tahun tersebut. Hal ini mengakibatkan hilangnya pemasukan dari MOX *Plant* dan menyebabkan sebanyak 600 orang kehilangan pekerjaannya.⁵⁵⁸

4.2.3. Analisa

Limbah radioaktif memiliki pengaturan tersendiri diluar ketentuan yang mengatur mengenai pencemaran laut yang disebabkan oleh *land-based sources*. Akan tetapi, limbah radioaktif yang dapat mencemari lingkungan laut pada umumnya bersumber dari infrastruktur darat sebagaimana telah dijelaskan oleh peneliti pada BAB 2 penelitian ini.

Kasus yang terjadi di antara kedua negara sebenarnya dapat dihindari, apabila kedua negara saling mempraktekkan prinsip-prinsip hukum lingkungan internasional. Prinsip-prinsip hukum internasional seperti prinsip *due diligence*, prinsip *precautionary approach*, dan prinsip *good-neighbourliness*.

⁵⁵⁵ Order No. 6 Termination of Proceedings dalam *Permanent Court of Arbitration*, hal. 2.

⁵⁵⁶ <http://www.guardian.co.uk/society/2005/may/09/environment.nuclearindustry>, diunduh 2 Juni 2012.

⁵⁵⁷ Ibid.

⁵⁵⁸ <http://www.guardian.co.uk/environment/2011/aug/03/sellafield-mox-plant-close>, diunduh 2 Juni 2012.

Prinsip *due-diligence* merupakan prinsip yang digunakan untuk menilai sebuah kegiatan yang akan dilakukan di dalam sebuah negara dengan memperhatikan dampak-dampak yang dapat ditimbulkan oleh kegiatan tersebut, terutama apabila kegiatan tersebut dapat memberikan dampak negatif terhadap lingkungan negara lain.⁵⁵⁹ Sifat fleksibel yang dimiliki oleh prinsip *due-diligence* membuatnya mudah diterapkan pada situasi-situasi yang berbeda, namun di sisi lain hal ini juga menunjukkan tidak adanya suatu standarisasi yang sama yang dapat dijadikan acuan dalam penerapan prinsip *due-diligence*.⁵⁶⁰ Maka dari itu, negara-negara didorong untuk membuat ketentuan-ketentuan yang mendasari penilaian yang mereka lakukan terhadap kegiatan yang akan dilakukan di negaranya.

Sebagai anggota EU, Inggris diwajibkan untuk mengadopsi pedoman-pedoman yang dikeluarkan oleh EU dalam EU *Directives*. Dua EU *Directives* yang diadopsi oleh Inggris terkait pengelolaan radioaktif adalah *The Basic Safety Standards Directive*⁵⁶¹ dan *the Control of High-Activity Sealed Sources and Orphan Sources Directive*⁵⁶². *The Basic Safety Standards Directive* memberikan pedoman mengenai dasar-dasar keselamatan yang harus dilakukan oleh operator fasilitas radioaktif untuk menekan jumlah radiasi yang dapat mengkontaminasi masyarakat yang tinggal di sekitar fasilitas tersebut.⁵⁶³ Selain itu, pedoman ini juga memberikan standar dosis ionisasi radioaktif yang diproduksi oleh fasilitas,⁵⁶⁴ sehingga adanya pelanggaran akan mengakibatkan pemberian sanksi terhadap fasilitas tersebut.⁵⁶⁵ Salah satu bentuk dosis yang harus diperhatikan

⁵⁵⁹ PBB (III), *Rio Declaration on Environmental and Development 1992* (Deklarasi Rio), Prinsip 2.

⁵⁶⁰ Patricia Birnie dan Alan Boyle, *International Law and the Environment, Second ed.*, hal. 112-113.

⁵⁶¹ *The Basic Safety Standards Directive* (96/29/Euratom).

⁵⁶² *The Control of High-Activity Sealed Sources and Orphan Sources* (2003/122/Euratom).

⁵⁶³ *The Basic Safety Standards Directive*, Bab 3, Bagian 1, Pasal 1 (a).

⁵⁶⁴ *Ibid.*, Pasal 1 (b).

⁵⁶⁵ *Ibid.*, Bagian 2, Pasal 4.

oleh regulator adalah dosis maksimum yang dapat dirasakan tiap individual dari satu sumber tertentu, yaitu:⁵⁶⁶

- a) 0.3 millisieverts per tahun dari sumber manapun yang mengeluarkan limbah radioaktif sejak tanggal 13 Mei 2000; atau
- b) 0.5 millisieverts per tahun dari sebuah fasilitas tertentu.

Di dalam kasus, EA telah mengeluarkan pernyataan mengenai dosis dari pembuangan gas yang dikeluarkan oleh *MOX Plant* adalah 0.000002 milisieverts per harinya (2000/1.000.000 sievert⁵⁶⁷ per harinya) yang mana tidak melanggar standar internasional yang dibuat oleh EU.

Prinsip yang kedua yang dapat diterapkan adalah prinsip *precautionary approach* yang disinggung oleh pihak Irlandia di dalam salah argumen tuntutan yang mana menyatakan bahwa prinsip ini digunakan ketika timbul alasan yang masuk akal mengenai dampak negatif yang dapat ditimbulkan dengan dibuangnya bahan atau energi yang secara langsung atau tidak langsung mempengaruhi lingkungan laut dan ekosistemnya.⁵⁶⁸ Hal ini kemudian didukung pula dengan pedoman yang dikeluarkan oleh EU terkait cara-cara berkomunikasi antar anggota EU yang menyatakan diperlukannya identifikasi dan karakterisasi bahaya yang ditimbulkan dari sebuah kegiatan yang menghasilkan limbah radioaktif.⁵⁶⁹ Inggris menyatakan telah melakukan hal tersebut dan EU telah memberikan pendapatnya yang menyatakan bahwa mengingat jarak yang ada dari Irlandia dengan Sellafield sejauh 184 km dan berdasarkan data-data yang ada, tingkat radioaktif terburuk yang dapat dirasakan oleh masyarakat Irlandia tidak memiliki efek radioaktif yang dapat membahayakan nyawa manusia.⁵⁷⁰

⁵⁶⁶ Ibid., Bagian 1 Pasal 2.

⁵⁶⁷ “Sievert adalah unit ukuran radiasi yang menggantikan ukuran radiasi Rem yang menghitung perbedaan angka kerusakan yang disebabkan oleh masing-masing jenis radiasi terhadap makhluk hidup, dimana 1 sievert (Sv) = 100 rem,” R.B. Clark, hal. 130.

⁵⁶⁸ Ireland Memorial dalam *Permanent Court of Arbitration*, hal. 225.

⁵⁶⁹ Euratom Treaty, Pasal 37.

⁵⁷⁰ *United Kingdom Counter Memorial* dalam *Permanent Court of Arbitration*, hal. 23.

Sayangnya, Inggris tidak mengetahui bahwa pernyataan yang dikeluarkan oleh EU tidak disetujui oleh pihak Irlandia.⁵⁷¹

Setelah persetujuan ini pun, Inggris masih harus mengajukan permohonan izin lainnya terkait pembuangan gas, limbah dan hal-hal lainnya yang dikeluarkan oleh MOX *Plant* dan dapat mempengaruhi lingkungan. Operator MOX *Plant* pun melakukan lima kali dengar pendapat dengan pihak-pihak terkait, dimana dalam hal ini termasuk pula pihak Irlandia sebagai Negara yang memiliki kepentingan terkena dampak dari mulai berproduksinya MOX *Plant*.⁵⁷² Pihak Irlandia hanya tidak mengikuti dengar pendapat terakhir yang menyatakan bahwa pembangunan MOX *Plant* telah sesuai dengan ketentuan di dalam Pasal 6 Ayat 1 yang diatur di dalam *The Basic Safety Standards Directive*.⁵⁷³ Di empat dengar pendapat sebelumnya, pihak Irlandia menyatakan pendapatnya yang tidak menyetujui berjalannya MOX *Plant*, walaupun jumlah pembuangan yang dilakukannya ke Laut Irlandia relatif kecil, hal ini tidak dapat diterima oleh Pemerintah Irlandia.⁵⁷⁴

Berdasarkan fakta-fakta yang ada, kasus antara pemerintah Irlandia dengan pemerintah Inggris timbul akibat kurangnya kerjasama di antara kedua negara dalam menangani permasalahan ini. Kurangnya kerjasama tersebut menimbulkan ketidakpercayaan di antara kedua belah pihak, terutama dari pihak Irlandia. Hal ini tidak dapat dipungkiri mengingat sejarah panjang yang terjadi di antara kedua belah pihak yang kurang baik.⁵⁷⁵ Oleh karena itu, perlu diterapkannya prinsip *good-neighbourliness* di antara kedua negara.

Prinsip *good-neighbourliness* dituliskan di dalam Pasal 74 Piagam PBB dalam kaitannya dengan persoalan sosial, ekonomi dan perdagangan yang kemudian diterapkan pula pada perkembangan dan pengaplikasian dasar-dasar kerjasama lingkungan antar negara.⁵⁷⁶ Hal ini pula yang dianjurkan di dalam

⁵⁷¹ Ibid.

⁵⁷² Ibid., hal. 24-27.

⁵⁷³ Ibid., hal. 26.

⁵⁷⁴ Ibid., hal. 25.

⁵⁷⁵ http://www.bbc.co.uk/history/british/victorians/famine_01.shtml, diunduh 2 Juni 2012.

⁵⁷⁶ Philippe Sands, *Principles of International Environmental Law, Second Ed.*, hal. 249.

putusan ITLOS terhadap kasus *MOX Plant*, dimana kedua negara didorong untuk bekerjasama sesuai dengan Pasal 123 dan Pasal 197 UNCLOS.⁵⁷⁷ Akan tetapi, hal ini kemudian tidak berhasil dilakukan dan mengakibatkan terus bergulirnya kasus ini, dimana Irlandia akhirnya memasukan tuntutan nya ke PCA pada akhir tahun 2001.

Kekhawatiran yang diperlihatkan oleh Irlandia bukannya tidak berdasar. Laut Irlandia dinyatakan sebagai salah satu laut yang paling terkontaminasi di dunia, dimana terdapat 70% isotop-plutonium dari total pencemaran yang ada dan 90% dari plutonium tersebut berada di dalam unsur sedimen Laut Irlandia.⁵⁷⁸ Seperti yang telah dijelaskan oleh peneliti sebelumnya, sedimen sangat penting dalam proses pertumbuhan dan pemeliharaan habitat pantai, termasuk di dalamnya rawa, laguna, muara, bantalan rumput laut, terumbu karang, hutang mangrove, dan gundukan pasir penghambat.⁵⁷⁹ Tempat-tempat tersebut merupakan tempat yang dihuni oleh biota laut, seperti ikan, kerang, cumi-cumi, dan makhluk hidup laut lainnya yang sering dikonsumsi oleh manusia. Sampai saat ini, tingkat radioaktif yang ada di dalam makhluk hidup tersebut dan di dalam manusia yang mengkonsumsinya dari Laut Irlandia tidak signifikan dan belum diketahui dampaknya terhadap makhluk hidup.⁵⁸⁰ Pihak Irlandia menyadari hal ini dan menginginkan agar Inggris tidak menganggap remeh dampak yang tidak signifikan tersebut karena tingkat radioaktif sekecil apapun dapat memberikan dampak kesehatan apabila terus menerus terekspos.

Di sisi lain, pihak Inggris juga sangat memperhatikan hal ini mengingat lamanya waktu yang dibutuhkan untuk operator mendapatkan surat izin mendirikan dan kemudian menjalankan *MOX Plant*, yaitu selama sembilan tahun. Pihak operator telah mengajukan EIA kepada EA, melakukan dengar pendapat sebanyak lima kali yang dilakukan yang berisikan keuntungan dan

⁵⁷⁷ *MOX Plant Case (Ireland vs United Kingdom)* dalam ITLOS, Ibid.

⁵⁷⁸ Hal ini dikemukakan oleh Professor Salbu dalam *Salbu Report* sebagaimana dikemukakan dalam Ireland Memorial dalam *Permanent Court of Arbitration*, hal. 63.

⁵⁷⁹ UNEP/GPA, *The State of Marine Environment: Trends and Processes* (The Hague, 2006).

⁵⁸⁰ Ireland Memorial dalam *Permanent Court of Arbitration*, hal. 65.

kerugian berproduksinya *MOX Plant*, dimana keuntungan dan kerugian tersebut dilakukan oleh lembaga independen diluar operator, melakukan penjustifikasian atas berjalannya *MOX Plant* yang diberikan oleh Menteri bersangkutan, dan yang terakhir izin diberikan oleh Departemen Kesehatan dan Keselamatan Inggris.⁵⁸¹ Dari serangkaian kejadian tersebut, satu insiden yang dijadikan salah satu dasar argumen Irlandia dalam menyerang Inggris, yaitu adanya insiden pemalsuan data (*data falsification incident*) yang dinyatakan oleh pihak operator tidak berkaitan dengan keselamatan pembuangan limbah radioaktif.⁵⁸² Bahkan setelah melewati lima dengar pendapat tersebut, *MOX Plant* belum dapat beroperasi dikarenakan adanya gugatan yang diajukan oleh *Friends of Earth Ltd.* dan *Greenpeace Ltd.* ke Pengadilan Tinggi di Inggris terkait keputusan Menteri mengenai pendirian *MOX Plant*. Hakim berpendapat bahwa keputusan tersebut memang tepat dan gugatan pun ditolak.⁵⁸³

Dilihat dari dua sisi, penyelesaian yang diberikan oleh ITLOS adalah penyelesaian yang terbaik, yaitu dengan melakukan kerjasama dan berbagi informasi di antara kedua negara terkait dengan penambahan fasilitas radioaktif *MOX Plant* di Sellafield. Pihak Inggris sebagai operator *MOX Plant* dapat dikatakan beritikad baik dengan mau mengikuti persyaratan-persyaratan yang ada terkait penambahan fasilitasnya tersebut, maka adanya kekurangan-kekurangan yang diinginkan dari pihak Irlandia dapat dikomunikasikan, sehingga mencegah terjadinya salah paham yang timbul di antara kedua belah pihak.

4.3. The Étang de Berre Case 2007 (The European Community v French)

4.3.1. Latar Belakang

Laguna dengan luas 15 hektar di barat laut kota Marseille, Etang de Berre tadinya adalah laguna yang berhubungan dengan Laut Mediterania melalui kanal

⁵⁸¹ *United Kingdom Counter Memorial* dalam *Permanent Court of Arbitration*, hal. 22-27.

⁵⁸² *Ibid.*, hal. 26.

⁵⁸³ *Ibid.*

kecil yang tidak dapat dilewati oleh kapal laut.⁵⁸⁴ Tidak sampai dengan tahun 1863, kanal tersebut dibuka seluruhnya sehingga menghubungkan Etang de Berre dengan Laut Mediterania dan masuknya air asin dalam kapasitas besar untuk pertama kalinya.⁵⁸⁵ Hal ini tentunya mempengaruhi flora dan fauna yang tinggal di dalam Etang de Berre. Etang de Berre kemudian menjadi rumah bagi beberapa macam fauna untuk berkembang biak, seperti “Black-winged Stilt” (*Himantopus himantopus*), “the Pied Avocet” (*Recurvirostra avosetta*), “the Common Tern” (*Sterna hirundo*), dan “the Little Tern” (*Sterna albifrons*).⁵⁸⁶ Selain menjadi tempat tinggal para fauna, Etang de Berre juga menjadi tempat mata pencaharian para nelayan, dimana Laguna ini digunakan untuk mengembangbiakan ikan wader.⁵⁸⁷

Di Laguna tersebut kemudan dibangun Pembangkit Listrik Tenaga Air (PLTA) milik “*Electricite de France*” (EDF) yang menghubungkan Sungai Durance dengan Etang de Berre.⁵⁸⁸ Para nelayan yang menggunakan Etang de Berre sebagai tempat mata pencaharian menyadari adanya perubahan lingkungan di wilayah tersebut yang mempengaruhi tingkat keasinan Etang de Berre akibat dari dibangunnya PLTA tersebut.⁵⁸⁹ Para nelayan pun mengajukan gugatan terhadap pemerintah Perancis perihal hal ini, dimana para nelayan tersebut menyatakan bahwa air buangan dari PLTA “*Electricite de France*” telah mencemari Etang de Berre dengan menjadi perantara perpindahan sedimen dari

⁵⁸⁴ <http://tresordesregions.mgm.fr/Mdir.php?p=cant.php&cl=Berre%28etangde%29®ion=93>, diunduh 4 Juni 2012.

⁵⁸⁵ Ibid.

⁵⁸⁶ Hal ini dikemukakan oleh Birdlife International dalam *BirdLife's online World Database: the site for bird conservation* sebagaimana dikemukakan oleh Antoinette Hildering, Andrea M. Keessen & Helena F.M.W. van Rijswick, “Tackling pollution of the Mediterranean Sea from land-based sources by an integrated ecosystem approach and the use of the combined international and European legal regimes,” *Utrecht Law Review Vol. 5 Issue 1* (Juni 2009): 81.

⁵⁸⁷ Antoinette Hildering, Andrea M. Keessen & Helena F.M.W. van Rijswick, hal. 82.

⁵⁸⁸ Michael Petite (Direktur Umum Bagian Hukum European Community) dalam kuliahnya mengenai *Current Legal Issues in the External Relations of the European Union* (European University Institute: Academy of European Law, 7 Juli 2006), hal 18-19.

⁵⁸⁹ Antoinette Hildering, Andrea M. Keessen & Helena F.M.W. van Rijswick, hal. 81.

Sungai Durance ke Etang de Berre.⁵⁹⁰ Perpindahan sedimen ini berpengaruh terhadap lingkungan perairan di Etang de Berre dan tentunya juga berpengaruh terhadap tempat para nelayan tersebut mengembangbiakan ikan mereka.⁵⁹¹ Mengingat Etang de Berre yang kini berbatasan langsung dengan Laut Mediterania, para nelayan ini mengajukan tuntutan berdasarkan ketentuan di dalam Konvensi Barcelona, yaitu protokol yang khusus mengatur sumber pencemaran laut dari *land-based sources*.⁵⁹²

4.3.2. Posisi Kasus

Para nelayan tersebut mengajukan tuntutannya ke lembaga peradilan di Perancis, namun mengingat para nelayan tersebut mendasari tuntutannya tersebut dengan Protokol di Konvensi Barcelona Pasal 6 ayat 1⁵⁹³ dan Pasal 6 Ayat 3⁵⁹⁴ yang mengatur mengenai *land-based sources*, maka pengadilan pun mengalihkan kasus tersebut kepada ECJ sebagai lembaga peradilan yang tepat untuk menjatuhkan keputusan yang seadil-adilnya.⁵⁹⁵ Tadinya pengadilan di Perancis hanya ingin meminta kepada ECJ untuk memberikan fatwa terkait dengan pengaruh langsung pasal-pasal tersebut terhadap Etang de Berre yang notabene berada di dalam wilayah nasional Perancis.⁵⁹⁶ Dalam hal ini, ECJ memutuskan bahwa Pasal 6 ayat 3 menetapkan kewajiban yang jelas, tepat dan tanpa

⁵⁹⁰ *Étang de Berre Case (France vs European Union)*, “Dispute Concerning the Discharge of Waste to the Lake of Étang de Berre,” *European Court of Justice*, 2004.

⁵⁹¹ *Ibid.*

⁵⁹² *Ibid.*

⁵⁹³ “*Point source discharges into the Protocol Area, and releases into water or air that reach and may affect the Mediterranean Area, as defined in article 3(a), (c) and (d) of this Protocol, shall be strictly subject to authorization or regulation by the competent authorities of the Parties, taking due account of the provisions of this Protocol and annex II thereto, as well as the relevant decisions or recommendations of the meetings of the Contracting Parties,*” *Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities 1996 (Protokol Syracuse)*, Pasal 6 ayat 1.

⁵⁹⁴ “*The Parties may be assisted by the Organization, upon request, in establishing new, or strengthening existing, competent structures for inspection of compliance with authorizations and regulations. Such assistance shall include special training of personnel,*” *Ibid.*, Pasal 6 ayat 3.

⁵⁹⁵ *Étang de Berre Case (France vs European Union)*, “Dispute Concerning the Discharge of Waste to the Lake of Étang de Berre,” *European Court of Justice*, 2004.

⁵⁹⁶ Antoinette Hildering, Andrea M. Keessen & Helena F.M.W. van Rijswijk, hal. 82.

pengecualian tentang pembuangan yang dilakukan dari *land-based sources* dan diperlukannya izin untuk melakukan pembuangan tersebut.⁵⁹⁷

Selain memutuskan bahwa ketentuan di dalam Pasal 6 ayat 3 memiliki dampak langsung terhadap situasi yang terjadi di Etang de Berre, ECJ pun memutuskan bahwa Perancis telah gagal dalam mengimplementasikan Pasal 6 ayat 1 dan Pasal 6 ayat 3 di Etang de Berre dan tindakannya tersebut termasuk ke dalam pelanggaran.⁵⁹⁸ Dalam tanggapannya, Perancis mengelak dengan menyatakan bahwa negaranya telah melakukan kemampuan sebaik mungkin untuk mencegah pencemaran yang terjadi,⁵⁹⁹ namun alasan ini tidak dapat diterima oleh ECJ. Dalam Pasal 6 ayat 3, negara-negara anggota memiliki kewenangan dalam memberikan izin terkait *land-based sources*. Maka dari itu, ECJ berpendapat bahwa ketidakmampuan suatu negara untuk memenuhi standar sebagai negara anggota Konvensi tidak menghilangkan kewajibannya untuk memenuhi standar tersebut, dimana dalam hal ini undang-undang nasional Perancis yang belum sesuai (*compliance*) dengan standar yang dianut di dalam Protokol Konvensi Barcelona mengenai *land-based sources*.⁶⁰⁰

4.3.3. Analisa

Etang de Berre adalah Laguna yang terletak di selatan Perancis. Terdapat sebuah kanal dari Laguna tersebut, yaitu Kanal Caronte yang menghubungkannya dengan Laut Mediterania.⁶⁰¹ Kasus pencemaran ini terjadi pada rentan waktu 1991 sampai dengan 2001 dan diputuskan pada tahun 2004, sehingga Konvensi yang berlaku pada saat itu adalah Konvensi Barcelona 1976 dan Protokol Athena 1980 karena amandemen keduanya mulai berlaku pada pertengahan tahun 2004 dan tahun 2008 dan tidak berlaku retroaktif. Kasus ini pada awalnya ditangani

⁵⁹⁷ Ibid.

⁵⁹⁸ *Étang de Berre Case (France vs European Union)*, hal. 1491-1500.

⁵⁹⁹ Antoinette Hildering, Andrea M. Keessen & Helena F.M.W. van Rijswijk, hal. 82.

⁶⁰⁰ *Étang de Berre Case (France vs European Union)*, 7 Oktober 2004.

⁶⁰¹ Hal ini dikemukakan oleh Philippe Picon (Groupement d'Intérêt Public pour la Réhabilitation de l'Étang de Berre), "From public mobilization to public involvement: the case of the Berre Lagoon ecological restoration," dalam *4th World Water Forum* (Mexico, 18 Maret 2006).

oleh pihak Perancis secara intern, namun para penggugat pada saat itu menggunakan peraturan-peraturan yang dituliskan di dalam Konvensi Barcelona 1976 sehingga memaksa Pengadilan Kasasi di Perancis untuk meminta nasehat dari ECJ perihal hal ini.⁶⁰²

Dalam Konvensi Barcelona 1976, Pasal 1 menyatakan ruang lingkup dari Konvensi Barcelona, yaitu:

“For the purposes of this Convention, the Mediterranean Sea Area shall mean the maritime waters of the Mediterranean Sea proper, including its gulfs and seas, bounded to the west by the meridian passing through Cape Spartel lighthouse, at the entrance of the Straits of Gibraltar, and to the east by the southern limits of the Straits of the Dardanelles between Mehmetcik and Kumkale lighthouses.”

Hal ini didukung pula dengan ketentuan yang dituliskan di dalam Pasal 3 Protokol Athena yang menyatakan:

“The Area to which this Protocol applies shall be:

...

(c) saltwater marshes communicating with the sea.”

Dari penjelasan tersebut, maka Etang de Berre menjadi salah satu ruang lingkup di dalam Konvensi Barcelona. Hal ini berlawanan dengan pernyataan yang dikeluarkan oleh Pihak Perancis di dalam pembelaannya yang menyatakan bahwa ECJ tidak memiliki kewenangan untuk mengadili Perancis karena Etang de Berre tidak termasuk ke dalam ruang lingkup Konvensi Barcelona 1976.⁶⁰³ Di sisi lain, Majelis Hakim merasa bahwa Perancis sebagai anggota dari Konvensi Barcelona 1976 berbagi tanggung jawab yang sama dengan negara-negara anggota lainnya, sehingga pelanggaran yang terjadi menjadi permasalahan bersama pula dan menjadikan ECJ sebagai pihak yang berwenang ketika sengketa terjadi.⁶⁰⁴

Perusahaan listrik EDF yang menjadi operator pembangkit listrik tenaga air yang mengalirkan air dari Sungai Durance ke Etang de Berre telah melanggar kesepakatan yang dilakukannya dengan Menteri Infrastruktur yang

⁶⁰² Antoinette Hildering, Andrea M. Keessen & Helena F.M.W. van Rijswijk, hal. 82.

⁶⁰³ Étang de Berre Case (France vs European Union), *Judgement of the Court (Second Chamber)*, butir 22.

⁶⁰⁴ *Ibid.*, butir 24-31.

mewajibkannya untuk mengambil tindakan-tindakan pencegahan pembuangan bahan-bahan padat ke Etang de Berre pada tahun 1966.⁶⁰⁵ Instruksi pengoperasian yang harus dilakukan oleh EDF baru disetujui pada tahun 1997 oleh Departemen Industri, Penelitian dan Lingkungan Regional yang mana tujuannya adalah untuk menekan pemasukan debit air dan alluvium yang masuk ke dalam Etang de Berre.⁶⁰⁶ Akan tetapi, EDF tidak dapat memenuhinya dan menyebabkan ECJ mengirimkan pemberitahuan formal kepada pemerintah Perancis terkait hal ini dan pembelaan yang dinyatakan Perancis tidak memuaskan.⁶⁰⁷

Pencemaran yang dilakukan oleh EDF, sebagai salah satu perusahaan milik pemerintah, tidak mengenyampingkan kenyataan bahwa pemerintah Perancis itu sendiri tidak memberikan tindakan-tindakan yang diperlukan untuk mencegah terjadinya pencemaran sesuai dengan ketentuan yang diatur di dalam Konvensi Barcelona, Pasal 4 Ayat 1 (a) dan Protokol Athena, Pasal 6 Ayat 1 dan Ayat 3. Protokol Athena, Pasal 6 Ayat 1 mengacu kepada ketentuan di dalam ANNEX II, dimana di dalamnya mengatur mengenai bahan-bahan apa saja yang dianggap berbahaya dan dapat mencemari Laut Mediterania. Salah satunya adalah bahan yang memiliki dampak secara langsung maupun tidak langsung terhadap berkurangnya kadar oksigen di dalam lingkungan Laut Mediterania, terutama yang dapat menyebabkan eutrofikasi.⁶⁰⁸ Seperti yang peneliti telah jelaskan, meningkatnya pembuangan air yang mengandung sedimen pada sebuah perairan akan mempengaruhi kadar oksigen di dalam perairan tersebut karena sedimen pada umumnya mengandung *nutrients* yang dapat menyebabkan terjadinya eutrofikasi.

Salah satu prinsip yang dapat diaplikasikan dalam kasus ini adalah prinsip *foreseeability of harm*. Perancis sebagai negara anggota Konvensi

⁶⁰⁵ Ibid., butir 15.

⁶⁰⁶ Ibid., butir 16.

⁶⁰⁷ Ibid., butir 18.

⁶⁰⁸ UNEP, *Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources*, B7 p. 976:13/C (17 Mei 1980), ANNEX II.

Barcelona memiliki tanggung jawab untuk tidak mencemari Laut Mediterania dan dalam hal ini, Etang de Berre termasuk ke dalam ruang lingkup Laut Mediterania. Oleh karena itu, Perancis harus menyadari bahwa terjadinya pencemaran yang terjadi di Etang de Berre memiliki kemungkinan untuk mencemari Laut Mediterania secara luas. Prinsip *foreseeability of harm* harus dapat menemukan resiko-resiko atas tindakan-tindakan yang dapat menimbulkan pencemaran. Dalam hal ini, pemerintah Perancis tidak melakukan tindakan-tindakan yang diperlukan untuk mencegah terjadinya pencemaran tersebut mengingat telah adanya tanda-tanda yang menunjukkan terjadinya pencemaran di Etang de Berre.⁶⁰⁹ Maka dari itu, pencemaran yang terjadi di Etang de Berre termasuk ke dalam pelanggaran terhadap ketentuan-ketentuan di dalam Konvensi Barcelona dan Protokol Athena.

4.4. Beberapa Contoh Kasus di Indonesia

Indonesia dengan wilayah lautnya yang begitu luas tentu memiliki tingkat kerawanan yang lebih tinggi. Selain itu, Indonesia juga memiliki beberapa negara tetangga yang berbatasan laut dengan Indonesia, sehingga Indonesia juga memiliki tanggung jawab untuk melakukan pencegahan yang diperlukan agar tidak mencemari wilayah laut negara tetangga. Hal ini sudah didukung secara nasional dalam beberapa peraturan perundang-undangan nasional.⁶¹⁰

Peraturan perundang-undangan nasional yang sudah ada sayangnya tidak dapat mencegah terjadinya pencemaran lingkungan sungai di daerah-daerah. Hal ini sangat mengkhawatirkan karena dengan tercemarnya sungai-sungai tersebut, laut pun memiliki kemungkinan yang sangat besar untuk tercemar. Walaupun begitu, Indonesia sampai saat ini belum pernah terjerat kasus pencemaran laut

⁶⁰⁹ Antoinette Hildering, Andrea M. Keessen & Helena F.M.W. van Rijswijk, hal. 81.

⁶¹⁰ Undang-Undang No. 32 Tahun 2009 Tentang Perlindungan dan Pengelolaan Lingkungan Hidup; Peraturan Pemerintah No. 20 Tahun 1990 Tentang Pengendalian Pencemaran Air; Peraturan Pemerintah No. 19 Tahun 1999 Tentang Pengendalian Pencemaran dan/atau Perusakan Air Laut; Peraturan Pemerintah No. 82 Tahun 2001 Tentang Pengelolaan Kualitas Air dan Pengendalian Pencemaran Air; Peraturan Menteri Lingkungan Hidup No. 12 Tahun 2006 Tentang Persyaratan dan Tata Cara Perizinan Pembuangan Air Limbah ke Laut.

yang melintasi batas negara dan walaupun ada, dampaknya tidak seluas seperti yang terjadi di Inggris, Amerika Serikat dan Perancis terkait *land-based sources*.

Berdasarkan wawancara yang peneliti lakukan, Indonesia direncanakan akan membuat perjanjian dengan Papua Nugini terkait Sungai Fly yang terletak di Irian Jaya.⁶¹¹ Berdasarkan wawancara tersebut, Sungai Fly merupakan sungai yang melewati Provinsi Irian Jaya dan Papua Nugini dan berakhir di Laut Papua Nugini. Walaupun bagian dari Sungai Fly lebih banyak berada di wilayah Papua Nugini, hal ini tidak mengesampingkan tanggung jawab yang dimiliki oleh Indonesia untuk menjaga lingkungan sungai tersebut. Di sepanjang Sungai Fly seringkali dilakukan aktivitas-aktivitas pertambangan yang dapat membahayakan keselamatan lingkungan. Oleh karena itu, diperlukan kerjasama yang dilakukan di antara kedua negara untuk menjaga lingkungan sungai tersebut. Hal ini dikarenakan banyaknya masyarakat yang tinggal di sepanjang sungai tersebut dan bergantung dari kebersihan Sungai Fly. Perjanjian ini menerapkan Pasal 194 (2) UNCLOS yang mewajibkan negara-negara anggota untuk mengambil tindakan-tindakan yang diperlukan untuk mencegah terjadinya pencemaran dan pembuatan kerjasama ini adalah salah satunya. Peneliti tidak dapat membahas lebih jauh mengenai hal ini dikarenakan sulitnya untuk mendapatkan data-data terkait pembentukan perjanjian tersebut.

Kasus kedua yang terjadi di Indonesia merupakan situasi yang bertolak belakang dengan apa yang akan dilakukan oleh Indonesia dan Papua Nugini di Sungai Fly. Kali bukan Indonesia yang menyebabkan pencemaran tersebut, namun pencemaran tersebut dilakukan oleh negara tetangga kita Singapura.⁶¹² Berdasarkan berita yang peneliti temukan di situs Harian Umum “Haluan Kepri” yang diunggah pada tanggal 14 Maret 2012, sampah-sampah dari negara Singapura dan Malaysia diduga telah mencemari Laut Batam. Hal ini dinyatakan oleh Menteri Negara Lingkungan Hidup, Balthasar Kambuaya ketika

⁶¹¹ Wawancara tertulis dengan Bapak Yazid Nurhuda, Asisten Perjanjian Internasional Lingkungan Kementerian Lingkungan Hidup, Jakarta, 30 April 2012.

⁶¹² <http://www.haluankepri.com/tajuk/26228-sampah-singapura-dan-malaysia-.html>, diunduh 17 Juni 2012.

mengunjungi kawasan industri Batamindo di Mukakuning. Berdasarkan pernyataan masyarakat Batam, sampah-sampah tersebut datang dari wilayah utara Batam dan di wilayah utara Batam hanya ada Singapura dan Malaysia. Apabila sampah-sampah tersebut terbukti datang dari Singapura dan Malaysia, Indonesia dapat memintakan pertanggungjawaban kepada pemerintahan kedua negara terkait sampah-sampah tersebut yang telah mencemari wilayah Indonesia. Tindakan yang dilakukan oleh Singapura dan Malaysia merupakan tindakan yang melanggar ketentuan Pasal 194 (2) UNCLOS terkait dengan “*duty not to transfer*”, yaitu kewajiban negara-negara anggota untuk memastikan negaranya tidak mencemari wilayahnya sendiri dan wilayah negara tetangga. Indonesia. Walaupun begitu, Indonesia sampai saat ini belum mengambil langkah pasti dalam memastikan sumber pencemaran tersebut.

Walaupun pencemaran lingkungan laut di beberapa daerah di Indonesia sering terjadi dalam ruang lingkup lokal, Indonesia sampai saat ini belum terjerat kasus yang menyangkut pencemaran *land-based sources* yang mencemari negara lain. Kedua contoh di atas menunjukkan bahwa Indonesia tidak selalu menjadi pihak yang mencemari wilayah laut dan bahkan menjadi pihak yang bisa diajak bekerjasama dalam menjaga keselamatan lingkungan laut.

BAB 5 PENUTUP

5.1. Kesimpulan

5.1.1. Pengaturan Hukum Internasional Mengenai Pencemaran Laut dari *Land-Based Sources* terhadap Lingkungan Laut

Land-based sources pollution tetap menjadi sumber pencemaran laut yang memberikan kontribusi terbanyak dari total pencemaran laut yang terjadi di dunia. Kontribusi tersebut sebagian besar dilakukan oleh aktivitas-aktivitas rumah tangga, industrial, pertanian dan pariwisata, dimana masing-masing aktivitas membuang zat-zat dan unsur-unsur berbahaya ke laut. Bervariasinya dan besarnya *land-based sources* dalam mencemari laut di dunia membutuhkan suatu pengaturan internasional yang dapat memberikan patokan-patokan yang tepat untuk mengurangi, bila sulit untuk menanggulangi, jumlah *land-based sources* di dunia.

Prinsip-prinsip hukum lingkungan internasional seperti *sustainable development*, *due-diligence*, *foreseeability of harm*, dan *precautionary approach* dapat digunakan terlebih dahulu sebagai langkah awal yang mendasari dibentuknya peraturan perundang-undangan nasional dan perjanjian internasional. Kelima prinsip tersebut diterapkan sebelum sebuah kegiatan atau aktivitas dilakukan dengan maksud mencegah adanya dampak buruk yang dapat ditimbulkan dari kegiatan atau aktivitas tersebut. Hal ini dikarenakan pencemaran yang disebabkan oleh *land-based sources* tidak mudah untuk ditanggulangi ketika pencemaran tersebut sudah sampai di laut.

Mengingat prinsip-prinsip hukum lingkungan internasional merupakan pedoman yang menjadi dasar pembentukan hukum, negara-negara perlu untuk membuat peraturan perundang-undangan nasional dan perjanjian internasional yang menangani persoalan *land-based sources*. Perjanjian internasional yang telah ditandatangani oleh banyak negara (multilateral) dan telah menjadi kebiasaan hukum internasional adalah *United Nations Convention on the Law of*

the Sea 1982 (UNCLOS). Di dalamnya disinggung mengenai bagaimana negara-negara diharuskan untuk menjaga lingkungan laut dengan melakukan kerjasama dan mengadopsi ketentuan-ketentuan yang ada. UNCLOS menjadi perjanjian internasional pertama yang menyinggung persoalan *land-based sources*, walaupun ketentuan-ketentuannya hanya memberikan pernyataan-pernyataan umum mengenai *land-based sources*. Selain UNCLOS, belum ada perjanjian multilateral lainnya yang telah diakui oleh begitu banyak negara di dunia.

Montreal Guidelines dan *Washington Declaration* menjadi ‘*soft-law*’ yang mengatur permasalahan *land-based sources* secara komprehensif dengan banyaknya negara-negara penandatanganan. Hanya saja, sifatnya yang ‘*soft-law*’ menunjukkan bahwa kedua hal tersebut hanya dijadikan pedoman dalam melaksanakan kegiatan-kegiatan dan aktivitas-aktivitas di negara masing-masing.

Secara internasional, pengaturan mengenai *land-based sources* hanya sebatas UNCLOS, prinsip-prinsip hukum lingkungan internasional dan ‘*soft-law*’ dimana ketiga pengaturan tersebut belum bisa mencegah dan mengelola *land-based sources* dengan baik.

5.1.2. Penanganan Beberapa Negara Terhadap Pencemaran Laut dari *Land-Based Sources*

Adapun perjanjian-perjanjian yang bersifat regional dan bilateral yang kemudian mulai bermunculan. Perjanjian-perjanjian regional banyak lahir di daratan Eropa yang berisikan ketentuan-ketentuan yang lebih komprehensif dibandingkan dengan ketentuan yang diatur di dalam UNCLOS. Hal ini dikarenakan negara-negara di Eropa yang sangat berdekatan dengan Laut yang menjadi ruang lingkup perjanjian regional yang mereka buat, sehingga negara-negara tersebut memiliki akses terhadap informasi yang lebih baik mengenai Laut yang mereka jaga. Perjanjian regional yang melingkupi Laut Mediterania dan Laut Atlantik Utara menjadi contoh perjanjian regional di Eropa yang cukup komprehensif. Di luar negara-negara Eropa, perjanjian regional juga dibentuk di Laut Karibia oleh negara-negara Amerika Tengah, negara Amerika Serikat

(terdapat bagian Amerika Serikat yang menjorok ke Laut Karibia) dan beberapa negara Eropa yang memiliki negara persemakmuran disana.

Dalam lingkup nasional, pengaturan *land-based sources* telah diterapkan dengan baik. Beberapa negara yang peneliti pilih, yaitu Amerika Serikat, Inggris, Perancis, dan Indonesia menunjukkan bahwa negara-negara tersebut telah memiliki peraturan perundang-undangan yang komprehensif dalam mencegah pencemaran laut yang disebabkan oleh *land-based sources*. Akan tetapi, dalam prakteknya peraturan perundang-undangan tersebut menemui kesulitan-kesulitan, seperti yang terjadi di Amerika Serikat dan Indonesia.

Amerika Serikat memiliki satu undang-undang tersendiri yang mengatur mengenai *land-based sources* yang sangat komprehensif dengan mendorong tiga lembaganya untuk bekerjasama, namun kurangnya dana dan perhatian yang diberikan oleh pemerintah terhadap jalannya undang-undang tersebut menjadikan kinerja yang diinginkan menjadi terhambat.

Hal yang berbeda terjadi di Indonesia, dimana hambatan yang ditemui lebih terkait kepada tenaga ahli di daerah-daerah. Indonesia yang merupakan negara kepulauan menemui kesulitan dalam membagi rata tenaga-tenaga ahli yang menumpuk di ibu kota. Oleh karena itu, undang-undang yang telah dibuat dengan sangat baik oleh pemerintah pusat menjadi sia-sia ketika diterapkan di daerah-daerah karena kurangnya tenaga ahli yang mengerti akan penerapan undang-undang tersebut.

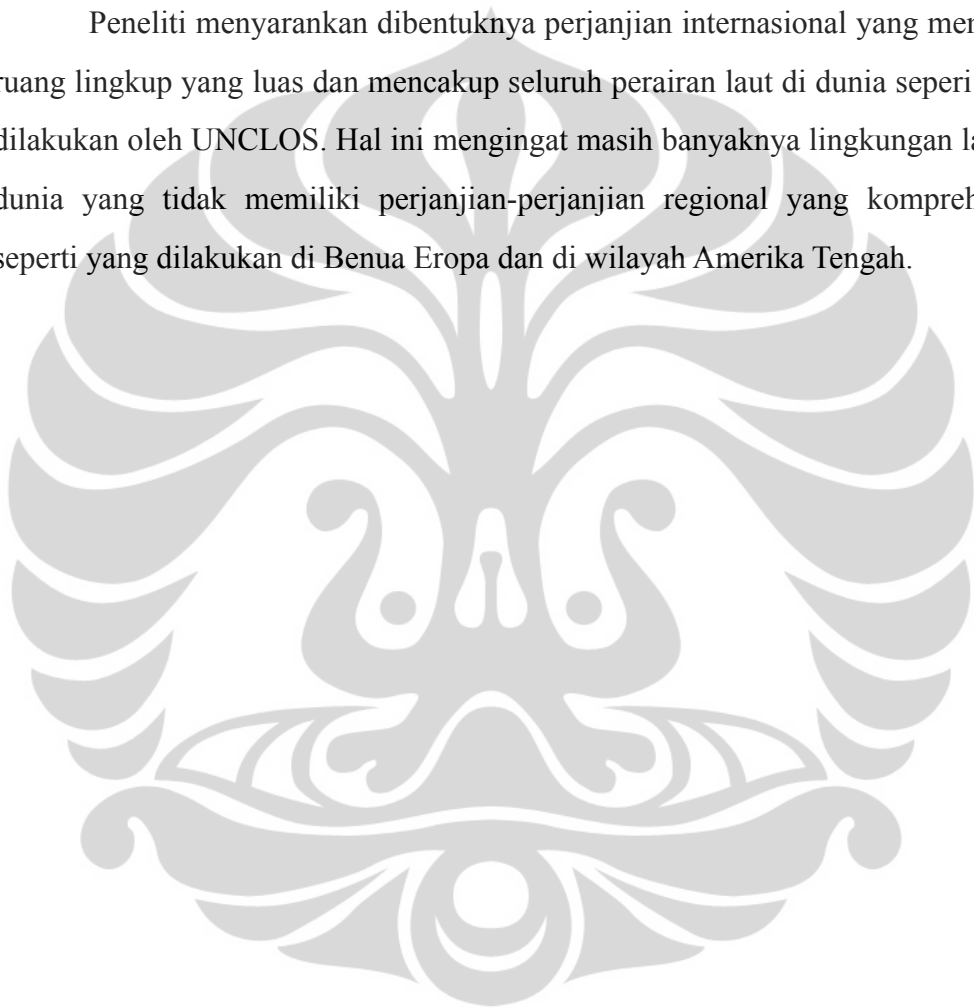
Perancis pun menemukan kegagalan dalam menangani pencegahan pencemaran yang terjadi di salah satu Laguna yang mereka miliki, yaitu Etang de Berre. Perancis dianggap gagal oleh *European Court of Justice* dalam menerapkan Konvensi Barcelona yang mana mereka adalah para pihak di dalamnya dan kemudian Perancis diharuskan membayar biaya ganti rugi terhadap para nelayan yang terkena dampak pencemaran tersebut.

Pada akhirnya, penanganan permasalahan *land-based sources* secara internasional didominasi oleh perjanjian-perjanjian regional yang tentunya tidak berlaku bagi negara-negara lain di luar wilayah laut tersebut ataupun oleh negara-

negara yang tidak memiliki kepentingan pada laut tersebut. Selain itu, perhatian tersebut juga perlu diutamakan oleh negara-negara secara nasional mengingat kekurangan-kekurangan yang didapati oleh beberapa contoh negara yang peneliti ambil.

5.2. Saran

Peneliti menyarankan dibentuknya perjanjian internasional yang memiliki ruang lingkup yang luas dan mencakup seluruh perairan laut di dunia seperti yang dilakukan oleh UNCLOS. Hal ini mengingat masih banyaknya lingkungan laut di dunia yang tidak memiliki perjanjian-perjanjian regional yang komprehensif seperti yang dilakukan di Benua Eropa dan di wilayah Amerika Tengah.



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CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT OF THE NORTH-EAST ATLANTIC¹

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¹ UK notified the depositary government on 26 juillet 2005 that the coverage of Convention extended to Isle of Man

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CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT OF THE NORTH-EAST ATLANTIC

PREAMBLE

THE CONTRACTING PARTIES,

RECOGNISING that the marine environment and the fauna and flora which it supports are of vital importance to all nations;

RECOGNISING the inherent worth of the marine environment of the North-East Atlantic and the necessity for providing coordinated protection for it;

RECOGNISING that concerted action at national, regional and global levels is essential to prevent and eliminate marine pollution and to achieve sustainable management of the maritime area, that is, the management of human activities in such a manner that the marine ecosystem will continue to sustain the legitimate uses of the sea and will continue to meet the needs of present and future generations;

MINDFUL that the ecological equilibrium and the legitimate uses of the sea are threatened by pollution;

CONSIDERING the recommendations of the United Nations Conference on the Human Environment, held in Stockholm in June 1972;

CONSIDERING also the results of the United Nations Conference on the Environment and Development held in Rio de Janeiro in June 1992;

RECALLING the relevant provisions of customary international law reflected in Part XII of the United Nations Law of the Sea Convention and, in particular, Article 197 on global and regional cooperation for the protection and preservation of the marine environment;

CONSIDERING that the common interests of States concerned with the same marine area should induce them to cooperate at regional or sub-regional levels;

RECALLING the positive results obtained within the context of the Convention for the prevention of marine pollution by dumping from ships and aircraft signed in Oslo on 15th February 1972, as amended by the protocols of 2nd March 1983 and 5th December 1989, and the Convention for the prevention of marine pollution from land-based sources signed in Paris on 4th June 1974, as amended by the protocol of 26th March 1986;

CONVINCED that further international action to prevent and eliminate pollution of the sea should be taken without delay, as part of progressive and coherent measures to protect the marine environment;

RECOGNISING that it may be desirable to adopt, on the regional level, more stringent measures with respect to the prevention and elimination of pollution of the marine environment or with respect to the protection of the marine environment against the adverse effects of human activities than are provided for in international conventions or agreements with a global scope;

RECOGNISING that questions relating to the management of fisheries are appropriately regulated under international and regional agreements dealing specifically with such questions;

CONSIDERING that the present Oslo and Paris Conventions do not adequately control some of the many sources of pollution, and that it is therefore justifiable to replace them with the present Convention, which addresses all sources of pollution of the marine environment and the adverse effects of human activities upon it, takes into account the precautionary principle and strengthens regional cooperation;

HAVE AGREED as follows:

ARTICLE 1

DEFINITIONS

For the purposes of the Convention:

- (a) "Maritime area" means the internal waters and the territorial seas of the Contracting Parties, the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal state to the extent recognised by international law, and the high seas, including the bed of all those waters and its sub-soil, situated within the following limits:
 - (i) those parts of the Atlantic and Arctic Oceans and their dependent seas which lie north of 36° north latitude and between 42° west longitude and 51° east longitude, but excluding:
 - (1) the Baltic Sea and the Belts lying to the south and east of lines drawn from Hasenore Head to Griben Point, from Korshage to Spodsbjerg and from Gilbjerg Head to Kullen;
 - (2) the Mediterranean Sea and its dependent seas as far as the point of intersection of the parallel of 36° north latitude and the meridian of 5° 36' west longitude;
 - (ii) that part of the Atlantic Ocean north of 59° north latitude and between 44° west longitude and 42° west longitude.
- (b) "Internal waters" means the waters on the landward side of the baselines from which the breadth of the territorial sea is measured, extending in the case of watercourses up to the freshwater limit.
- (c) "Freshwater limit" means the place in a watercourse where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of seawater.
- (d) "Pollution" means the introduction by man, directly or indirectly, of substances or energy into the maritime area which results, or is likely to result, in hazards to human health, harm to living resources and marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.
- (e) "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. It includes sources associated with any deliberate disposal under the sea-bed made accessible from land by tunnel, pipeline or other means and sources associated with man-made structures placed, in the maritime area under the jurisdiction of a Contracting Party, other than for the purpose of offshore activities.
- (f) "Dumping" means
 - (i) any deliberate disposal in the maritime area of wastes or other matter
 - (1) from vessels or aircraft;
 - (2) from offshore installations;
 - (ii) any deliberate disposal in the maritime area of
 - (1) vessels or aircraft;
 - (2) offshore installations and offshore pipelines.

- (g) "Dumping" does not include:
- (i) the disposal in accordance with the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, or other applicable international law, of wastes or other matter incidental to, or derived from, the normal operations of vessels or aircraft or offshore installations other than wastes or other matter transported by or to vessels or aircraft or offshore installations for the purpose of disposal of such wastes or other matter or derived from the treatment of such wastes or other matter on such vessels or aircraft or offshore installations;
 - (ii) placement of matter for a purpose other than the mere disposal thereof, provided that, if the placement is for a purpose other than that for which the matter was originally designed or constructed, it is in accordance with the relevant provisions of the Convention; and
 - (iii) for the purposes of Annex III, the leaving wholly or partly in place of a disused offshore installation or disused offshore pipeline, provided that any such operation takes place in accordance with any relevant provision of the Convention and with other relevant international law.
- (h) "Incineration" means any deliberate combustion of wastes or other matter in the maritime area for the purpose of their thermal destruction.
- (i) "Incineration" does not include the thermal destruction of wastes or other matter in accordance with applicable international law incidental to, or derived from the normal operation of vessels or aircraft, or offshore installations other than the thermal destruction of wastes or other matter on vessels or aircraft or offshore installations operating for the purpose of such thermal destruction.
- (j) "Offshore activities" means activities carried out in the maritime area for the purposes of the exploration, appraisal or exploitation of liquid and gaseous hydrocarbons.
- (k) "Offshore sources" means offshore installations and offshore pipelines from which substances or energy reach the maritime area.
- (l) "Offshore installation" means any man-made structure, plant or vessel or parts thereof, whether floating or fixed to the seabed, placed within the maritime area for the purpose of offshore activities.
- (m) "Offshore pipeline" means any pipeline which has been placed in the maritime area for the purpose of offshore activities.
- (n) "Vessels or aircraft" means waterborne or airborne craft of any type whatsoever, their parts and other fittings. This expression includes air-cushion craft, floating craft whether self-propelled or not, and other man-made structures in the maritime area and their equipment, but excludes offshore installations and offshore pipelines.
- (o) "Wastes or other matter" does not include:
- (i) human remains;
 - (ii) offshore installations;
 - (iii) offshore pipelines;
 - (iv) unprocessed fish and fish offal discarded from fishing vessels.
- (p) "Convention" means, unless the text otherwise indicates, the Convention for the Protection of the Marine Environment of the North-East Atlantic, its Annexes and Appendices.
- (q) "Oslo Convention" means the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft signed in Oslo on 15th February 1972, as amended by the protocols of 2nd March 1983 and 5th December 1989.
- (r) "Paris Convention" means the Convention for the Prevention of Marine Pollution from Land-based Sources, signed in Paris on 4th June 1974, as amended by the protocol of 26th March 1986.

- (s) "Regional economic integration organisation" means an organisation constituted by sovereign States of a given region which has competence in respect of matters governed by the Convention and has been duly authorised, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to the Convention.

ARTICLE 2

GENERAL OBLIGATIONS

1. (a) The Contracting Parties shall, in accordance with the provisions of the Convention, take all possible steps to prevent and eliminate pollution and shall take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected.
- (b) To this end Contracting Parties shall, individually and jointly, adopt programmes and measures and shall harmonise their policies and strategies.
2. The Contracting Parties shall apply:
 - (a) the precautionary principle, by virtue of which preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects;
 - (b) the polluter pays principle, by virtue of which the costs of pollution prevention, control and reduction measures are to be borne by the polluter.
3. (a) In implementing the Convention, Contracting Parties shall adopt programmes and measures which contain, where appropriate, time-limits for their completion and which take full account of the use of the latest technological developments and practices designed to prevent and eliminate pollution fully.
- (b) To this end they shall:
 - (i) taking into account the criteria set forth in Appendix 1, define with respect to programmes and measures the application of, *inter alia*,
 - best available techniques
 - best environmental practiceincluding, where appropriate, clean technology;
 - (ii) in carrying out such programmes and measures, ensure the application of best available techniques and best environmental practice as so defined, including, where appropriate, clean technology.
4. The Contracting Parties shall apply the measures they adopt in such a way as to prevent an increase in pollution of the sea outside the maritime area or in other parts of the environment.
5. No provision of the Convention shall be interpreted as preventing the Contracting Parties from taking, individually or jointly, more stringent measures with respect to the prevention and elimination of pollution of the maritime area or with respect to the protection of the maritime area against the adverse effects of human activities.

ARTICLE 3

POLLUTION FROM LAND-BASED SOURCES

The Contracting Parties shall take, individually and 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.

ARTICLE 4

POLLUTION BY DUMPING OR INCINERATION

The Contracting Parties shall take, individually and jointly, all possible steps to prevent and eliminate pollution by dumping or incineration of wastes or other matter in accordance with the provisions of the Convention, in particular as provided for in Annex II.

ARTICLE 5

POLLUTION FROM OFFSHORE SOURCES

The Contracting Parties shall take, individually and jointly, all possible steps to prevent and eliminate pollution from offshore sources in accordance with the provisions of the Convention, in particular as provided for in Annex III.

ARTICLE 6

ASSESSMENT OF THE QUALITY OF THE MARINE ENVIRONMENT

The Contracting Parties shall, in accordance with the provisions of the Convention, in particular as provided for in Annex IV:

- (a) undertake and publish at regular intervals joint assessments of the quality status of the marine environment and of its development, for the maritime area or for regions or sub-regions thereof;
- (b) include in such assessments both an evaluation of the effectiveness of the measures taken and planned for the protection of the marine environment and the identification of priorities for action.

ARTICLE 7

POLLUTION FROM OTHER SOURCES

The Contracting Parties shall cooperate with a view to adopting Annexes, in addition to the Annexes mentioned in Articles 3, 4, 5 and 6 above, prescribing measures, procedures and standards to protect the maritime area against pollution from other sources, to the extent that such pollution is not already the subject of effective measures agreed by other international organisations or prescribed by other international conventions.

ARTICLE 8

SCIENTIFIC AND TECHNICAL RESEARCH

1. To further the aims of the Convention, the Contracting Parties shall establish complementary or joint programmes of scientific or technical research and, in accordance with a standard procedure, to transmit to the Commission:
 - (a) the results of such complementary, joint or other relevant research;
 - (b) details of other relevant programmes of scientific and technical research.
2. In so doing, the Contracting Parties shall have regard to the work carried out, in these fields, by the appropriate international organisations and agencies.

ARTICLE 9

ACCESS TO INFORMATION

1. The Contracting Parties shall ensure that their competent authorities are required to make available the information described in paragraph 2 of this Article to any natural or legal person, in response to any reasonable request, without that person's having to prove an interest, without unreasonable charges, as soon as possible and at the latest within two months.
2. The information referred to in paragraph 1 of this Article is any available information in written, visual, aural or data-base form on the state of the maritime area, on activities or measures adversely affecting or likely to affect it and on activities or measures introduced in accordance with the Convention.
3. The provisions of this Article shall not affect the right of Contracting Parties, in accordance with their national legal systems and applicable international regulations, to provide for a request for such information to be refused where it affects:
 - (a) the confidentiality of the proceedings of public authorities, international relations and national defence;
 - (b) public security;
 - (c) matters which are, or have been, *sub judice*, or under enquiry (including disciplinary enquiries), or which are the subject of preliminary investigation proceedings;
 - (d) commercial and industrial confidentiality, including intellectual property;
 - (e) the confidentiality of personal data and/or files;
 - (f) material supplied by a third party without that party being under a legal obligation to do so;
 - (g) material, the disclosure of which would make it more likely that the environment to which such material related would be damaged.
4. The reasons for a refusal to provide the information requested must be given.

ARTICLE 10

COMMISSION

1. A Commission, made up of representatives of each of the Contracting Parties, is hereby established. The Commission shall meet at regular intervals and at any time when, due to special circumstances, it is so decided in accordance with the Rules of Procedure.
2. It shall be the duty of the Commission:
 - (a) to supervise the implementation of the Convention;
 - (b) generally to review the condition of the maritime area, the effectiveness of the measures being adopted, the priorities and the need for any additional or different measures;

- (c) to draw up, in accordance with the General Obligations of the Convention, programmes and measures for the prevention and elimination of pollution and for the control of activities which may, directly or indirectly, adversely affect the maritime area; such programmes and measure may, when appropriate, include economic instruments;
 - (d) to establish at regular intervals its programme of work;
 - (e) to set up such subsidiary bodies as it considers necessary and to define their terms of reference;
 - (f) to consider and, where appropriate, adopt proposals for the amendment of the Convention in accordance with Articles 15, 16, 17, 18, 19 and 27;
 - (g) to discharge the functions conferred by Articles 21 and 23 and such other functions as may be appropriate under the terms of the Convention;
3. To these ends the Commission may, *inter alia*, adopt decisions and recommendations in accordance with Article 13.
4. The Commission shall draw up its Rules of Procedure which shall be adopted by unanimous vote of the Contracting Parties.
5. The Commission shall draw up its Financial Regulations which shall be adopted by unanimous vote of the Contracting Parties.

ARTICLE 11

OBSERVERS

1. The Commission may, by unanimous vote of the Contracting Parties, decide to admit as an observer:
 - (a) any State which is not a Contracting Party to the Convention;
 - (b) any international governmental or any non-governmental organisation the activities of which are related to the Convention.
2. Such observers may participate in meetings of the Commission but without the right to vote and may present to the Commission any information or reports relevant to the objectives of the Convention.
3. The conditions for the admission and the participation of observers shall be set in the Rules of Procedure of the Commission.

ARTICLE 12

SECRETARIAT

1. A permanent Secretariat is hereby established.
2. The Commission shall appoint an Executive Secretary and determine the duties of that post and the terms and conditions upon which it is to be held.
3. The Executive Secretary shall perform the functions that are necessary for the administration of the Convention and for the work of the Commission as well as the other tasks entrusted to the Executive Secretary by the Commission in accordance with its Rules of Procedure and its Financial Regulations.

ARTICLE 13

DECISIONS AND RECOMMENDATIONS

1. Decisions and recommendations shall be adopted by unanimous vote of the Contracting Parties. Should unanimity not be attainable, and unless otherwise provided in the Convention, the Commission may nonetheless adopt decisions or recommendations by a three-quarters majority vote of the Contracting Parties.

2. A decision shall be binding on the expiry of a period of two hundred days after its adoption for those Contracting Parties that voted for it and have not within that period notified the Executive Secretary in writing that they are unable to accept the decision, provided that at the expiry of that period three-quarters of the Contracting Parties have either voted for the decision and not withdrawn their acceptance or notified the Executive Secretary in writing that they are able to accept the decision. Such a decision shall become binding on any other Contracting Party which has notified the Executive Secretary in writing that it is able to accept the decision from the moment of that notification or after the expiry of a period of two hundred days after the adoption of the decision, whichever is later.

3. A notification under paragraph 2 of this Article to the Executive Secretary may indicate that a Contracting Party is unable to accept a decision insofar as it relates to one or more of its dependent or autonomous territories to which the Convention applies.

4. All decisions adopted by the Commission shall, where appropriate, contain provisions specifying the timetable by which the decision shall be implemented.

5. Recommendations shall have no binding force.

6. Decisions concerning any Annex or Appendix shall be taken only by the Contracting Parties bound by the Annex or Appendix concerned.

ARTICLE 14

STATUS OF ANNEXES AND APPENDICES

1. The Annexes and Appendices form an integral part of the Convention.
2. The Appendices shall be of a scientific, technical or administrative nature.

ARTICLE 15

AMENDMENT OF THE CONVENTION

1. Without prejudice to the provisions of paragraph 2 of Article 27 and to specific provisions applicable to the adoption or amendment of Annexes or Appendices, an amendment to the Convention shall be governed by the present Article.

2. Any Contracting Party may propose an amendment to the Convention. The text of the proposed amendment shall be communicated to the Contracting Parties by the Executive Secretary of the Commission at least six months before the meeting of the Commission at which it is proposed for adoption. The Executive Secretary shall also communicate the proposed amendment to the signatories to the Convention for information.

3. The Commission shall adopt the amendment by unanimous vote of the Contracting Parties.

4. The adopted amendment shall be submitted by the Depositary Government to the Contracting Parties for ratification, acceptance or approval. Ratification, acceptance or approval of the amendment shall be notified to the Depositary Government in writing.

5. The amendment shall enter into force for those Contracting Parties which have ratified, accepted or approved it on the thirtieth day after receipt by the Depositary Government of notification of its ratification, acceptance or approval by at least seven Contracting Parties. Thereafter the amendment shall enter into force for any other Contracting Party on the thirtieth day after that Contracting Party has deposited its instrument of ratification, acceptance or approval of the amendment.

ARTICLE 16

ADOPTION OF ANNEXES

The provisions of Article 15 relating to the amendment of the Convention shall also apply to the proposal, adoption and entry into force of an Annex to the Convention, except that the Commission shall adopt any Annex referred to in Article 7 by a three-quarters majority vote of the Contracting Parties.

ARTICLE 17

AMENDMENT OF ANNEXES

1. The provisions of Article 15 relating to the amendment of the Convention shall also apply to an amendment to an Annex to the Convention, except that the Commission shall adopt amendments to any Annex referred to in Articles 3, 4, 5, 6 or 7 by a three-quarters majority vote of the Contracting Parties bound by that Annex.
2. If the amendment of an Annex is related to an amendment to the Convention, the amendment of the Annex shall be governed by the same provisions as apply to the amendment to the Convention.

ARTICLE 18

ADOPTION OF APPENDICES

1. If a proposed Appendix is related to an amendment to the Convention or an Annex, proposed for adoption in accordance with Article 15 or Article 17, the proposal, adoption and entry into force of that Appendix shall be governed by the same provisions as apply to the proposal, adoption and entry into force of that amendment.
2. If a proposed Appendix is related to an Annex to the Convention, proposed for adoption in accordance with Article 16, the proposal, adoption and entry into force of that Appendix shall be governed by the same provisions as apply to the proposal, adoption and entry into force of that Annex.

ARTICLE 19

AMENDMENT OF APPENDICES

1. Any Contracting Party bound by an Appendix may propose an amendment to that Appendix. The text of the proposed amendment shall be communicated to all Contracting Parties to the Convention by the Executive Secretary of the Commission as provided for in paragraph 2 of Article 15.
2. The Commission shall adopt the amendment to an Appendix by a three-quarters majority vote of the Contracting Parties bound by that Appendix.
3. An amendment to an Appendix shall enter into force on the expiry of a period of two hundred days after its adoption for those Contracting Parties which are bound by that Appendix and have not within that period notified the Depositary Government in writing that they are unable to accept that amendment, provided that at the expiry of that period three-quarters of the Contracting Parties bound by that Appendix have either voted for the amendment and not withdrawn their acceptance or have notified the Depositary Government in writing that they are able to accept the amendment.
4. A notification under paragraph 3 of this Article to the Depositary Government may indicate that a Contracting Party is unable to accept the amendment insofar as it relates to one or more of its dependent or autonomous territories to which the Convention applies.
5. An amendment to an Appendix shall become binding on any other Contracting Party bound by the Appendix which has notified the Depositary Government in writing that it is able to accept the amendment

from the moment of that notification or after the expiry of a period of two hundred days after the adoption of the amendment, whichever is later.

6. The Depositary Government shall without delay notify all Contracting Parties of any such notification received.

7. If the amendment of an Appendix is related to an amendment to the Convention or an Annex, the amendment of the Appendix shall be governed by the same provisions as apply to the amendment to the Convention or that Annex.

ARTICLE 20

RIGHT TO VOTE

1. Each Contracting Party shall have one vote in the Commission.

2. Notwithstanding the provisions of paragraph 1 of this Article, the European Economic Community and other regional economic integration organisations, within the areas of their competence, are entitled to a number of votes equal to the number of their Member States which are Contracting Parties to the Convention. Those organisations shall not exercise their right to vote in cases where their Member States exercise theirs and conversely.

ARTICLE 21

TRANSBOUNDARY POLLUTION

1. 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 concerned shall enter into consultation, at the request of any one of them, with a view to negotiating a cooperation agreement.

2. 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.

3. An agreement referred to in paragraph 1 of this Article may, *inter alia*, define the areas to which it shall apply, the quality objectives to be achieved and the methods for achieving these objectives, including methods for the application of appropriate standards and the scientific and technical information to be collected.

4. The Contracting Parties signatory to such an agreement shall, through the medium of the Commission, inform the other Contracting Parties of its purport and of the progress made in putting it into effect.

ARTICLE 22

REPORTING TO THE COMMISSION

The Contracting Parties shall report to the 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.

ARTICLE 23

COMPLIANCE

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;
- (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.

ARTICLE 24

REGIONALISATION

The Commission may decide that any decision or recommendation adopted by it shall apply to all, or a specified part, of the maritime area and may provide for different timetables to be applied, having regard to the differences between ecological and economic conditions in the various regions and sub-regions covered by the Convention.

ARTICLE 25

SIGNATURE

The Convention shall be open for signature at Paris from 22nd September 1992 to 30th June 1993 by:

- (a) the Contracting Parties to the Oslo Convention or the Paris Convention;
- (b) any other coastal State bordering the maritime area;
- (c) any State located upstream on watercourses reaching the maritime area;
- (d) any regional economic integration organisation having as a member at least one State to which any of the subparagraphs (a) to (c) of this Article applies.

ARTICLE 26

RATIFICATION, ACCEPTANCE OR APPROVAL

The Convention shall be subject to ratification, acceptance or approval. The instruments of ratification, acceptance or approval shall be deposited with the Government of the French Republic.

ARTICLE 27

ACCESSIONS

1. After 30th June 1993, the Convention shall be open for accession by the States and regional economic integration organisations referred to in Article 25.
2. The Contracting Parties may unanimously invite States or regional economic integration organisations not referred to in Article 25 to accede to the Convention. In the case of such an accession, the definition of the maritime area shall, if necessary, be amended by a decision of the Commission adopted by unanimous vote of the Contracting Parties. Any such amendment shall enter into force after unanimous approval of all

the Contracting Parties on the thirtieth day after the receipt of the last notification by the Depositary Government.

3. Any such accession shall relate to the Convention including any Annex and any Appendix that have been adopted at the date of such accession, except when the instrument of accession contains an express declaration of non-acceptance of one or several Annexes other than Annexes I, II, III and IV.

4. The instruments of accession shall be deposited with the Government of the French Republic.

ARTICLE 28

RESERVATIONS

No reservation to the Convention may be made.

ARTICLE 29

ENTRY INTO FORCE

1. The Convention shall enter into force on the thirtieth day following the date on which all Contracting Parties to the Oslo Convention and all Contracting Parties to the Paris Convention have deposited their instrument of ratification, acceptance, approval or accession.

2. For any State or regional economic integration organisation not referred to in paragraph 1 of this Article, the Convention shall enter into force in accordance with paragraph 1 of this Article, or on the thirtieth day following the date of the deposit of the instrument of ratification, acceptance, approval or accession by that State or regional economic integration organisations, whichever is later.

ARTICLE 30

WITHDRAWAL

1. At any time after the expiry of two years from the date of entry into force of the Convention for a Contracting Party, that Contracting Party may withdraw from the Convention by notification in writing to the Depositary Government.

2. Except as may be otherwise provided in an Annex other than Annexes I to IV to the Convention, any Contracting Party may at any time after the expiry of two years from the date of entry into force of such Annex for that Contracting Party withdraw from such Annex by notification in writing to the Depositary Government.

3. Any withdrawal referred to in paragraphs 1 and 2 of this Article shall take effect one year after the date on which the notification of that withdrawal is received by the Depositary Government.

ARTICLE 31

REPLACEMENT OF THE OSLO AND PARIS CONVENTIONS

1. Upon its entry into force, the Convention shall replace the Oslo and Paris Conventions as between the Contracting Parties.

2. Notwithstanding paragraph 1 of this Article, decisions, recommendations and all other agreements adopted under the Oslo Convention or the Paris Convention shall continue to be applicable, unaltered in their legal nature, to the extent that they are compatible with, or not explicitly terminated by, the Convention, any decisions or, in the case of existing recommendations, any recommendations adopted thereunder.

ARTICLE 32

SETTLEMENT OF DISPUTES

1. Any disputes between Contracting Parties relating to the interpretation or application of the Convention, which cannot be settled otherwise by the Contracting Parties concerned, for instance by means of inquiry or conciliation within the Commission, shall at the request of any of those Contracting Parties, be submitted to arbitration under the conditions laid down in this Article.
2. Unless the parties to the dispute decide otherwise, the procedure of the arbitration referred to in paragraph 1 of this Article shall be in accordance with paragraphs 3 to 10 of this Article.
3.
 - (a) At the request addressed by one Contracting Party to another Contracting Party in accordance with paragraph 1 of this Article, an arbitral tribunal shall be constituted. The request for arbitration shall state the subject matter of the application including in particular the Articles of the Convention, the interpretation or application of which is in dispute.
 - (b) The applicant party shall inform the Commission that it has requested the setting up of an arbitral tribunal, stating the name of the other party to the dispute and the Articles of the Convention the interpretation or application of which, in its opinion, is in dispute. The Commission shall forward the information thus received to all Contracting Parties to the Convention.
4. The arbitral tribunal shall consist of three members: each of the parties to the dispute shall appoint an arbitrator; the two arbitrators so appointed shall designate by common agreement the third arbitrator who shall be the chairman of the tribunal. The latter shall not be a national of one of the parties to the dispute, nor have his usual place of residence in the territory of one of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.
5.
 - (a) If the chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the President of the International Court of Justice shall, at the request of either party, designate him within a further two months' period.
 - (b) If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other party may inform the President of the International Court of Justice who shall designate the chairman of the arbitral tribunal within a further two months' period. Upon designation, the chairman of the arbitral tribunal shall request the party which has not appointed an arbitrator to do so within two months. After such period, he shall inform the President of the International Court of Justice who shall make this appointment within a further two months' period.
6.
 - (a) The arbitral tribunal shall decide according to the rules of international law and, in particular, those of the Convention.
 - (b) Any arbitral tribunal constituted under the provisions of this Article shall draw up its own rules of procedure.
 - (c) In the event of a dispute as to whether the arbitral tribunal has jurisdiction, the matter shall be decided by the decision of the arbitral tribunal.
7.
 - (a) The decisions of the arbitral tribunal, both on procedure and on substance, shall be taken by majority voting of its members.
 - (b) The arbitral tribunal may take all appropriate measures in order to establish the facts. It may, at the request of one of the parties, recommend essential interim measures of protection.
 - (c) If two or more arbitral tribunals constituted under the provisions of this Article are seized of requests with identical or similar subjects, they may inform themselves of the procedures for establishing the facts and take them into account as far as possible.
 - (d) The parties to the dispute shall provide all facilities necessary for the effective conduct of the proceedings.
 - (e) The absence or default of a party to the dispute shall not constitute an impediment to the proceedings.

8. Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the expenses of the tribunal, including the remuneration of its members, shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its expenses, and shall furnish a final statement thereof to the parties.

9. Any Contracting Party that has an interest of a legal nature in the subject matter of the dispute which may be affected by the decision in the case, may intervene in the proceedings with the consent of the tribunal.

10. (a) The award of the arbitral tribunal shall be accompanied by a statement of reasons. It shall be final and binding upon the parties to the dispute.

(b) Any dispute which may arise between the parties concerning the interpretation or execution of the award may be submitted by either party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another arbitral tribunal constituted for this purpose in the same manner as the first.

ARTICLE 33

DUTIES OF THE DEPOSITARY GOVERNMENT

The Depositary Government shall inform the Contracting Parties and the signatories to the Convention:

- (a) of the deposit of instruments of ratification, acceptance, approval or accession, of declarations of non-acceptance and of notifications of withdrawal in accordance with Articles 26, 27 and 30;
- (b) of the date on which the Convention comes into force in accordance with Article 29;
- (c) of the receipt of notifications of acceptance, of the deposit of instruments of ratification, acceptance, approval or accession and of the entry into force of amendments to the Convention and of the adoption and amendment of Annexes or Appendices, in accordance with Articles 15, 16, 17, 18 and 19.

ARTICLE 34

ORIGINAL TEXT

The original of the Convention, of which the French and English texts shall be equally authentic, shall be deposited with the Government of the French Republic which shall send certified copies thereof to the Contracting Parties and the signatories to the Convention and shall deposit a certified copy with the Secretary General of the United Nations for registration and publication in accordance with Article 102 of the United Nations Charter.

IN WITNESS WHEREOF, the undersigned, being duly authorised by their respective Governments, have signed this Convention.

DONE at Paris, on the twenty-second day of September 1992

ANNEX I**ON THE PREVENTION AND ELIMINATION OF POLLUTION FROM LAND-BASED SOURCES****ARTICLE 1**

1. When adopting programmes and measures for the purpose of this Annex, the Contracting Parties shall require, either individually or jointly, the use of
 - best available techniques for point sources
 - best environmental practice for point and diffuse sourcesincluding, where appropriate, clean technology.
2. When setting priorities and in assessing the nature and extent of the programmes and measures and their time scales, the Contracting Parties shall use the criteria given in Appendix 2.
3. The Contracting Parties shall take preventive measures to minimise the risk of pollution caused by accidents.
4. When adopting programmes and measures in relation to radioactive substances, including waste, the Contracting Parties shall also take account of:
 - (a) the recommendations of the other appropriate international organisations and agencies;
 - (b) the monitoring procedures recommended by these international organisations and agencies.

ARTICLE 2

1. Point source discharges to the maritime area, and releases into water or air which reach and may affect the maritime area, shall be strictly subject to authorisation or regulation by the competent authorities of the Contracting Parties. Such authorisation or regulation shall, in particular, implement relevant decisions of the Commission which bind the relevant Contracting Party.
2. The Contracting Parties shall provide for a system of regular monitoring and inspection by their competent authorities to assess compliance with authorisations and regulations of releases into water or air.

ARTICLE 3

For the purposes of this Annex, it shall, *inter alia*, be the duty of the Commission to draw up:

- (a) plans for the reduction and phasing out of substances that are toxic, persistent and liable to bioaccumulate arising from land-based sources;
- (b) when appropriate, programmes and measures for the reduction of inputs of nutrients from urban, municipal, industrial, agricultural and other sources.

ANNEX II

ON THE PREVENTION AND ELIMINATION OF POLLUTION BY DUMPING OR INCINERATION

ARTICLE 1

This Annex shall not apply to any deliberate disposal in the maritime area of:

- (a) wastes or other matter from offshore installations;
- (b) offshore installations and offshore pipelines.

ARTICLE 2

Incineration is prohibited.

ARTICLE 3

1. The dumping of all wastes or other matter is prohibited, except for those wastes or other matter listed in paragraphs 2 and 3 of this Article.
2. The list referred to in paragraph 1 of this Article is as follows:
 - (a) dredged material;
 - (b) inert materials of natural origin, that is solid, chemically unprocessed geological material the chemical constituents of which are unlikely to be released into the marine environment;
 - (c) sewage sludge until 31st December 1998;
 - (d) fish waste from industrial fish processing operations;
 - (e) vessels or aircraft until, at the latest, 31st December 2004;
 - ²(f) carbon dioxide streams from carbon dioxide capture processes for storage, provided:
 - i. disposal is into a sub-soil geological formation;
 - ii. the streams consist overwhelmingly of carbon dioxide. They may contain incidental associated substances derived from the source material and the capture, transport and storage processes used;
 - iii. no wastes or other matter are added for the purpose of disposing of those wastes or other matter;
 - iv. they are intended to be retained in these formations permanently and will not lead to significant adverse consequences for the marine environment, human health and other legitimate uses of the maritime area.
3. (a) The dumping of low and intermediate level radioactive substances, including wastes, is prohibited.
- ³(b) As an exception to subparagraph 3(a) of this Article, those Contracting Parties, the United Kingdom and France, who wish to retain the option of an exception to subparagraph 3(a) in any case not before the expiry of a period of 15 years from 1st January 1993, shall report to the meeting of the Commission at Ministerial level in 1997 on the steps taken to explore alternative land-based options.

² Sub-paragraph (f) was introduced by amendment to the Annex agreed by OSPAR 2007. The amendment will enter into force for those Contracting Parties which have ratified, accepted or approved it on the thirtieth day after receipt by the Depositary Government of notification of its ratification, acceptance or approval by at least seven Contracting Parties. Thereafter the amendment will enter into force for any other Contracting Party on the thirtieth day after that Contracting Party has deposited its instrument of ratification, acceptance or approval of the amendment.

³ After the entry into force of OSPAR Decision 98/2 on Dumping of Radioactive Waste on 9 February 1999, subparagraphs (b) and (c) of this paragraph ceased to have effect.

- (c) Unless, at or before the expiry of this period of 15 years, the Commission decides by a unanimous vote not to continue the exception provided in subparagraph 3(b), it shall take a decision pursuant to Article 13 of the Convention on the prolongation for a period of 10 years after 1st January 2008 of the prohibition, after which another meeting of the Commission at Ministerial level shall be held. Those Contracting Parties mentioned in subparagraph 3(b) of this Article still wishing to retain the option mentioned in subparagraph 3(b) shall report to the Commission meetings to be held at Ministerial level at two yearly intervals from 1999 onwards about the progress in establishing alternative land-based options and on the results of scientific studies which show that any potential dumping operations would not result in hazards to human health, harm to living resources or marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.

ARTICLE 4

1. The Contracting Parties shall ensure that:
 - (a) no wastes or other matter listed in paragraph 2 of Article 3 of this Annex shall be dumped without authorisation by their competent authorities, or regulation;
 - (b) such authorisation or regulation is in accordance with the relevant applicable criteria, guidelines and procedures adopted by the Commission in accordance with Article 6 of this Annex;
 - (c) with the aim of avoiding situations in which the same dumping operation is authorised or regulated by more than one Contracting Party, their competent authorities shall, as appropriate, consult before granting an authorisation or applying regulation.
2. Any authorisation or regulation under paragraph 1 of this Article shall not permit the dumping of vessels or aircraft containing substances which result or are likely to result in hazards to human health, harm to living resources and marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.
3. Each Contracting Party shall keep, and report to the Commission records of the nature and the quantities of wastes or other matter dumped in accordance with paragraph 1 of this Article, and of the dates, places and methods of dumping.

ARTICLE 5

No placement of matter in the maritime area for a purpose other than that for which it was originally designed or constructed shall take place without authorisation or regulation by the competent authority of the relevant Contracting Party. Such authorisation or regulation shall be in accordance with the relevant applicable criteria, guidelines and procedures adopted by the Commission in accordance with Article 6 of this Annex. This provision shall not be taken to permit the dumping of wastes or other matter otherwise prohibited under this Annex.

ARTICLE 6

For the purposes of this Annex, it shall, *inter alia*, be the duty of the Commission to draw up and adopt criteria, guidelines and procedures relating to the dumping of wastes or other matter listed in paragraph 2 of Article 3, and to the placement of matter referred to in Article 5, of this Annex, with a view to preventing and eliminating pollution.

ARTICLE 7

The provisions of this Annex concerning dumping shall not apply in case of *force majeure*, due to stress of weather or any other cause, when the safety of human life or of a vessel or aircraft is threatened. Such dumping shall be so conducted as to minimise the likelihood of damage to human or marine life and shall immediately be reported to the Commission, together with full details of the circumstances and of the nature and quantities of the wastes or other matter dumped.

ARTICLE 8

The Contracting Parties shall take appropriate measures, both individually and within relevant international organisations, to prevent and eliminate pollution resulting from the abandonment of vessels or aircraft in the maritime area caused by accidents. In the absence of relevant guidance from such international organisations, the measures taken by individual Contracting Parties should be based on such guidelines as the Commission may adopt.

ARTICLE 9

In an emergency, if a Contracting Party considers that wastes or other matter the dumping of which is prohibited under this Annex cannot be disposed of on land without unacceptable danger or damage, it shall forthwith consult other Contracting Parties with a view to finding the most satisfactory methods of storage or the most satisfactory means of destruction or disposal under the prevailing circumstances. The Contracting Party shall inform the Commission of the steps adopted following this consultation. The Contracting Parties pledge themselves to assist one another in such situations.

ARTICLE 10

1. Each Contracting Party shall ensure compliance with the provisions of this Annex:
 - (a) by vessels or aircraft registered in its territory;
 - (b) by vessels or aircraft loading in its territory the wastes or other matter which are to be dumped or incinerated;
 - (c) by vessels or aircraft believed to be engaged in dumping or incineration within its internal waters or within its territorial sea or within that part of the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal state to the extent recognised by international law.
2. Each Contracting Party shall issue instructions to its maritime inspection vessels and aircraft and to other appropriate services to report to its authorities any incidents or conditions in the maritime area which give rise to suspicions that dumping in contravention of the provisions of the present Annex has occurred or is about to occur. Any Contracting Party whose authorities receive such a report shall, if it considers it appropriate, accordingly inform any other Contracting Party concerned.
3. Nothing in this Annex shall abridge the sovereign immunity to which certain vessels are entitled under international law.

ANNEX III**ON THE PREVENTION AND ELIMINATION OF POLLUTION FROM OFFSHORE SOURCES****ARTICLE 1**

This Annex shall not apply to any deliberate disposal in the maritime area of:

- (a) wastes or other matter from vessels or aircraft;
- (b) vessels or aircraft.

ARTICLE 2

1. When adopting programmes and measures for the purpose of this Annex, the Contracting Parties shall require, either individually or jointly, the use of:

- (a) best available techniques
- (b) best environmental practice

including, where appropriate, clean technology.

2. When setting priorities and in assessing the nature and extent of the programmes and measures and their time scales, the Contracting Parties shall use the criteria given in Appendix 2.

ARTICLE 3

1. Any dumping of wastes or other matter from offshore installations is prohibited.

2. This prohibition does not relate to discharges or emissions from offshore sources.

⁴3. The prohibition referred to in paragraph 1 of this Article does not apply to carbon dioxide streams from carbon dioxide capture processes for storage, provided

- (a) disposal is into a sub-soil geological formation;
- (b) the streams consist overwhelmingly of carbon dioxide. They may contain incidental associated substances derived from the source material and the capture, transport and storage processes used;
- (c) no wastes or other matter are added for the purpose of disposing of those wastes or other matter;
- (d) they are intended to be retained in these formations permanently and will not lead to significant adverse consequences for the marine environment, human health and other legitimate uses of the maritime area.

4. The Contracting Parties shall ensure that no streams referred to in paragraph 3 shall be disposed of in sub-soil geological formations without authorisation or regulation by their competent authorities. Such authorisation or regulation shall, in particular, implement the relevant applicable decisions, recommendations and all other agreements adopted under the Convention.

ARTICLE 4

1. The use on, or the discharge or emission from, offshore sources of substances which may reach and affect the maritime area shall be strictly subject to authorisation or regulation by the competent authorities of

⁴ Paragraphs 3 and 4 were introduced by amendment to the Annex agreed by OSPAR 2007. The amendment will enter into force for those Contracting Parties which have ratified, accepted or approved it on the thirtieth day after receipt by the Depositary Government of notification of its ratification, acceptance or approval by at least seven Contracting Parties. Thereafter the amendment will enter into force for any other Contracting Party on the thirtieth day after that Contracting Party has deposited its instrument of ratification, acceptance or approval of the amendment.

the Contracting Parties. Such authorisation or regulation shall, in particular, implement the relevant applicable decisions, recommendations and all other agreements adopted under the Convention.

2. The competent authorities of the Contracting Parties shall provide for a system of monitoring and inspection to assess compliance with authorisation or regulation as provided for in paragraph 1 of Article 4 of this Annex.

ARTICLE 5

1. No disused offshore installation or disused offshore pipeline shall be dumped and no disused offshore installation shall be left wholly or partly in place in the maritime area without a permit issued by the competent authority of the relevant Contracting Party on a case-by-case basis. The Contracting Parties shall ensure that their authorities, when granting such permits, shall implement the relevant applicable decisions, recommendations and all other agreements adopted under the Convention.

2. No such permit shall be issued if the disused offshore installation or disused offshore pipeline contains substances which result or are likely to result in hazards to human health, harm to living resources and marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.

3. Any Contracting Party which intends to take the decision to issue a permit for the dumping of a disused offshore installation or a disused offshore pipeline placed in the maritime area after 1st January 1998 shall, through the medium of the Commission, inform the other Contracting Parties of its reasons for accepting such dumping, in order to make consultation possible.

4. Each Contracting Party shall keep, and report to the Commission, records of the disused offshore installations and disused offshore pipelines dumped and of the disused offshore installations left in place in accordance with the provisions of this Article, and of the dates, places and methods of dumping.

ARTICLE 6

Articles 3 and 5 of this Annex shall not apply in case of *force majeure*, due to stress of weather or any other cause, when the safety of human life or of an offshore installation is threatened. Such dumping shall be so conducted as to minimise the likelihood of damage to human or marine life and shall immediately be reported to the Commission, together with full details of the circumstances and of the nature and quantities of the matter dumped.

ARTICLE 7

The Contracting Parties shall take appropriate measures, both individually and within relevant international organisations, to prevent and eliminate pollution resulting from the abandonment of offshore installations in the maritime area caused by accidents. In the absence of relevant guidance from such international organisations, the measures taken by individual Contracting Parties should be based on such guidelines as the Commission may adopt.

ARTICLE 8

No placement of a disused offshore installation or a disused offshore pipeline in the maritime area for a purpose other than that for which it was originally designed or constructed shall take place without authorisation or regulation by the competent authority of the relevant Contracting Party. Such authorisation or regulation shall be in accordance with the relevant applicable criteria, guidelines and procedures adopted by the Commission in accordance with subparagraph (d) of Article 10 of this Annex. This provision shall not be taken to permit the dumping of disused offshore installations or disused offshore pipelines in contravention of the provisions of this Annex.

ARTICLE 9

1. Each Contracting Party shall issue instructions to its maritime inspection vessels and aircraft and to other appropriate services to report to its authorities any incidents or conditions in the maritime area which

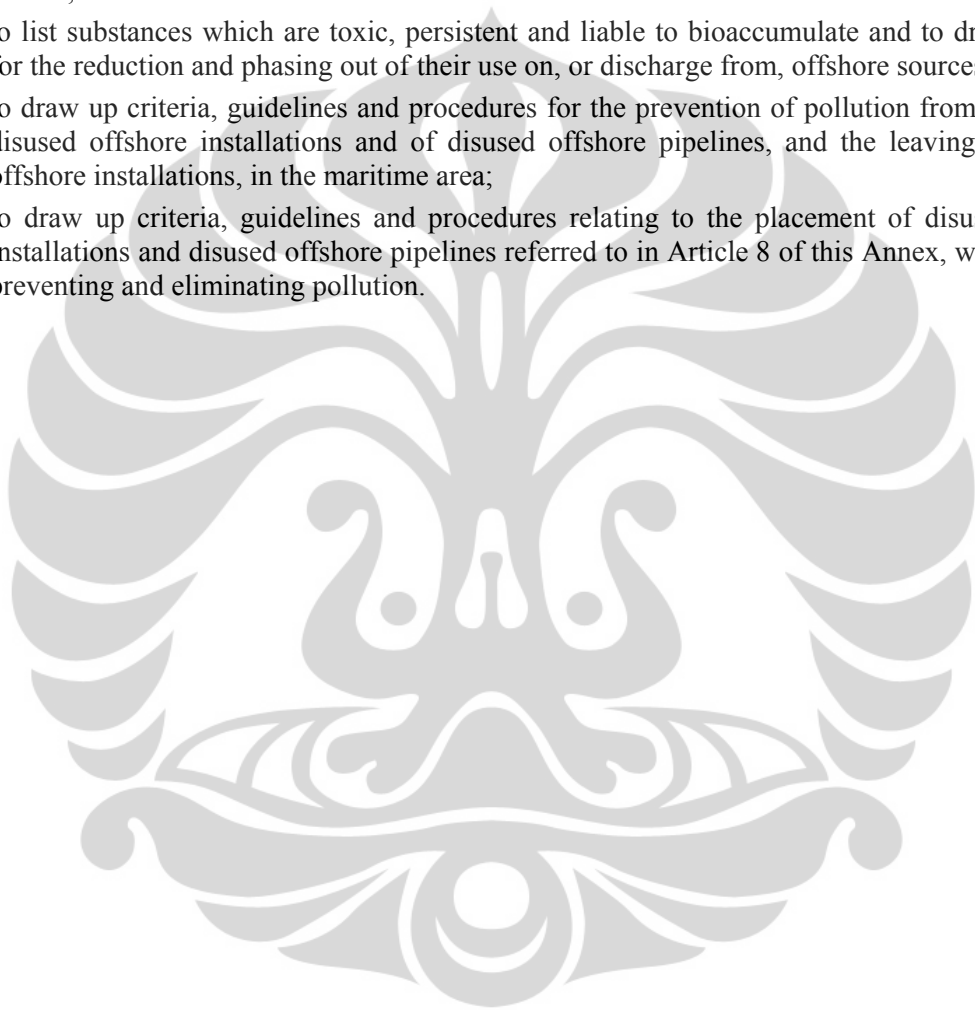
give rise to suspicions that a contravention of the provisions of the present Annex has occurred or is about to occur. Any Contracting Party whose authorities receive such a report shall, if it considers it appropriate, accordingly inform any other Contracting Party concerned.

2. Nothing in this Annex shall abridge the sovereign immunity to which certain vessels are entitled under international law.

ARTICLE 10

For the purposes of this Annex, it shall, *inter alia*, be the duty of the Commission:

- (a) to collect information about substances which are used in offshore activities and, on the basis of that information, to agree lists of substances for the purposes of paragraph 1 of Article 4 of this Annex;
- (b) to list substances which are toxic, persistent and liable to bioaccumulate and to draw up plans for the reduction and phasing out of their use on, or discharge from, offshore sources;
- (c) to draw up criteria, guidelines and procedures for the prevention of pollution from dumping of disused offshore installations and of disused offshore pipelines, and the leaving in place of offshore installations, in the maritime area;
- (d) to draw up criteria, guidelines and procedures relating to the placement of disused offshore installations and disused offshore pipelines referred to in Article 8 of this Annex, with a view to preventing and eliminating pollution.



ANNEX IV

ON THE ASSESSMENT OF THE QUALITY OF THE MARINE ENVIRONMENT

ARTICLE 1

1. For the purposes of this Annex "monitoring" means the repeated measurement of:
 - (a) the quality of the marine environment and each of its compartments, that is, water, sediments and biota;
 - (b) activities or natural and anthropogenic inputs which may affect the quality of the marine environment;
 - (c) the effects of such activities and inputs.
2. Monitoring may be undertaken either for the purposes of ensuring compliance with the Convention, with the objective of identifying patterns and trends or for research purposes.

ARTICLE 2

For the purposes of this Annex, the Contracting Parties shall:

- (a) cooperate in carrying out monitoring programmes and submit the resulting data to the Commission;
- (b) comply with quality assurance prescriptions and participate in intercalibration exercises;
- (c) use and develop, individually or preferably jointly, other duly validated scientific assessment tools, such as modelling, remote sensing and progressive risk assessment strategies;
- (d) carry out, individually or preferably jointly, research which is considered necessary to assess the quality of the marine environment, and to increase knowledge and scientific understanding of the marine environment and, in particular, of the relationship between inputs, concentration and effects;
- (e) take into account scientific progress which is considered to be useful for such assessment purposes and which has been made elsewhere either on the initiative of individual researchers and research institutions, or through other national and international research programmes or under the auspices of the European Economic Community or other regional economic integration organisations.

ARTICLE 3

For the purposes of this Annex, it shall, *inter alia*, be the duty of the Commission:

- (a) to define and implement programmes of collaborative monitoring and assessment-related research, to draw up codes of practice for the guidance of participants in carrying out these monitoring programmes and to approve the presentation and interpretation of their results;
- (b) to carry out assessments taking into account the results of relevant monitoring and research and the data relating to inputs of substances or energy into the maritime area which are provided by virtue of other Annexes to the Convention, as well as other relevant information;
- (c) to seek, where appropriate, the advice or services of competent regional organisations and other competent international organisations and competent bodies with a view to incorporating the latest results of scientific research;
- (d) to cooperate with competent regional organisations and other competent international organisations in carrying out quality status assessments.

ANNEX V

**ON THE PROTECTION AND CONSERVATION OF THE ECOSYSTEMS AND BIOLOGICAL DIVERSITY OF
THE MARITIME AREA^{5 6}**

ARTICLE 1

For the purposes of this Annex and of Appendix 3 the definitions of “biological diversity”, “ecosystem” and “habitat” are those contained in the Convention on Biological Diversity of 5 June 1992.

ARTICLE 2

In fulfilling their obligation under the Convention to take, individually and jointly, the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected, as well as their obligation under the Convention on Biological Diversity of 5 June 1992 to develop strategies, plans or programmes for the conservation and sustainable use of biological diversity, Contracting Parties shall:

- a. take the necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area, and to restore, where practicable, marine areas which have been adversely affected; and
- b. cooperate in adopting programmes and measures for those purposes for the control of the human activities identified by the application of the criteria in Appendix 3.

ARTICLE 3

1. For the purposes of this Annex, it shall *inter alia* be the duty of the Commission:
 - a. to draw up programmes and measures for the control of the human activities identified by the application of the criteria in Appendix 3;
 - b. in doing so:
 - (i) to collect and review information on such activities and their effects on ecosystems and biological diversity;

⁵ In accordance with Article 15.5 of the Convention, Annex V and Appendix 3 has entered into force:

- on 30 August 2000 for Finland, Spain, Switzerland, Luxembourg, European Community, United Kingdom and Denmark;
- on 5 October 2000 for Sweden;
- on 18 July 2001 for Iceland;
- on 22 July 2001 for Norway;
- on 24 August 2001 for the Netherlands;
- on 13 January 2002 for Germany;
- on 21 June 2003 for Ireland;
- on 24 November 2004 for France;
- on 28 August 2005 for Belgium;
- on 25 March 2006 for Portugal.

⁶ In a Note Verbale dated 26 July 2005, the Embassy of Great Britain in Paris informed the French Government that the British government wished to extend the ratification of Annex V and Appendix 3 to the Isle of Man.

- (ii) to develop means, consistent with international law, for instituting protective, conservation, restorative or precautionary measures related to specific areas or sites or related to particular species or habitats;
 - (iii) subject to Article 4 of this Annex, to consider aspects of national strategies and guidelines on the sustainable use of components of biological diversity of the maritime area as they affect the various regions and sub-regions of that area;
 - (iv) subject to Article 4 of this Annex, to aim for the application of an integrated ecosystem approach.
- c. also in doing so, to take account of programmes and measures adopted by Contracting Parties for the protection and conservation of ecosystems within waters under their sovereignty or jurisdiction.
2. In the adoption of such programmes and measures, due consideration shall be given to the question whether any particular programme or measure should apply to all, or a specified part, of the maritime area.

ARTICLE 4

1. In accordance with the penultimate recital of the Convention, no programme or measure concerning a question relating to the management of fisheries shall be adopted under this Annex. However where the Commission considers that action is desirable in relation to such a question, it shall draw that question to the attention of the authority or international body competent for that question. Where action within the competence of the Commission is desirable to complement or support action by those authorities or bodies, the Commission shall endeavour to cooperate with them.
2. Where the Commission considers that action under this Annex is desirable in relation to a question concerning maritime transport, it shall draw that question to the attention of the International Maritime Organisation. The Contracting Parties who are members of the International Maritime Organisation shall endeavour to cooperate within that Organisation in order to achieve an appropriate response, including in relevant cases that Organisation's agreement to regional or local action, taking account of any guidelines developed by that Organisation on the designation of special areas, the identification of particularly sensitive areas or other matters.

APPENDIX 1**CRITERIA FOR THE DEFINITION OF PRACTICES AND TECHNIQUES MENTIONED IN PARAGRAPH 3(B)(I) OF ARTICLE 2 OF THE CONVENTION****BEST AVAILABLE TECHNIQUES**

1. The use of the best available techniques shall emphasise the use of non-waste technology, if available.
2. The term "best available techniques" means the latest stage of development (state of the art) of processes, of facilities or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. In determining whether a set of processes, facilities and methods of operation constitute the best available techniques in general or individual cases, special consideration shall be given to:
 - (a) comparable processes, facilities or methods of operation which have recently been successfully tried out;
 - (b) technological advances and changes in scientific knowledge and understanding;
 - (c) the economic feasibility of such techniques;
 - (d) time limits for installation in both new and existing plants;
 - (e) the nature and volume of the discharges and emissions concerned.
3. It therefore follows that what is "best available techniques" for a particular process will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.
4. If the reduction of discharges and emissions resulting from the use of best available techniques does not lead to environmentally acceptable results, additional measures have to be applied.
5. "Techniques" include both the technology used and the way in which the installation is designed, built, maintained, operated and dismantled.

BEST ENVIRONMENTAL PRACTICE

6. The term "best environmental practice" means the application of the most appropriate combination of environmental control measures and strategies. In making a selection for individual cases, at least the following graduated range of measures should be considered:
 - (a) the provision of information and education to the public and to users about the environmental consequences of choice of particular activities and choice of products, their use and ultimate disposal;
 - (b) the development and application of codes of good environmental practice which covers all aspect of the activity in the product's life;
 - (c) the mandatory application of labels informing users of environmental risks related to a product, its use and ultimate disposal;
 - (d) saving resources, including energy;
 - (e) making collection and disposal systems available to the public;
 - (f) avoiding the use of hazardous substances or products and the generation of hazardous waste;
 - (g) recycling, recovery and re-use;
 - (h) the application of economic instruments to activities, products or groups of products;
 - (i) establishing a system of licensing, involving a range of restrictions or a ban.
7. In determining what combination of measures constitute best environmental practice, in general or individual cases, particular consideration should be given to:
 - (a) the environmental hazard of the product and its production, use and ultimate disposal;
 - (b) the substitution by less polluting activities or substances;

- (c) the scale of use;
- (d) the potential environmental benefit or penalty of substitute materials or activities;
- (e) advances and changes in scientific knowledge and understanding;
- (f) time limits for implementation;
- (g) social and economic implications.

8. It therefore follows that best environmental practice for a particular source will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.

9. If the reduction of inputs resulting from the use of best environmental practice does not lead to environmentally acceptable results, additional measures have to be applied and best environmental practice redefined.



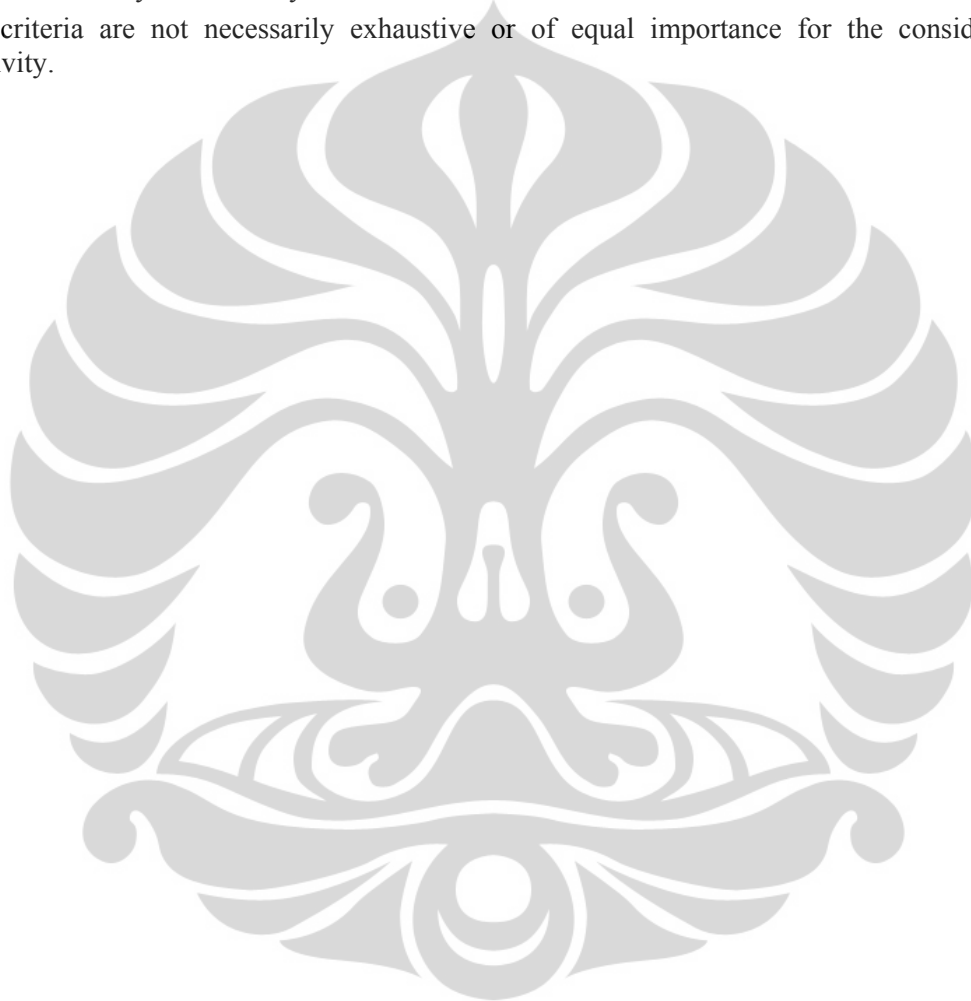
APPENDIX 2**CRITERIA MENTIONED IN PARAGRAPH 2 OF ARTICLE 1 OF ANNEX I AND IN PARAGRAPH 2 OF ARTICLE 2 OF ANNEX III**

1. When setting priorities and in assessing the nature and extent of the programmes and measures and their time scales, the Contracting Parties shall use the criteria given below:
 - (a) persistency;
 - (b) toxicity or other noxious properties;
 - (c) tendency to bioaccumulation;
 - (d) radioactivity;
 - (e) the ratio between observed or (where the results of observations are not yet available) predicted concentrations and no observed effect concentrations;
 - (f) anthropogenically caused risk of eutrophication;
 - (g) transboundary significance;
 - (h) risk of undesirable changes in the marine ecosystem and irreversibility or durability of effects;
 - (i) interference with harvesting of sea-foods or with other legitimate uses of the sea;
 - (j) effects on the taste and/or smell of products for human consumption from the sea, or effects on smell, colour, transparency or other characteristics of the water in the marine environment;
 - (k) distribution pattern (i.e., quantities involved, use pattern and liability to reach the marine environment);
 - (l) non-fulfilment of environmental quality objectives.
2. These criteria are not necessarily of equal importance for the consideration of a particular substance or group of substances.
3. The above criteria indicate that substances which shall be subject to programmes and measures include:
 - (a) heavy metals and their compounds;
 - (b) organohalogen compounds (and substances which may form such compounds in the marine environment);
 - (c) organic compounds of phosphorus and silicon;
 - (d) biocides such as pesticides, fungicides, herbicides, insecticides, slimicides and chemicals used, *inter alia*, for the preservation of wood, timber, wood pulp, cellulose, paper, hides and textiles;
 - (e) oils and hydrocarbons of petroleum origin;
 - (f) nitrogen and phosphorus compounds;
 - (g) radioactive substances, including wastes;
 - (h) persistent synthetic materials which may float, remain in suspension or sink.

APPENDIX 3

CRITERIA FOR IDENTIFYING HUMAN ACTIVITIES FOR THE PURPOSE OF ANNEX V

1. The criteria to be used, taking into account regional differences, for identifying human activities for the purposes of Annex V are:
 - a. the extent, intensity and duration of the human activity under consideration;
 - b. actual and potential adverse effects of the human activity on specific species, communities and habitats;
 - c. actual and potential adverse effects of the human activity on specific ecological processes;
 - d. irreversibility or durability of these effects.
2. These criteria are not necessarily exhaustive or of equal importance for the consideration of a particular activity.



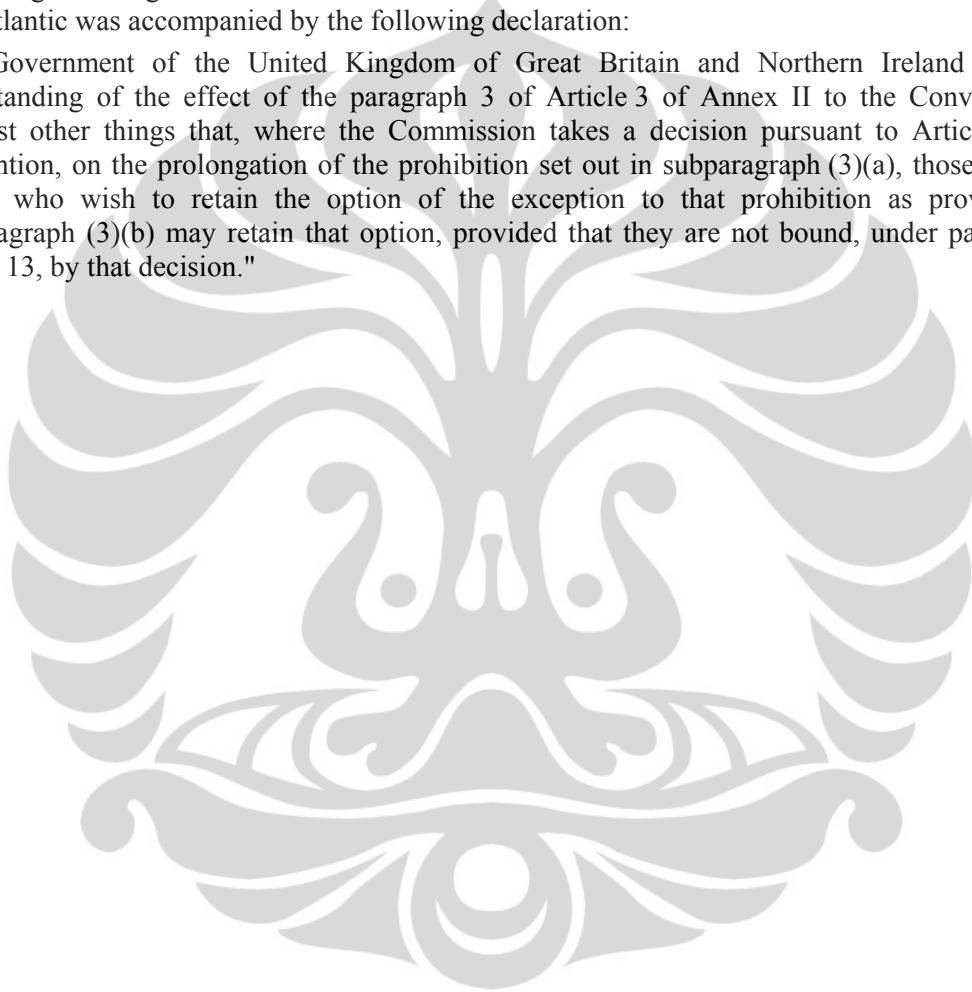
**DECLARATIONS ACCOMPANYING THE SIGNATURE OF DENMARK AND THE UNITED
KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND TO THE CONVENTION FOR THE
PROTECTION OF THE MARINE ENVIRONMENT OF THE NORTH-EAST ATLANTIC**

Denmark's signature to the Convention for the Protection of the Marine Environment of the North-East Atlantic was accompanied by the following declaration⁷:

"The present Convention is subject to ratification and with reservation for application to the Faroe Islands and Greenland."

The United Kingdom's signature to the Convention for the Protection of the Marine Environment of the North-East Atlantic was accompanied by the following declaration:

"The Government of the United Kingdom of Great Britain and Northern Ireland declares its understanding of the effect of the paragraph 3 of Article 3 of Annex II to the Convention to be amongst other things that, where the Commission takes a decision pursuant to Article 13 of the Convention, on the prolongation of the prohibition set out in subparagraph (3)(a), those Contracting Parties who wish to retain the option of the exception to that prohibition as provided for in subparagraph (3)(b) may retain that option, provided that they are not bound, under paragraph 2 of Article 13, by that decision."



⁷ Following Denmark's ratification of the OSPAR Convention, Denmark notified France as the Depository Government that Denmark had withdrawn its reservation from the Declaration accompanying Denmark's signature to the Convention.

CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT AND THE COASTAL REGION OF THE MEDITERRANEAN

The Convention for the Protection of the Mediterranean Sea Against Pollution (the Barcelona Convention) was adopted on 16 February 1976 by the Conference of Plenipotentiaries of the Coastal States of the Mediterranean Region for the Protection of the Mediterranean Sea, held in Barcelona. The Convention entered into force on 12 February 1978.

The original Convention has been modified by amendments adopted on 10 June 1995 by the Conference of Plenipotentiaries on the Convention for the Protection of the Mediterranean Sea against Pollution and its Protocols, held in Barcelona on 9 and 10 June 1995 (UNEP(OCA)/MED IG.6/7). The amended Convention, recorded as "Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean" has entered into force on 9 July 2004.

The Contracting Parties,

Conscious of the economic, social, health and cultural value of the marine environment of the Mediterranean Sea Area,

Fully aware of their responsibility to preserve and sustainably develop this common heritage for the benefit and enjoyment of present and future generations,

Recognizing the threat posed by pollution to the marine environment, its ecological equilibrium, resources and legitimate uses,

Mindful of the special hydrographic and ecological characteristics of the Mediterranean Sea Area and its particular vulnerability to pollution,

Noting that existing international conventions on the subject do not cover, in spite of the progress achieved, all aspects and sources of marine pollution and do not entirely meet the special requirements of the Mediterranean Sea Area,

Realizing fully the need for close cooperation among the States and international organizations concerned in a coordinated and comprehensive regional approach for

the protection and enhancement of the marine environment in the Mediterranean Sea Area,

Fully aware that the Mediterranean Action Plan, since its adoption in 1975 and through its evolution, has contributed to the process of sustainable development in the Mediterranean region and has represented a substantive and dynamic tool for the implementation of the activities related to the Convention and its Protocols by the Contracting Parties,

Taking into account the results of the United Nations Conference on Environment and Development, held in Rio de Janeiro from 4 to 14 June 1992,

Also taking into account the Declaration of Genoa of 1985, the Charter of Nicosia of 1990, the Declaration of Cairo of 1992 on Euro-Mediterranean Cooperation on the Environment within the Mediterranean Basin, the recommendations of the Conference of Casablanca of 1993, and the Declaration of Tunis of 1994 on the Sustainable Development of the Mediterranean,

Bearing in mind the relevant provisions of the United Nations Convention on the Law of the Sea, done at Montego Bay on 10 December 1982 and signed by many Contracting Parties,

Have agreed as follows:

ARTICLE 1

GEOGRAPHICAL COVERAGE

1. For the purposes of this Convention, the Mediterranean Sea Area shall mean the maritime waters of the Mediterranean Sea proper, including its gulfs and seas, bounded to the west by the meridian passing through Cape Spartel lighthouse, at the entrance of the Straits of Gibraltar, and to the east by the southern limits of the Straits of the Dardanelles between Mehmetcik and Kumkale lighthouses.
2. The application of the Convention may be extended to coastal areas as defined by each Contracting Party within its own territory.
3. Any Protocol to this Convention may extend the geographical coverage to which that particular Protocol applies.

ARTICLE 2

DEFINITIONS

For the purposes of this Convention:

- (a) “Pollution” means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results, or is likely to result, in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of seawater and reduction of amenities.
- (b) “Organization” means the body designated as responsible for carrying out secretariat functions pursuant to article 17 of this Convention.

ARTICLE 3

GENERAL PROVISIONS

1. The Contracting Parties, when applying this Convention and its related Protocols, shall act in conformity with international law.
2. The Contracting Parties may enter into bilateral or multilateral agreements, including regional or sub-regional agreements for the promotion of sustainable development, the protection of the environment, the conservation and preservation of natural resources in the Mediterranean Sea Area, provided that such agreements are consistent with this Convention and the Protocols and conform to international law. Copies of such agreements shall be communicated to the Organization. As appropriate, Contracting Parties should make use of existing organizations, agreements or arrangements in the Mediterranean Sea Area.
3. Nothing in this Convention and its Protocols shall prejudice the rights and positions of any State concerning the United Nations Convention on the Law of the Sea of 1982.
4. The Contracting Parties shall take individual or joint initiatives compatible with international law through the relevant international organizations to encourage the implementation of the provisions of this Convention and its Protocols by all the non-party States.

5. Nothing in this Convention and its Protocols shall affect the sovereign immunity of warships or other ships owned or operated by a State while engaged in government non-commercial service. However, each Contracting Party shall ensure that its vessels and aircraft, entitled to sovereign immunity under international law, act in a manner consistent with this Protocol.

ARTICLE 4

GENERAL OBLIGATIONS

1. The Contracting Parties shall individually or jointly take all appropriate measures in accordance with the provisions of this Convention and those Protocols in force to which they are party to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area and to protect and enhance the marine environment in that Area so as to contribute towards its sustainable development.

2. The Contracting Parties pledge themselves to take appropriate measures to implement the Mediterranean Action Plan and, further, to pursue the protection of the marine environment and the natural resources of the Mediterranean Sea Area as an integral part of the development process, meeting the needs of present and future generations in an equitable manner. For the purpose of implementing the objectives of sustainable development the Contracting Parties shall take fully into account the recommendations of the Mediterranean Commission on Sustainable Development established within the framework of the Mediterranean Action Plan.

3. In order to protect the environment and contribute to the sustainable development of the Mediterranean Sea Area, the Contracting Parties shall:

(a) apply, in accordance with their capabilities, the precautionary principle, by virtue of which where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation;

(b) apply the polluter pays principle, by virtue of which the costs of pollution prevention, control and reduction measures are to be borne by the polluter, with due regard to the public interest;

(c) undertake environmental impact assessment for proposed activities that are likely to cause a significant adverse impact on the marine environment and are subject to an authorization by competent national authorities;

(d) promote cooperation between and among States in environmental impact assessment procedures related to activities under their jurisdiction or control which are likely to have a significant adverse effect on the marine environment of other States or areas beyond the limits of national jurisdiction, on the basis of notification, exchange of information and consultation;

(e) commit themselves to promote the integrated management of the coastal zones, taking into account the protection of areas of ecological and landscape interest and the rational use of natural resources.

4. In implementing the Convention and the related Protocols, the Contracting Parties shall:

(a) adopt programmes and measures which contain, where appropriate, time limits for their completion;

(b) utilize the best available techniques and the best environmental practices and promote the application of, access to and transfer of environmentally sound technology, including clean production technologies, taking into account the social, economic and technological conditions.

5. The Contracting Parties shall cooperate in the formulation and adoption of Protocols, prescribing agreed measures, procedures and standards for the implementation of this Convention.

6. The Contracting Parties further pledge themselves to promote, within the international bodies considered to be competent by the Contracting Parties, measures concerning the implementation of programmes of sustainable development, the protection, conservation and rehabilitation of the environment and of the natural resources in the Mediterranean Sea Area.

ARTICLE 5

POLLUTION CAUSED BY DUMPING FROM SHIPS AND AIRCRAFT OR INCINERATION AT SEA

The Contracting Parties shall take all appropriate measures to prevent, abate and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area caused by dumping from ships and aircraft or incineration at sea.

ARTICLE 6

POLLUTION FROM SHIPS

The Contracting Parties shall take all measures in conformity with international law to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area caused by discharges from ships and to ensure the effective implementation in that Area of the rules which are generally recognized at the international level relating to the control of this type of pollution.

ARTICLE 7

POLLUTION RESULTING FROM EXPLORATION AND EXPLOITATION OF THE CONTINENTAL SHELF AND THE SEABED AND ITS SUBSOIL

The Contracting Parties shall take all appropriate measures to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil.

ARTICLE 8

POLLUTION FROM LAND-BASED SOURCES

The Contracting Parties shall take all appropriate measures to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area and to draw up and implement plans for the reduction and phasing out of substances that are toxic, persistent and liable to bioaccumulate arising from land-based sources. These measures shall apply:

- (a) to pollution from land-based sources originating within the territories of the Parties, and reaching the sea:
 - directly from outfalls discharging into the sea or through coastal disposal;
 - indirectly through rivers, canals or other watercourses, including underground watercourses, or through run-off;
- (b) to pollution from land-based sources transported by the atmosphere.

ARTICLE 9

COOPERATION IN DEALING WITH POLLUTION EMERGENCIES

1. The Contracting Parties shall cooperate in taking the necessary measures for dealing with pollution emergencies in the Mediterranean Sea Area, whatever the causes of such emergencies, and reducing or eliminating damage resulting therefrom.
2. Any Contracting Party which becomes aware of any pollution emergency in the Mediterranean Sea Area shall without delay notify the Organization and, either through the Organization or directly, any Contracting Party likely to be affected by such emergency.

ARTICLE 10

CONSERVATION OF BIOLOGICAL DIVERSITY

The Contracting Parties shall, individually or jointly, take all appropriate measures to protect and preserve biological diversity, rare or fragile ecosystems, as well as species of wild fauna and flora which are rare, depleted, threatened or endangered and their habitats, in the area to which this Convention applies.

ARTICLE 11

POLLUTION RESULTING FROM THE TRANSBOUNDARY MOVEMENTS OF HAZARDOUS WASTES AND THEIR DISPOSAL

The Contracting Parties shall take all appropriate measures to prevent, abate and to the fullest possible extent eliminate pollution of the environment which can be caused by transboundary movements and disposal of hazardous wastes, and to reduce to a minimum, and if possible eliminate, such transboundary movements.

ARTICLE 12

MONITORING

1. The Contracting Parties shall endeavour to establish, in close cooperation with the international bodies which they consider competent, complementary or joint programmes, including, as appropriate, programmes at the bilateral or multilateral levels, for pollution monitoring in the Mediterranean Sea Area and shall endeavour to establish a pollution monitoring system for that Area.

2. For this purpose, the Contracting Parties shall designate the competent authorities responsible for pollution monitoring within areas under their national jurisdiction and shall participate as far as practicable in international arrangements for pollution monitoring in areas beyond national jurisdiction.

3. The Contracting Parties undertake to cooperate in the formulation, adoption and implementation of such annexes to this Convention as may be required to prescribe common procedures and standards for pollution monitoring.

ARTICLE 13

SCIENTIFIC AND TECHNOLOGICAL COOPERATION

1. The Contracting Parties undertake as far as possible to cooperate directly, or when appropriate through competent regional or other international organizations, in the fields of science and technology and to exchange data as well as other scientific information for the purpose of this Convention.

2. The Contracting Parties undertake to promote the research on, access to and transfer of environmentally sound technology, including clean production technologies, and to cooperate in the formulation, establishment and implementation of clean production processes.

3. The Contracting Parties undertake to cooperate in the provision of technical and other possible assistance in fields relating to marine pollution, with priority to be given to the special needs of developing countries in the Mediterranean region.

ARTICLE 14

ENVIRONMENTAL LEGISLATION

1. The Contracting Parties shall adopt legislation implementing the Convention and the Protocols.

2. The Secretariat may, upon request from a Contracting Party, assist that Party in the drafting of environmental legislation in compliance with the Convention and the Protocols.

ARTICLE 15

PUBLIC INFORMATION AND PARTICIPATION

1. The Contracting Parties shall ensure that their competent authorities shall give to the public appropriate access to information on the environmental state in the field of application of the Convention and the Protocols, on activities or measures adversely affecting or likely to affect it and on activities carried out or measures taken in accordance with the Convention and the Protocols.
2. The Contracting Parties shall ensure that the opportunity is given to the public to participate in decision-making processes relevant to the field of application of the Convention and the Protocols, as appropriate.
3. The provision of paragraph 1. of this Article shall not prejudice the right of Contracting Parties to refuse, in accordance with their legal systems and applicable international regulations, to provide access to such information on the ground of confidentiality, public security or investigation proceedings, stating the reasons for such a refusal.

ARTICLE 16

LIABILITY AND COMPENSATION

The Contracting Parties undertake to cooperate in the formulation and adoption of appropriate rules and procedures for the determination of liability and compensation for damage resulting from pollution of the marine environment in the Mediterranean Sea Area.

ARTICLE 17

INSTITUTIONAL ARRANGEMENTS

The Contracting Parties designate the United Nations Environment Programme as responsible for carrying out the following secretariat functions:

- (i) To convene and prepare the meetings of Contracting Parties and conferences provided for in articles 18, 21 and 22;
- (ii) To transmit to the Contracting Parties notifications, reports and other information received in accordance with articles 3, 9 and 26;

- (iii) To receive, consider and reply to enquiries and information from the Contracting Parties;
- (iv) To receive, consider and reply to enquiries and information from non-governmental organizations and the public when they relate to subjects of common interest or to activities carried out at the regional level; in this case, the Contracting Parties concerned shall be informed;
- (v) To perform the functions assigned to it by the protocols to this Convention;
- (vi) To regularly report to the Contracting Parties on the implementation of the Convention and of the Protocols;
- (vii) To perform such other functions as may be assigned to it by the Contracting Parties;
- (viii) To ensure the necessary coordination with other international bodies which the Contracting Parties consider competent, and in particular, to enter into such administrative arrangements as may be required for the effective discharge of the secretariat functions.

ARTICLE 18

MEETINGS OF THE CONTRACTING PARTIES

1. The Contracting Parties shall hold ordinary meetings once every two years and extraordinary meetings at any other time deemed necessary, upon the request of the Organization or at the request of any Contracting Party, provided that such requests are supported by at least two Contracting Parties.
2. It shall be the function of the meetings of the Contracting Parties to keep under review the implementation of this Convention and the protocols and, in particular:
 - (i) To review generally the inventories carried out by Contracting Parties and competent international organizations on the state of marine pollution and its effects in the Mediterranean Sea Area;
 - (ii) To consider reports submitted by the Contracting Parties under article 26;

- (iii) To adopt, review and amend as required the annexes to this Convention and to the protocols, in accordance with the procedure established in article 23;
- (iv) To make recommendations regarding the adoption of any additional protocols or any amendments to this Convention or the protocols in accordance with the provisions of articles 21 and 22;
- (v) To establish working groups as required to consider any matters related to this Convention and the protocols and annexes;
- (vi) To consider and undertake any additional action that may be required for the achievement of the purposes of this Convention and the protocols.
- (vii) To approve the Programme Budget.

ARTICLE 19

BUREAU

1. The Bureau of the Contracting Parties shall be composed of representatives of the Contracting Parties elected by the Meetings of the Contracting Parties. In electing the members of the Bureau, the Meetings of the Contracting Parties shall observe the principle of equitable geographical distribution.
2. The functions of the Bureau and the terms and conditions upon which it shall operate shall be set in the Rules of Procedure adopted by the Meetings of the Contracting Parties.

ARTICLE 20

OBSERVERS

1. The Contracting Parties may decide to admit as observers at their meetings and conferences:
 - (a) any State which is not a Contracting Party to the Convention;
 - (b) any international governmental organization or any non-governmental organization the activities of which are related to the Convention.

2. Such observers may participate in meetings without the right to vote and may present any information or report relevant to the objectives of the Convention.
3. The conditions for the admission and participation of observers shall be established in the Rules of Procedure adopted by the Contracting Parties.

ARTICLE 21

ADOPTION OF ADDITIONAL PROTOCOLS

1. The Contracting Parties, at a diplomatic conference, may adopt additional protocols to this Convention pursuant to paragraph 5 of article 4.
2. A diplomatic conference for the purpose of adopting additional protocols shall be convened by the Organization at the request of two thirds of the Contracting Parties.

ARTICLE 22

AMENDMENT OF THE CONVENTION OR PROTOCOLS

1. Any Contracting Party to this Convention may propose amendments to the Convention. Amendments shall be adopted by a diplomatic conference which shall be convened by the Organization at the request of two thirds of the Contracting Parties.
2. Any Contracting Party to this Convention may propose amendments to any protocol. Such amendments shall be adopted by a diplomatic conference which shall be convened by the Organization at the request of two thirds of the Contracting Parties to the protocol concerned.
3. Amendments to this Convention shall be adopted by a three-fourths majority vote of the Contracting Parties to the Convention which are represented at the diplomatic conference and shall be submitted by the Depositary for acceptance by all Contracting Parties to the Convention. Amendments to any protocol shall be adopted by a three-fourths majority vote of the Contracting Parties to such protocol which are represented at the diplomatic conference and shall be submitted by the Depositary for acceptance by all Contracting Parties to such protocol.
4. Acceptance of amendments shall be notified to the Depositary in writing. Amendments adopted in accordance with paragraph 3 of this article shall enter into force between Contracting Parties having accepted such amendments on the thirtieth

day following the receipt by the Depositary of notification of their acceptance by at least three fourths of the Contracting Parties to this Convention or to the protocol concerned, as the case may be.

5. After the entry into force of an amendment to this Convention or to a protocol, any new Contracting Party to this Convention or such protocol shall become a Contracting Party to the instrument as amended.

ARTICLE 23

ANNEXES AND AMENDMENTS TO ANNEXES

1. Annexes to this Convention or to any protocol shall form an integral part of the Convention or such protocol, as the case may be.

2. Except as may be otherwise provided in any protocol, the following procedure shall apply to the adoption and entry into force of any amendments to annexes to this Convention or to any protocol, with the exception of amendments to the annex on arbitration:

(i) Any Contracting Party may propose amendments to the annexes to this Convention or to any protocol at the meetings referred to in article 18;

(ii) Such amendments shall be adopted by a three-fourths majority vote of the Contracting Parties to the instrument in question;

(iii) The Depositary shall without delay communicate the amendments so adopted to all Contracting Parties;

(iv) Any Contracting Party that is unable to approve an amendment to the annexes to this Convention or to any protocol shall so notify in writing the Depositary within a period determined by the Contracting Parties concerned when adopting the amendment;

(v) The Depositary shall without delay notify all Contracting Parties of any notification received pursuant to the preceding sub-paragraph;

(vi) On expiry of the period referred to in sub-paragraph (iv) above, the amendment to the annex shall become effective for all Contracting Parties to this Convention or to the protocol concerned which have not submitted a notification in accordance with the provisions of that sub-paragraph.

3. The adoption and entry into force of a new annex to this Convention or to any protocol shall be subject to the same procedure as for the adoption and entry into force of an amendment to an annex in accordance with the provisions of paragraph 2 of this article, provided that, if any amendment to the Convention or the protocol concerned is involved, the new annex shall not enter into force until such time as the amendment to the Convention or the protocol concerned enters into force.

4. Amendments to the annex on arbitration shall be considered to be amendments to this Convention and shall be proposed and adopted in accordance with the procedures set out in article 22 above.

ARTICLE 24

RULES OF PROCEDURE AND FINANCIAL RULES

1. The Contracting Parties shall adopt rules of procedure for their meetings and conferences envisaged in articles 18, 21 and 22 above.

2. The Contracting Parties shall adopt financial rules, prepared in consultation with the Organization, to determine, in particular, their financial participation in the Trust Fund.

ARTICLE 25

SPECIAL EXERCISE OF VOTING RIGHT

Within the areas of their competence, the European Economic Community and any regional economic grouping referred to in article 30 of this Convention shall exercise their right to vote with a number of votes equal to the number of their member States which are Contracting Parties to this Convention and to one or more protocols; the European Economic Community and any grouping as referred to above shall not exercise their right to vote in cases where the member States concerned exercise theirs, and conversely.

ARTICLE 26

REPORTS

1. The Contracting Parties shall transmit to the Organization reports on:
 - (a) the legal, administrative or other measures taken by them for the implementation of this Convention, the Protocols and of the recommendations adopted by their meetings;
 - (b) the effectiveness of the measures referred to in sub-paragraph (a) and problems encountered in the implementation of the instruments as mentioned above.
2. The reports shall be submitted in such form and at such intervals as the Meetings of Contracting Parties may determine.

ARTICLE 27

COMPLIANCE CONTROL

The meetings of the Contracting Parties shall, on the basis of periodical reports referred to in Article 26 and any other report submitted by the Contracting Parties, assess the compliance with the Convention and the Protocols as well as the measures and recommendations. They shall recommend, when appropriate, the necessary steps to bring about full compliance with the Convention and the Protocols and promote the implementation of the decisions and recommendations.

ARTICLE 28

SETTLEMENT OF DISPUTES

1. In case of a dispute between Contracting Parties as to the interpretation or application of this Convention or the protocols, they shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.
2. If the Parties concerned cannot settle their dispute through the means mentioned in the preceding paragraph, the dispute shall upon common agreement be submitted to arbitration under the conditions laid down in annex A to this Convention.

3. Nevertheless, the Contracting Parties may at any time declare that they recognize as compulsory *ipso facto* and without special agreement, in relation to any other Party accepting the same obligation, the application of the arbitration procedure in conformity with the provisions of annex A. Such declaration shall be notified in writing to the Depository, who shall communicate it to the other Parties.

ARTICLE 29

RELATIONSHIP BETWEEN THE CONVENTION AND PROTOCOLS

1. No one may become a Contracting Party to this Convention unless it becomes at the same time a Contracting Party to at least one of the protocols. No one may become a Contracting Party to a protocol unless it is, or becomes at the same time, a Contracting Party to this Convention.
2. Any protocol to this Convention shall be binding only on the Contracting Parties to the protocol in question.
3. Decisions concerning any protocol pursuant to articles 18, 22 and 23 of this Convention shall be taken only by the Parties to the protocol concerned.

ARTICLE 30

SIGNATURE

This Convention, the Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft and the Protocol concerning cooperation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency shall be open for signature in Barcelona on 16 February 1976 and in Madrid from 17 February 1976 to 16 February 1977 by any State invited as a participant in the Conference of Plenipotentiaries of the Coastal States of the Mediterranean Region on the Protection of the Mediterranean Sea, held in Barcelona from 2 to 16 February 1976, and by any State entitled to sign any protocol in accordance with the provisions of such protocol. They shall also be open until the same date for signature by the European Economic Community and by any similar regional economic grouping at least one member of which is a coastal State of the Mediterranean Sea Area and which exercise competence in fields covered by this Convention, as well as by any protocol affecting them.

ARTICLE 31

RATIFICATION, ACCEPTANCE OR APPROVAL

This Convention and any protocol thereto shall be subject to ratification, acceptance, or approval. Instruments of ratification, acceptance or approval shall be deposited with the Government of Spain, which will assume the functions of Depositary.

ARTICLE 32

ACCESSION

1. As from 17 February 1977, the present Convention, the Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft, and the Protocol concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency shall be open for accession by the States, by the European Economic Community and by any grouping as referred to in article 30.
2. After the entry into force of the Convention and of any protocol, any State not referred to in article 30 may accede to this Convention and to any protocol, subject to prior approval by three fourths of the Contracting Parties to the protocol concerned.
3. Instruments of accession shall be deposited with the Depositary.

ARTICLE 33

ENTRY INTO FORCE

1. This Convention shall enter into force on the same date as the protocol first entering into force.
2. The Convention shall also enter into force with regard to the States, the European Economic Community and any regional economic grouping referred to in article 30 if they have complied with the formal requirements for becoming Contracting Parties to any other protocol not yet entered into force.
3. Any protocol to this Convention, except as otherwise provided in such protocol, shall enter into force on the thirtieth day following the date of deposit of at least six instruments of ratification, acceptance, or approval of, or accession to such protocol by the Parties referred to in article 30.

4. Thereafter, this Convention and any protocol shall enter into force with respect to any State, the European Economic Community and any regional economic grouping referred to in article 30 on the thirtieth day following the date of deposit of the instruments of ratification, acceptance, approval or accession.

ARTICLE 34

WITHDRAWAL

1. At any time after three years from the date of entry into force of this Convention, any Contracting Party may withdraw from this Convention by giving written notification of withdrawal.
2. Except as may be otherwise provided in any protocol to this Convention, any Contracting Party may, at any time after three years from the date of entry into force of such protocol, withdraw from such protocol by giving written notification of withdrawal.
3. Withdrawal shall take effect 90 days after the date on which notification of withdrawal is received by the Depositary.
4. Any Contracting Party which withdraws from this Convention shall be considered as also having withdrawn from any protocol to which it was a Party.
5. Any Contracting Party which, upon its withdrawal from a protocol, is no longer a Party to any protocol to this Convention, shall be considered as also having withdrawn from this Convention.

ARTICLE 35

RESPONSIBILITIES OF THE DEPOSITARY

1. The Depositary shall inform the Contracting Parties, any other Party referred to in article 30, and the Organization:
 - (i) Of the signature of this Convention and of any protocol thereto, and of the deposit of instruments of ratification, acceptance, approval or accession in accordance with articles 30, 31 and 32;

- (ii) Of the date on which the Convention and any protocol will come into force in accordance with the provisions of article 33;
- (iii) Of notifications of withdrawal made in accordance with article 34;
- (iv) Of the amendments adopted with respect to the Convention and to any protocol, their acceptance by the Contracting Parties and the date of entry into force of those amendments in accordance with the provisions of article 22;
- (v) Of the adoption of new annexes and of the amendment of any annex in accordance with article 23;
- (vi) Of declarations recognizing as compulsory the application of the arbitration procedure mentioned in paragraph 3 of article 28.

2. The original of this Convention and of any protocol thereto shall be deposited with the Depositary, the Government of Spain, which shall send certified copies thereof to the Contracting Parties, to the Organization, and to the Secretary-General of the United Nations for registration and publication in accordance with Article 102 of the United Nations Charter.

IN WITNESS THEREOF the undersigned, being duly authorized by their respective Governments, have signed this Convention.

DONE at Barcelona on 16 February 1976 in a single copy in the Arabic, English, French and Spanish languages, the four texts being equally authoritative.

ANNEX A
ARBITRATION

ARTICLE 1

Unless the Parties to the dispute otherwise agree, the arbitration procedure shall be conducted in accordance with the provisions of this annex.

ARTICLE 2

1. At the request addressed by one Contracting Party to another Contracting Party in accordance with the provisions of paragraph 2 or paragraph 3 of article 28 of the Convention, an arbitral tribunal shall be constituted. The request for arbitration shall state the subject matter of the application including, in particular, the articles of the Convention or the protocol, the interpretation or application of which is in dispute.
2. The claimant party shall inform the Organization that it has requested the setting up of an arbitral tribunal, stating the name of the other Party to the dispute and articles of the Convention or the protocols the interpretation or application of which is in its opinion in dispute. The Organization shall forward the information thus received to all Contracting Parties to the Convention.

ARTICLE 3

The arbitral tribunal shall consist of three members: each of the Parties to the dispute shall appoint an arbitrator; the two arbitrators so appointed shall designate by common agreement the third arbitrator who shall be the chairman of the tribunal. The latter shall not be a national of one of the Parties to the dispute, nor have his usual place of residence in the territory of one of these Parties, nor be employed by any of them, nor have dealt with the case in any other capacity.

ARTICLE 4

1. If the chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the Secretary-General of the

United Nations shall, at the request of the more diligent Party, designate him within a further two months' period.

2. If one of the Parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other Party may inform the Secretary-General of the United Nations who shall designate the chairman of the arbitral tribunal within a further two months' period. Upon designation, the chairman of the arbitral tribunal shall request the Party which has not appointed an arbitrator to do so within two months. After such period, he shall inform the Secretary-General of the United Nations, who shall make this appointment within a further two months' period.

ARTICLE 5

1. The arbitral tribunal shall decide according to the rules of international law and, in particular, those of this Convention and the protocols concerned.
2. Any arbitral tribunal constituted under the provisions of this annex shall draw up its own rules of procedure.

ARTICLE 6

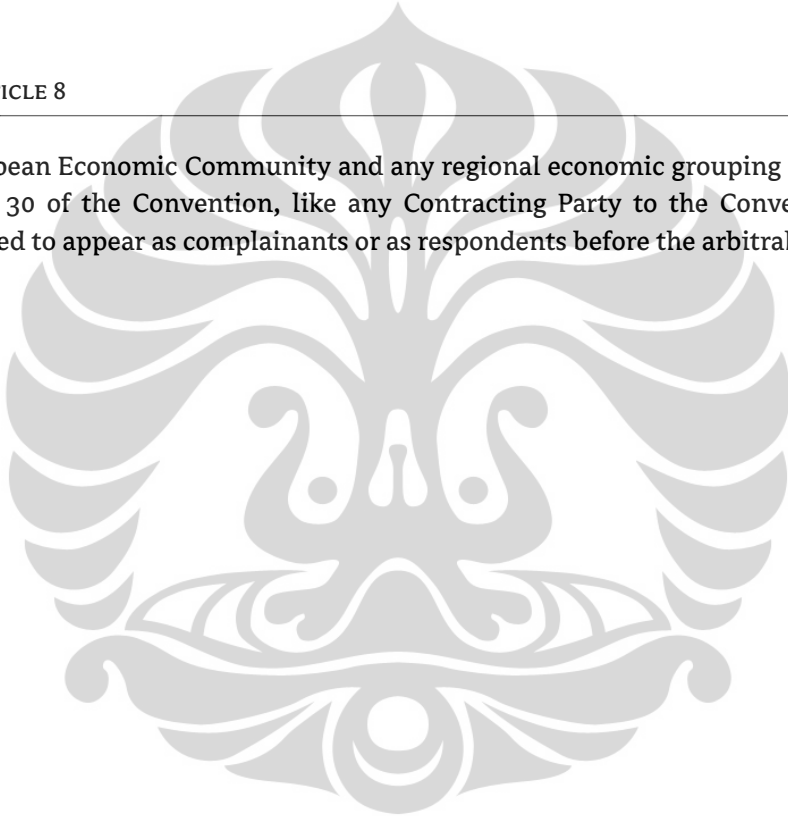
1. The decisions of the arbitral tribunal, both on procedure and on substance, shall be taken by majority vote of its members.
2. The tribunal may take all appropriate measures in order to establish the facts. It may, at the request of one of the Parties, recommend essential interim measures of protection.
3. If two or more arbitral tribunals constituted under the provisions of this annex are seized of requests with identical or similar subjects, they may inform themselves of the procedures for establishing the facts and take them into account as far as possible.
4. The Parties to the dispute shall provide all facilities necessary for the effective conduct of the proceedings.
5. The absence or default of a Party to the dispute shall not constitute an impediment to the proceedings.

ARTICLE 7

1. The award of the arbitral tribunal shall be accompanied by a statement of reasons. It shall be final and binding upon the Parties to the dispute.
2. Any dispute which may arise between the Parties concerning the interpretation or execution of the award may be submitted by the more diligent Party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another arbitral tribunal constituted for this purpose in the same manner as the first.

ARTICLE 8

The European Economic Community and any regional economic grouping referred to in article 30 of the Convention, like any Contracting Party to the Convention, are empowered to appear as complainants or as respondents before the arbitral tribunal.



PROTOCOL FOR THE PROTECTION OF THE MEDITERRANEAN SEA AGAINST POLLUTION FROM LAND-BASED SOURCES AND ACTIVITIES

The Protocol on Land-Based Sources (the LBS Protocol) was adopted on 17 May 1980 by the Conference of Plenipotentiaries of the Coastal States of the Mediterranean Region for the Protection of the Mediterranean Sea Against Pollution from Land-based Sources, held in Athens. The Protocol entered into force on 17 June 1983.

The original Protocol was modified by amendments adopted on 7 March 1996 by the Conference of Plenipotentiaries on the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, held in Syracuse on 6 and 7 March 1996 (UNEP(OCA)/MED IG.7/4). The amended Protocol, recorded as "Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities", has not yet entered into force.

The Contracting Parties to the present Protocol,

Being Parties to the Convention for the Protection of the Mediterranean Sea against Pollution, adopted at Barcelona on 16 February 1976 and amended on 10 June 1995,

Desirous of implementing article 4, paragraph 5, and articles 8 and 21 of the said Convention,

Noting the increasing environmental pressures resulting from human activities in the Mediterranean Sea Area, particularly in the fields of industrialization and urbanization, as well as the seasonal increase in the coastal population due to tourism,

Recognizing the danger posed to the marine environment, living resources and human health by pollution from land-based sources and activities and the serious problems resulting therefrom in many coastal waters and river estuaries of the Mediterranean Sea, primarily due to the release of untreated, insufficiently treated or inadequately disposed of domestic or industrial discharges containing substances that are toxic, persistent and liable to bioaccumulate,

Applying the precautionary principle and the polluter pays principle, undertaking environmental impact assessment and utilizing the best available techniques and the best environmental practice, including clean production technologies, as provided for in article 4 of the Convention,

Recognizing the difference in levels of development between the coastal States, and taking account of the economic and social imperatives of the developing countries,

Determined to take, in close cooperation, the necessary measures to protect the Mediterranean Sea against pollution from land-based sources and activities,

Taking into consideration the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, adopted in Washington, D.C., on 3 November 1995,

Have agreed as follows:

ARTICLE 1

GENERAL PROVISION

The Contracting Parties to this Protocol (hereinafter referred to as “the Parties”) shall take all appropriate measures to prevent, abate, combat and eliminate to the fullest possible extent pollution of the Mediterranean Sea Area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources and activities within their territories, giving priority to the phasing out of inputs of substances that are toxic, persistent and liable to bioaccumulate.

ARTICLE 2

DEFINITIONS

For the purposes of this Protocol:

- (a) “The Convention” means the Convention for the Protection of the Mediterranean Sea against Pollution, adopted at Barcelona on 16 February 1976 and amended on 10 June 1995;
- (b) “Organization” means the body referred to in article 17 of the Convention;

(c) “Freshwater limit” means the place in watercourses where, at low tides and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of sea-water;

(d) The “Hydrologic Basin” means the entire watershed area within the territories of the Contracting Parties, draining into the Mediterranean Sea Area as defined in article 1 of the Convention.

ARTICLE 3

PROTOCOL AREA

The area to which this Protocol applies (hereinafter referred to as the “Protocol Area”) shall be:

- (a) The Mediterranean Sea Area as defined in article 1 of the Convention;
- (b) The hydrologic basin of the Mediterranean Sea Area;
- (c) Waters on the landward side of the baselines from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit;
- (d) Brackish waters, coastal salt waters including marshes and coastal lagoons, and ground waters communicating with the Mediterranean Sea.

ARTICLE 4

PROTOCOL APPLICATION

1. This Protocol shall apply:
 - (a) To discharges originating from land-based point and diffuse sources and activities within the territories of the Contracting Parties that may affect directly or indirectly the Mediterranean Sea Area. These discharges shall include those which reach the Mediterranean Area, as defined in article 3(a), (c) and (d) of this Protocol, through coastal disposals, rivers, outfalls, canals, or other watercourses, including ground water flow, or through run-off and disposal under the seabed with access from land;

(b) To inputs of polluting substances transported by the atmosphere to the Mediterranean Sea Area from land-based sources or activities within the territories of the Contracting Parties under the conditions defined in annex III to this Protocol.

2. This Protocol shall also apply to polluting discharges from fixed man-made off-shore structures which are under the jurisdiction of a Party and which serve purposes other than exploration and exploitation of mineral resources of the continental shelf and the sea-bed and its subsoil.

3. The Parties shall invite States that are not parties to the Protocol and have in their territories parts of the hydrologic basin of the Mediterranean Area to cooperate in the implementation of the Protocol.

ARTICLE 5

GENERAL OBLIGATIONS

1. The Parties undertake to eliminate pollution deriving from land-based sources and activities, in particular to phase out inputs of the substances that are toxic, persistent and liable to bioaccumulate listed in annex I.

2. To this end, they shall elaborate and implement, individually or jointly, as appropriate, national and regional action plans and programmes, containing measures and timetables for their implementation.

3. The priorities and timetables for implementing the action plans, programmes and measures shall be adopted by the Parties taking into account the elements set out in annex I and shall be periodically reviewed.

4. When adopting action plans, programmes and measures, the Parties shall take into account, either individually or jointly, the best available techniques and the best environmental practice including, where appropriate, clean production technologies, taking into account the criteria set forth in annex IV.

5. The Parties shall take preventive measures to reduce to the minimum the risk of pollution caused by accidents.

ARTICLE 6

AUTHORIZATION OR REGULATION SYSTEM

1. Point source discharges into the Protocol Area, and releases into water or air that reach and may affect the Mediterranean Area, as defined in article 3(a), (c) and (d) of this Protocol, shall be strictly subject to authorization or regulation by the competent authorities of the Parties, taking due account of the provisions of this Protocol and annex II thereto, as well as the relevant decisions or recommendations of the meetings of the Contracting Parties.
2. To this end, the Parties shall provide for systems of inspection by their competent authorities to assess compliance with authorizations and regulations.
3. The Parties may be assisted by the Organization, upon request, in establishing new, or strengthening existing, competent structures for inspection of compliance with authorizations and regulations. Such assistance shall include special training of personnel.
4. The Parties establish appropriate sanctions in case of non-compliance with the authorizations and regulations and ensure their application.

ARTICLE 7

COMMON GUIDELINES, STANDARDS AND CRITERIA

1. The Parties shall progressively formulate and adopt, in cooperation with the competent international organizations, common guidelines and, as appropriate, standards or criteria dealing in particular with:
 - (a) The length, depth and position of pipelines for coastal outfalls, taking into account, in particular, the methods used for pretreatment of effluents;
 - (b) Special requirements for effluents necessitating separate treatment;
 - (c) The quality of sea-water used for specific purposes that is necessary for the protection of human health, living resources and ecosystems;
 - (d) The control and progressive replacement of products, installations and industrial and other processes causing significant pollution of the marine environment;

- (e) Specific requirements concerning the quantities of the substances discharged (listed in annex I), their concentration in effluents and methods of discharging them.
2. Without prejudice to the provisions of article 5 of this Protocol, such common guidelines, standards or criteria shall take into account local ecological, geographical and physical characteristics, the economic capacity of the Parties and their need for development, the level of existing pollution and the real absorptive capacity of the marine environment.
3. The action plans, programmes and measures referred to in articles 5 and 15 of this Protocol shall be adopted by taking into account, for their progressive implementation, the capacity to adapt and reconvert existing installations, the economic capacity of the Parties and their need for development.

ARTICLE 8

MONITORING

Within the framework of the provisions of, and the monitoring programmes provided for in article 12 of the Convention, and if necessary in cooperation with the competent international organizations, the Parties shall carry out at the earliest possible date monitoring activities and make access to the public of the findings in order:

- (a) Systematically to assess, as far as possible, the levels of pollution along their coasts, in particular with regard to the sectors of activity and categories of substances listed in annex I, and periodically to provide information in this respect;
- (b) To evaluate the effectiveness of action plans, programmes and measures implemented under this Protocol to eliminate to the fullest possible extent pollution of the marine environment.

ARTICLE 9

SCIENTIFIC AND TECHNICAL COOPERATION

In conformity with article 13 of the Convention, the Parties shall cooperate in scientific and technological fields related to pollution from land-based sources and activities, particularly research on inputs, pathways and effects of pollutants and on the development of new methods for their treatment, reduction or elimination, as well as the

development of clean production processes to this effect. To this end, the Parties shall, in particular, endeavour to:

- (a) Exchange scientific and technical information;
- (b) Coordinate their research programmes;
- (c) Promote access to, and transfer of, environmentally sound technology including clean production technology.

ARTICLE 10

TECHNICAL ASSISTANCE

1. The Parties shall, directly or with the assistance of competent regional or other international organizations, bilaterally or multilaterally, cooperate with a view to formulating and, as far as possible, implementing programmes of assistance to developing countries, particularly in the fields of science, education and technology, with a view to preventing, reducing or, as appropriate, phasing out inputs of pollutants from land-based sources and activities and their harmful effects in the marine environment.
2. Technical assistance would include, in particular, the training of scientific and technical personnel, as well as the acquisition, utilization and production by those countries of appropriate equipment and, as appropriate, clean production technologies, on advantageous terms to be agreed upon among the Parties concerned.

ARTICLE 11

TRANSBOUNDARY POLLUTION

1. 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, the Parties in question, respecting the provisions of this Protocol in so far as each of them is concerned, are called upon to cooperate with a view to ensuring its full application.
2. A Party shall not be responsible for any pollution originating on the territory of a non-contracting State. However, the said Party shall endeavour to cooperate with the said State so as to make possible full application of the Protocol.

ARTICLE 12

SETTLEMENT OF DISPUTES

1. Taking into account article 28, paragraph 1, of the Convention, when land-based pollution originating from the territory of one Party is likely to prejudice directly the interests of one or more of the other Parties, the Parties concerned shall, at the request of one or more of them, undertake to enter into consultation with a view to seeking a satisfactory solution.
2. At the request of any Party concerned, the matter shall be placed on the agenda of the next meeting of the Parties held in accordance with article 14 of this Protocol; the meeting may make recommendations with a view to reaching a satisfactory solution.

ARTICLE 13

REPORTS

1. The Parties shall submit reports every two years, unless decided otherwise by the Meeting of the Contracting Parties, to the meetings of the Contracting Parties, through the Organization, of measures taken, results achieved and, if the case arises, of difficulties encountered in the application of this Protocol. Procedures for the submission of such reports shall be determined at the meetings of the Parties.
2. Such reports shall include, *inter alia*:
 - (a) Statistical data on the authorizations granted in accordance with article 6 of this Protocol;
 - (b) Data resulting from monitoring as provided for in article 8 of this Protocol;
 - (c) Quantities of pollutants discharged from their territories;
 - (d) Action plans, programmes and measures implemented in accordance with articles 5, 7 and 15 of this Protocol.

ARTICLE 14

MEETINGS

1. Ordinary meetings of the Parties shall take place in conjunction with ordinary meetings of the Contracting Parties to the Convention held pursuant to article 18 of the

Convention. The Parties may also hold extraordinary meetings in accordance with article 18 of the Convention.

2. The functions of the meetings of the Parties to this Protocol shall be, inter alia:
 - (a) To keep under review the implementation of this Protocol and to consider the efficacy of the action plans, programmes and measures adopted;
 - (b) To revise and amend any annex to this Protocol, as appropriate;
 - (c) To formulate and adopt action plans, programmes and measures in accordance with articles 5, 7 and 15 of this Protocol;
 - (d) To adopt, in accordance with article 7 of this Protocol, common guidelines, standards or criteria, in any form decided upon by the Parties;
 - (e) To make recommendations in accordance with article 12, paragraph 2, of this Protocol;
 - (f) To consider the reports submitted by the Parties under article 13 of this Protocol;
 - (g) To discharge such other functions as may be appropriate for the application of this Protocol.

ARTICLE 15

ADOPTION OF ACTION PLANS, PROGRAMMES AND MEASURES

1. The meeting of the Parties shall adopt, by a two-thirds majority, the short-term and medium-term regional action plans and programmes containing measures and timetables for their implementation provided for in article 5 of this Protocol.
2. Regional action plans and programmes as referred to in paragraph 1 shall be formulated by the Organization and considered and approved by the relevant technical body of the Contracting Parties within one year at the latest of the entry into force of the amendments to this Protocol. Such regional action plans and programmes shall be put on the agenda for the subsequent meeting of the Parties for adoption. The same procedure shall be followed for any additional action plans and programmes.

3. The measures and timetables adopted in accordance with paragraph 1 of this article shall be notified by the Secretariat to all the Parties. Such measures and timetables become binding on the one hundred and eightieth day following the day of notification for the Parties which have not notified the Secretariat of an objection within one hundred and seventy-nine days from the date of notification.

4. The Parties which have notified an objection in accordance with the preceding paragraph shall inform the meeting of the Parties of the provisions they intend to take, it being understood that these Parties may at any time give their consent to these measures or timetables.

ARTICLE 16

FINAL PROVISIONS

1. The provisions of the Convention relating to any Protocol shall apply with respect to this Protocol.

2. The rules of procedure and the financial rules adopted pursuant to article 24 of the Convention shall apply with respect to this Protocol, unless the Parties to this Protocol agree otherwise.

3. This Protocol shall be open for signature, at Athens from 17 May 1980 to 16 June 1980, and at Madrid from 17 June 1980 to 16 May 1981, by any State invited to the Conference of Plenipotentiaries of the Coastal States of the Mediterranean Region for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources held at Athens from 12 May to 17 May 1980. It shall also be open until the same dates for signature by the European Economic Community and by any similar regional economic grouping of which at least one member is a coastal State of the Mediterranean Sea Area and which exercises competence in fields covered by this Protocol.

4. This Protocol shall be subject to ratification, acceptance or approval. Instruments of ratification, acceptance or approval shall be deposited with the Government of Spain, which will assume the functions of Depositary.

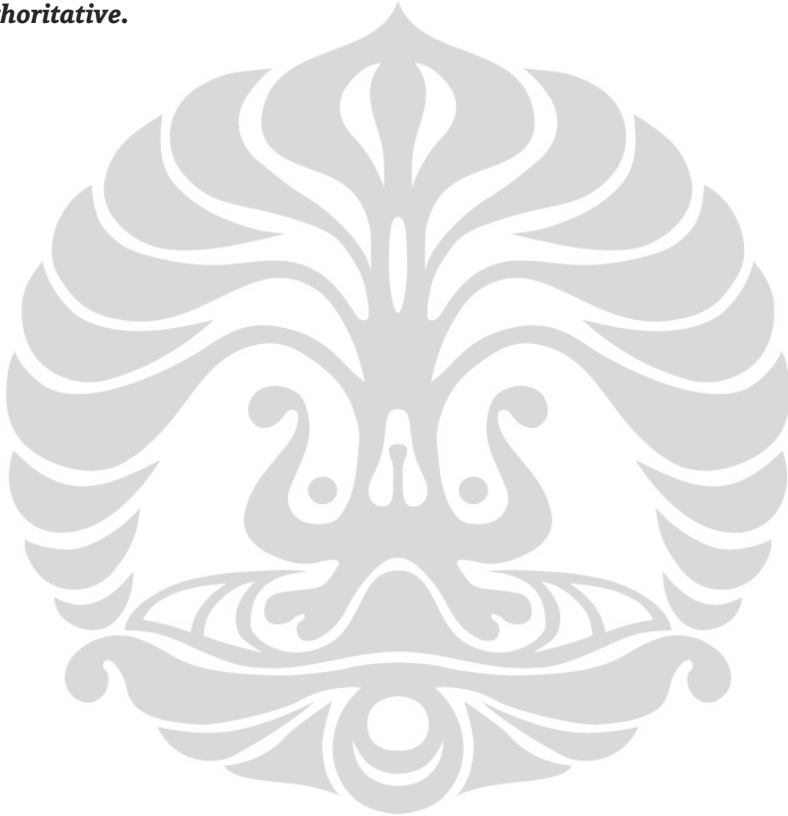
5. As from 17 May 1981, this Protocol shall be open for accession by the States referred to in paragraph 3 above, by the European Economic Community and by any grouping referred to in that paragraph.

6. This Protocol shall enter into force on the thirtieth day following the deposit of

at least six instruments of ratification, acceptance or approval of, or accession to, the Protocol by the Parties referred to in paragraph 3 of this article.

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments, have signed this Protocol.

DONE at Athens on 17 May 1980 and amended at Syracuse on 7 March 1996 in a single copy in the Arabic, English, French and Spanish languages, the four texts being equally authoritative.



ANNEX I

ELEMENTS TO BE TAKEN INTO ACCOUNT IN THE PREPARATION OF ACTION PLANS, PROGRAMMES AND MEASURES FOR THE ELIMINATION OF POLLUTION FROM LAND-BASED SOURCES AND ACTIVITIES

This annex contains elements which will be taken into account in the preparation of action plans, programmes and measures for the elimination of pollution from land-based sources and activities referred to in articles 5, 7 and 15 of this Protocol.

Such action plans, programmes and measures will aim to cover the sectors of activity listed in section A and also cover the groups of substances enumerated in section C, selected on the basis of the characteristics listed in section B of the present annex.

Priorities for action should be established by the Parties, on the basis of the relative importance of their impact on public health, the environment and socio-economic and cultural conditions. Such programmes should cover point sources, diffuse sources and atmospheric deposition.

In preparing action plans, programmes and measures, the Parties, in conformity with the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, adopted in Washington, D.C. in 1995, will give priority to substances that are toxic, persistent and liable to bioaccumulate, in particular to persistent organic pollutants (POPs), as well as to wastewater treatment and management.

A. SECTORS OF ACTIVITY

The following sectors of activity (not listed in order of priority) will be primarily considered when setting priorities for the preparation of action plans, programmes and measures for the elimination of the pollution from land-based sources and activities:

1. Energy production;
2. Fertilizer production;
3. Production and formulation of biocides;
4. The pharmaceutical industry;

5. Petroleum refining;
6. The paper and paper-pulp industry;
7. Cement production;
8. The tanning industry;
9. The metal industry;
10. Mining;
11. The shipbuilding and repairing industry;
12. Harbour operations;
13. The textile industry;
14. The electronic industry;
15. The recycling industry;
16. Other sectors of the organic chemical industry;
17. Other sectors of the inorganic chemical industry;
18. Tourism;
19. Agriculture;
20. Animal husbandry;
21. Food processing;
22. Aquaculture;
23. Treatment and disposal of hazardous wastes;
24. Treatment and disposal of domestic waste water;

25. Management of municipal solid waste;
26. Disposal of sewage sludge;
27. The waste management industry;
28. Incineration of waste and management of its residues;
29. Works which cause physical alteration of the natural state of the coastline;
30. Transport.

B. CHARACTERISTICS OF SUBSTANCES IN THE ENVIRONMENT

For the preparation of action plans, programmes and measures, the Parties should take into account the characteristics listed below:

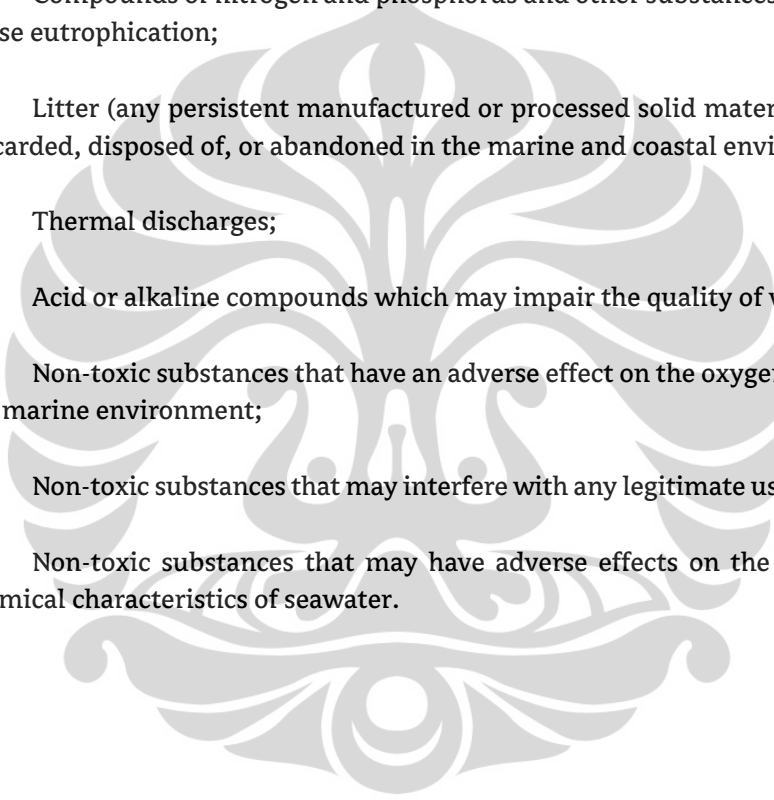
1. Persistence;
2. Toxicity or other noxious properties (e.g. carcinogenicity, mutagenicity, teratogenicity);
3. Bioaccumulation;
4. Radioactivity;
5. The ratio between observed concentrations and no observed effect concentrations (NOEC);
6. The risk of eutrophication of anthropogenic origin;
7. Health effects and risks;
8. Transboundary significance;
9. The risk of undesirable changes in the marine ecosystem and irreversibility or durability of effects;

10. Interference with the sustainable exploitation of living resources or with other legitimate uses of the sea;
11. Effects on the taste and/or smell of marine products for human consumption;
12. Effects on the smell, colour, transparency or other characteristics of seawater;
13. Distribution pattern (i.e. quantities involved, use patterns and probability of reaching the marine environment).

C. CATEGORIES OF SUBSTANCES

The following categories of substances and sources of pollution will serve as guidance in the preparation of action plans, programmes and measures:

1. Organohalogen compounds and substances which may form such compounds in the marine environment. Priority will be given to Aldrin, Chlordane, DDT, Dieldrin, Dioxins and Furans, Endrin, Heptachlor, Hexachlorobenzene, Mirex, PCBs and Toxaphene;
2. Organophosphorus compounds and substances which may form such compounds in the marine environment;
3. Organotin compounds and substances which may form such compounds in the marine environment;
4. Polycyclic aromatic hydrocarbons;
5. Heavy metals and their compounds;
6. Used lubricating oils;
7. Radioactive substances, including their wastes, when their discharges do not comply with the principles of radiation protection as defined by the competent international organizations, taking into account the protection of the marine environment;
8. Biocides and their derivatives;

9. Pathogenic microorganisms;
 10. Crude oils and hydrocarbons of petroleum origin;
 11. Cyanides and fluorides;
 12. Non-biodegradable detergents and other non-biodegradable surface-active substances;
 13. Compounds of nitrogen and phosphorus and other substances which may cause eutrophication;
 14. Litter (any persistent manufactured or processed solid material which is discarded, disposed of, or abandoned in the marine and coastal environment);
 15. Thermal discharges;
 16. Acid or alkaline compounds which may impair the quality of water;
 17. Non-toxic substances that have an adverse effect on the oxygen content of the marine environment;
 18. Non-toxic substances that may interfere with any legitimate use of the sea;
 19. Non-toxic substances that may have adverse effects on the physical or chemical characteristics of seawater.
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ANNEX II
**ELEMENTS TO BE TAKEN INTO ACCOUNT
IN THE ISSUE OF THE AUTHORIZATIONS FOR DISCHARGES OF WASTES**

With a view to the issue of an authorization for the discharges of wastes containing substances referred to in article 6 to this Protocol, particular account will be taken, as the case may be, of the following factors:

A. CHARACTERISTICS AND COMPOSITION OF THE DISCHARGES

1. Type and size of point or diffuse source (e.g. industrial process).
2. Type of discharges (e.g. origin, average composition).
3. State of waste (e.g. solid, liquid, sludge, slurry).
4. Total amount (volume discharged, e.g. per year).
5. Discharge pattern (continuous, intermittent, seasonally variable, etc.).
6. Concentrations with respect to relevant constituents of substances listed in annex I and of other substances as appropriate.
7. Physical, chemical and biochemical properties of the waste discharges.

**B. CHARACTERISTICS OF DISCHARGE CONSTITUENTS
WITH RESPECT TO THEIR HARMFULNESS**

1. Persistence (physical, chemical, biological) in the marine environment.
2. Toxicity and other harmful effects.
3. Accumulation in biological materials or sediments.
4. Biochemical transformation producing harmful compounds.

5. Adverse effects on the oxygen content and balance.
6. Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other sea-water constituents which may produce harmful biological or other effects on any of the uses listed in section E below.
7. All other characteristics as listed in annex I, section B.

C. CHARACTERISTICS OF DISCHARGE SITE AND RECEIVING ENVIRONMENT

1. Hydrographic, meteorological, geological and topographical characteristics of the coastal area.
2. Location and type of the discharge (outfall, canal outlet, etc.) and its relation to other areas (such as amenity areas, spawning, nursery, and fishing areas, shellfish grounds) and other discharges.
3. Initial dilution achieved at the point of discharge into the receiving environment.
4. Dispersion characteristics such as effects of currents, tides and wind on horizontal transport and vertical mixing.
5. Receiving water characteristics with respect to physical, chemical, biological and ecological conditions in the discharge area.
6. Capacity of the receiving marine environment to receive waste discharges without undesirable effects.

D. AVAILABILITY OF WASTE TECHNOLOGIES

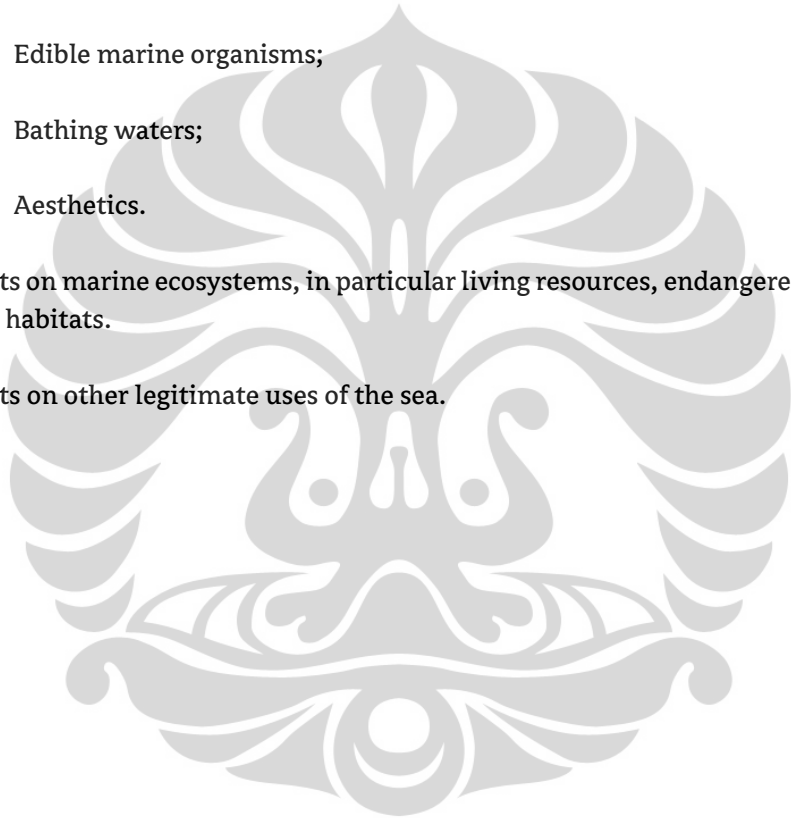
The methods of waste reduction and discharge for industrial effluents as well as domestic sewage should be selected taking into account the availability and feasibility of:

- (a) Alternative treatment processes;
- (b) Re-use or elimination methods;

- (c) On-land disposal alternatives;
- (d) Appropriate low-waste technologies.

E. POTENTIAL IMPAIRMENT OF MARINE ECOSYSTEMS AND SEA-WATER USES

1. Effects on human health through pollution impact on:
 - (a) Edible marine organisms;
 - (b) Bathing waters;
 - (c) Aesthetics.
2. Effects on marine ecosystems, in particular living resources, endangered species and critical habitats.
3. Effects on other legitimate uses of the sea.



ANNEX III
**CONDITIONS OF APPLICATION TO POLLUTION
TRANSPORTED THROUGH THE ATMOSPHERE**

This annex defines the conditions of application of this Protocol to pollution from land-based sources transported by the atmosphere in terms of Article 4.1(b) are the following:

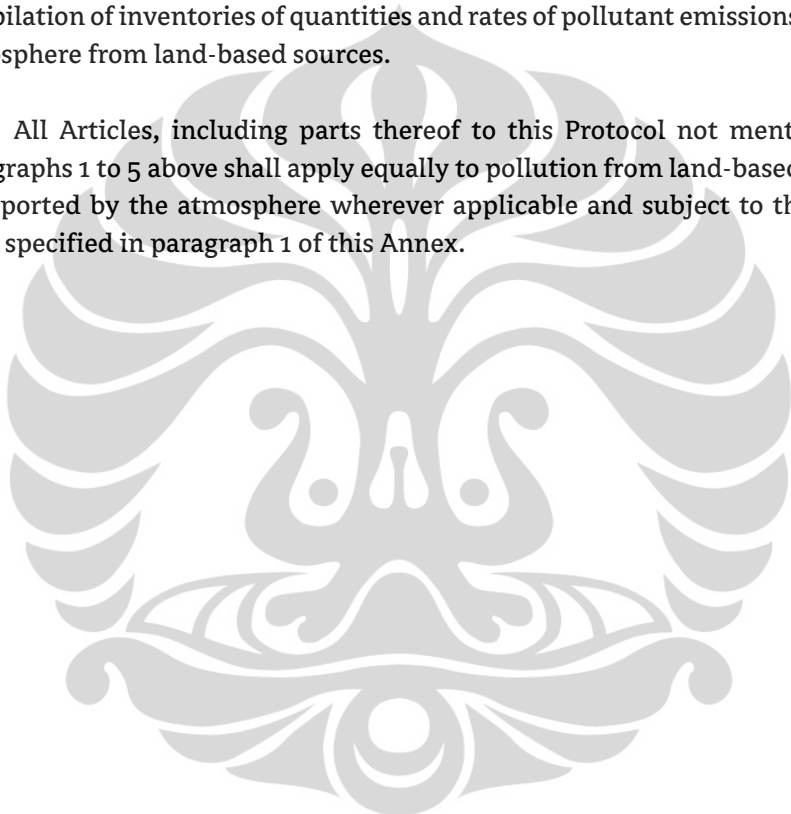
1. This Protocol shall apply to polluting discharges into the atmosphere under the following conditions:
 - (a) the discharged substance is or could be transported to the Mediterranean Sea Area under prevailing meteorological conditions;
 - (b) the input of the substance into the Mediterranean Sea Area is hazardous for the environment in relation to the quantities of the same substance reaching the Area by other means.
2. This Protocol shall also apply to polluting discharges into the atmosphere affecting the Mediterranean Sea Area from land-based sources within the territories of the Parties and from fixed man-made offshore structures, subject to the provisions of article 4.2 of this Protocol.
3. In the case of pollution of the Mediterranean Sea Area from land-based sources through the atmosphere, the provisions of articles 5 and 6 of this Protocol shall apply progressively to appropriate substances and sources listed in annex I to this Protocol as will be agreed by the Parties.
4. Subject to the conditions specified in paragraph 1 of this annex, the provisions of Article 7.1 of this Protocol shall also apply to:
 - (a) discharges —quantity and rate— of substances emitted to the atmosphere, on the basis of the information available to the Contracting Parties concerning the location and distribution of air pollution sources;
 - (b) the content of hazardous substances in fuel and raw materials;

(c) the efficiency of air pollution control technologies and more efficient manufacturing and fuel burning processes;

(d) the application of hazardous substances in agriculture and forestry.

5. The provisions of annex II to this Protocol shall apply to pollution through the atmosphere whenever appropriate. Air pollution monitoring and modelling using acceptable common emission factors and methodologies shall be carried out in the assessment of atmospheric deposition of substances, as well as in the compilation of inventories of quantities and rates of pollutant emissions into the atmosphere from land-based sources.

6. All Articles, including parts thereof to this Protocol not mentioned in paragraphs 1 to 5 above shall apply equally to pollution from land-based sources transported by the atmosphere wherever applicable and subject to the conditions specified in paragraph 1 of this Annex.



ANNEX IV

CRITERIA FOR THE DEFINITION OF BEST AVAILABLE TECHNIQUES AND BEST ENVIRONMENTAL PRACTICE

A. BEST AVAILABLE TECHNIQUES

1. The use of the best available techniques shall emphasize the use of non-waste technology, if available.
2. The term “best available techniques” means the latest stage of development (state of the art) of processes, of facilities or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. In determining whether a set of processes, facilities and methods of operation constitute the best available techniques in general or individual cases, special consideration shall be given to:
 - (a) comparable processes, facilities or methods of operation which have recently been successfully tried out;
 - (b) technological advances and changes in scientific knowledge and understanding;
 - (c) the economic feasibility of such techniques;
 - (d) time limits for installation in both new and existing plants;
 - (e) the nature and volume of the discharges and emissions concerned.
3. It therefore follows that what is “best available techniques” for a particular process will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.
4. If the reduction of discharges and emissions resulting from the use of best available techniques does not lead to environmentally acceptable results, additional measures have to be applied.
5. “Techniques” include both the technology used and the way in which the installation is designed, built, maintained, operated and dismantled.

B. BEST ENVIRONMENTAL PRACTICE

6. The term “best environmental practice” means the application of the most appropriate combination of environmental control measures and strategies. In making a selection for individual cases, at least the following graduated range of measures should be considered:

- (a) the provision of information and education to the public and to users about the environmental consequences of choice of particular activities and choice of products, their use and ultimate disposal;
- (b) the development and application of codes of good environmental practice which cover all aspects of the activity in the product’s life;
- (c) the mandatory application of labels informing users of environmental risks related to a product, its use and ultimate disposal;
- (d) saving resources, including energy;
- (e) making collection and disposal systems available to the public;
- (f) avoiding the use of hazardous substances or products and the generation of hazardous waste;
- (g) recycling, recovery and re-use;
- (h) the application of economic instruments to activities, products or groups of products;
- (i) establishing a system of licensing, involving a range of restrictions or a ban.

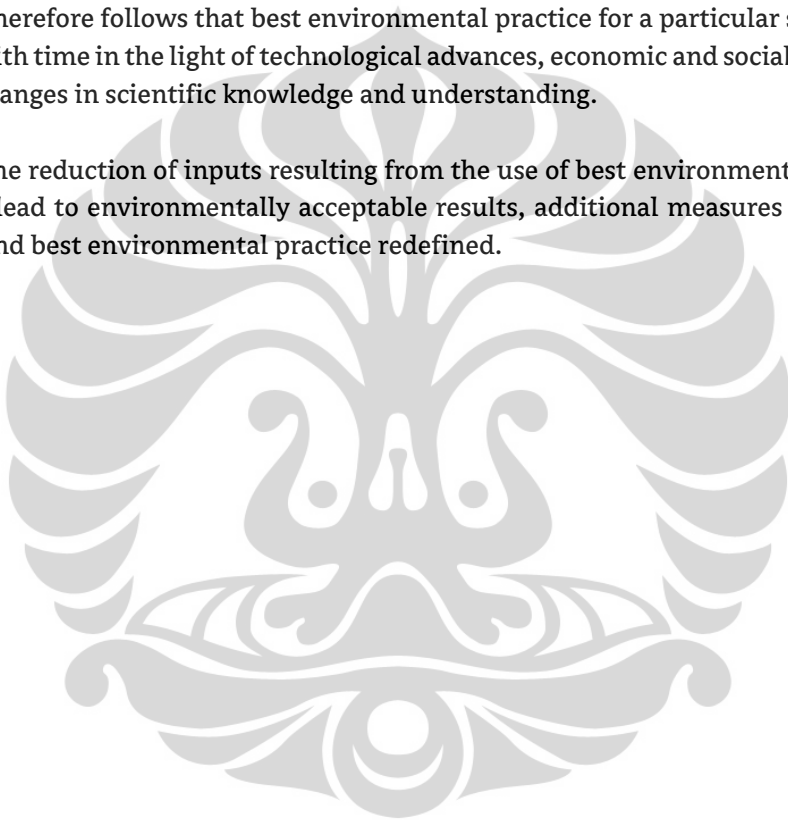
7. In determining what combination of measures constitute best environmental practice, in general or individual cases, particular consideration should be given to:

- (a) the environmental hazard of the product and its production, use and ultimate disposal;
- (b) the substitution by less polluting activities or substances;
- (c) the scale of use;

- (d) the potential environmental benefit or penalty of substitute materials or activities;
- (e) advances and changes in scientific knowledge and understanding;
- (f) time limits for implementation;
- (g) social and economic implications.

8. It therefore follows that best environmental practice for a particular source will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.

9. If the reduction of inputs resulting from the use of best environmental practice does not lead to environmentally acceptable results, additional measures have to be applied and best environmental practice redefined.



Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region

The Final Act of the Conference of the Plenipotentiaries on the Protection and Development of the Marine Environment of the Wider Caribbean Region

Cartagena de Indias, 24 March 1983

The Contracting Parties,

Fully aware of the economic and social value of the marine environment, including coastal areas, of the wider Caribbean region,

Conscious of their responsibility to protect the marine environment of the wider Caribbean region for the benefit and enjoyment of present and future generations,

Recognizing the special hydrographic and ecological characteristics of the region and its vulnerability to pollution,

Recognizing further the threat to the marine environment, its ecological equilibrium, resources and legitimate uses posed by pollution and by the absence of sufficient integration of an environmental dimension into the development process,

Considering the protection of the ecosystems of the marine environment of the wider Caribbean region to be one of their principal objectives,

Realizing fully the need for co-operation amongst themselves and with competent international organizations in order to ensure co-ordinated and comprehensive development without environmental damage,

Recognizing the desirability of securing the wider acceptance of international marine pollution agreements already in existence,

Noting however, that, in spite of the progress already achieved, these agreements do not cover all aspects of environmental deterioration and do not entirely meet the special requirements of the wider Caribbean region,

Have agreed as follows:

Article 1 CONVENTION AREA

1. This Convention shall apply to the wider Caribbean region, hereinafter referred to as "the Convention area" as defined in paragraph 1 of article 2.
2. Except as may be otherwise provided in any protocol to this Convention, the Convention area shall not include internal waters of the Contracting Parties.

Article 2 DEFINITIONS

For the purposes of this Convention:

1. The "Convention area" means the marine environment of the Gulf of Mexico, the Caribbean Sea and the areas of the Atlantic Ocean adjacent thereto, south of 30 deg north latitude and within 200 nautical miles of the Atlantic coasts of the States referred to in article 25 of the Convention.
2. "Organization" means the institution designated to carry out the functions enumerated in paragraph 1 of article 15.

Article 3 GENERAL PROVISIONS

1. The Contracting Parties shall endeavour to conclude bilateral or multilateral agreements including regional or subregional agreements, for the protection of the marine environment of the Convention area. Such agreements shall be consistent with this Convention and in accordance with international law. Copies of such agreements shall be communicated to the Organization and, through the Organization, to all signatories and Contracting Parties to this Convention.
2. This Convention and its protocols shall be construed in accordance with international law relating to their subject-matter. Nothing in this Convention or its protocols shall be deemed to affect obligations assumed by the Contracting Parties under agreements previously concluded.
3. Nothing in this Convention or its protocols shall prejudice the present or future claims or the legal views of any Contracting Party concerning the nature and extent of maritime jurisdiction.

Article 4 GENERAL OBLIGATIONS

1. The Contracting Parties shall, individually or jointly, take all appropriate measures in conformity with international law and in accordance with this Convention and those of its protocols in force to which they are parties to prevent, reduce and control pollution of the Convention area and to ensure sound environmental management, using for this purpose the best practicable means at their disposal and in accordance with their capabilities.
2. The Contracting Parties shall, in taking the measures referred to in paragraph 1, ensure that the implementation of those measures does not cause pollution of the marine environment outside the Convention area.
3. The Contracting Parties shall co-operate in the formulation and adoption of protocols or other agreements to facilitate the effective implementation of this Convention.
4. The Contracting Parties shall take appropriate measures, in conformity with international law, for the effective discharge of the obligations prescribed in this Convention and its protocols and shall endeavour to harmonize their policies in this regard.
5. The Contracting Parties shall co-operate with the competent international, regional and subregional organizations for the effective implementation of this Convention and its protocols. They shall assist each other in fulfilling their obligations under this Convention and its protocols.

Article 5 POLLUTION FROM SHIPS

The Contracting Parties shall take all appropriate measures to prevent, reduce and control pollution of the Convention area caused by discharges from ships and, for this purpose, to ensure the effective implementation of the applicable international rules and standards established by the competent international organization.

Article 6 POLLUTION CAUSED BY DUMPING

The Contracting Parties shall take all appropriate measures to prevent, reduce and control pollution of the Convention area caused by dumping of wastes and other matter at sea from ships, aircraft or manmade structures at sea, and to ensure the effective implementation of the applicable international rules and standards.

Article 7 POLLUTION FROM LAND-BASED SOURCES

The Contracting Parties shall take all appropriate measures to prevent, reduce and control pollution of the Convention area caused by coastal disposal or by discharges emanating from rivers, estuaries, coastal establishments, outfall structures, or any other sources on their territories.

Article 8 POLLUTION FROM SEA-BED ACTIVITIES

The Contracting Parties shall take all appropriate measures to prevent, reduce and control pollution of the Convention area resulting directly or indirectly from exploration and exploitation of the sea-bed and its subsoil.

Article 9 AIRBORNE POLLUTION

The Contracting Parties shall take all appropriate measures to prevent, reduce and control pollution of the Convention area resulting from discharges into the atmosphere from activities under their jurisdiction.

Article 10 SPECIALLY PROTECTED AREAS

The Contracting Parties shall, individually or jointly, take all appropriate measures to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species, in the Convention area. To this end, the Contracting Parties shall endeavour to establish protected areas. The establishment of such areas shall not affect the rights of other Contracting Parties and third States. In addition, the Contracting Parties shall exchange information concerning the administration and management of such areas.

Article 11 CO-OPERATION IN CASES OF EMERGENCY

1. The Contracting Parties shall co-operate in taking all necessary measures to respond to pollution emergencies in the Convention area, whatever the cause of such emergencies, and to control, reduce or eliminate pollution or the threat of pollution resulting therefrom. To this end, the Contracting Parties shall, individually and jointly, develop and promote contingency plans for responding to incidents involving pollution or the threat thereof in the Convention area.
2. When a Contracting Party becomes aware of cases in which the Convention area is in imminent danger of being polluted or has been polluted, it shall immediately notify other States likely to be affected by such pollution, as well as the competent international organizations. Furthermore, it shall inform, as soon as feasible, such other States and competent international organizations of measures it has taken to minimize or reduce pollution or the threat thereof.

Article 12 ENVIRONMENTAL IMPACT ASSESSMENT

1. As part of their environmental management policies the Contracting Parties undertake to develop technical and other guidelines to assist the planning of their major development projects in such a way as to prevent or minimize harmful impacts on the Convention area.
2. Each Contracting Party shall assess within its capabilities, or ensure the assessment of, the potential effects of such projects on the marine environment, particularly in coastal areas, so that appropriate measures may be taken to prevent any substantial pollution of, or significant and harmful changes to, the Convention area.
3. With respect to the assessments referred to in paragraph 2, each Contracting Party shall, with the assistance of the Organization when requested, develop procedures for the dissemination of information and may, where appropriate, invite other Contracting Parties which may be affected to consult with it and to submit comments.

Article 13 SCIENTIFIC AND TECHNICAL CO-OPERATION

1. The Contracting Parties undertake to cooperate, directly and, when appropriate, through the competent international and regional organizations, in scientific research, monitoring, and the exchange of data and other scientific information relating to the purposes of this Convention.
2. To this end, the Contracting Parties undertake to develop and co-ordinate their research and monitoring programmes relating to the Convention area and to ensure, in co-operation with the competent international and regional organizations, the necessary links between their research centres and institutes with a view to producing compatible results. With the aim of further protecting the Convention area, the Contracting Parties shall endeavour to participate in international arrangements for pollution research and monitoring.
3. The Contracting Parties undertake to cooperate, directly and, when appropriate, through the competent international and regional organizations, in the provision to other Contracting Parties of technical and other assistance in fields relating to pollution and

sound environmental management of the Convention area, taking into account the special needs of the smaller island developing countries and territories.

Article 14 LIABILITY AND COMPENSATION

The Contracting Parties shall co-operate with a view to adopting appropriate rules and procedures, which are in conformity with international law, in the field of liability and compensation for damage resulting from pollution of the Convention area.

Article 15 INSTITUTIONAL ARRANGEMENTS

1. The Contracting Parties designate the United Nations Environment Programme to carry out the following secretariat functions:
 - a. To prepare and convene the meetings of Contracting Parties and conferences provided for in articles 16, 17 and 18;
 - b. To transmit the information received in accordance with articles 3, 11 and 22;
 - c. To perform the functions assigned to it by protocols to this Convention;
 - d. To consider enquiries by, and information from, the Contracting Parties and to consult with them on questions relating to this Convention, its protocols and annexes thereto;
 - e. To co-ordinate the implementation of cooperative activities agreed upon by the meetings of Contracting Parties and conferences provided for in articles 16, 17 and 18;
 - f. To ensure the necessary co-ordination with other international bodies which the Contracting Parties consider competent.
2. Each Contracting Party shall designate an appropriate authority to serve as the channel of communication with the Organization for the purposes of this Convention and its protocols.

Article 16 MEETINGS OF THE CONTRACTING PARTIES

1. The Contracting Parties shall hold ordinary meetings once every two years and extraordinary meetings at any other time deemed necessary, upon the request of the Organization or at the request of any Contracting Party, provided that such requests are supported by the majority of the Contracting Parties.
2. It shall be the function of the meetings of the Contracting Parties to keep under review the implementation of this Convention and its protocols and, in particular:
 - a. To assess periodically the state of the environment in the Convention area;
 - b. To consider the information submitted by the Contracting Parties under article 22;
 - c. To adopt, review and amend annexes to this Convention and to its protocols, in accordance with article 19;
 - d. To make recommendations regarding the adoption of any additional protocols or any amendments to this Convention or its protocols in accordance with articles 17 and 18;
 - e. To establish working groups as required to consider any matters concerning this Convention and its protocols, and annexes thereto;

- f. To consider co-operative activities to be undertaken within the framework of this Convention and its protocols, including their financial and institutional implications, and to adopt decisions relating thereto;
- g. To consider and undertake any other action that may be required for the achievement of the purposes of this Convention and its protocols.

Article 17 ADOPTION OF PROTOCOLS

1. The Contracting Parties, at a conference of plenipotentiaries, may adopt additional protocols to this Convention pursuant to paragraph 3 of article 4.
2. If so requested by a majority of the Contracting Parties, the Organization shall convene a conference of plenipotentiaries for the purpose of adopting additional protocols to this Convention.

Article 18 AMENDMENT OF THE CONVENTION AND ITS PROTOCOLS

1. Any Contracting Party may propose amendments to this Convention. Amendments shall be adopted by a conference of plenipotentiaries which shall be convened by the Organization at the request of a majority of the Contracting Parties.
2. Any Contracting Party to this Convention may propose amendments to any protocol. Such amendments shall be adopted by a conference of plenipotentiaries which shall be convened by the Organization at the request of a majority of the Contracting Parties to the protocol concerned.
3. The text of any proposed amendment shall be communicated by the Organization to all Contracting Parties at least 90 days before the opening of the conference of plenipotentiaries.
4. Any amendment to this Convention shall be adopted by a three-fourths majority vote of the Contracting Parties to the Convention which are represented at the conference of plenipotentiaries and shall be submitted by the Depositary for acceptance by all Contracting Parties to the Convention. Amendments to any protocol shall be adopted by a three-fourths majority vote of the Contracting Parties to the protocol which are represented at the conference of plenipotentiaries and shall be submitted by the Depositary for acceptance by all Contracting Parties to the protocol.
5. Instruments of ratification, acceptance or approval of amendments shall be deposited with the Depositary. Amendments adopted in accordance with paragraph 3 shall enter into force between Contracting Parties having accepted such amendments on the thirtieth day following the date of receipt by the Depositary of the instruments of at least three fourths of the Contracting Parties to this Convention or to the protocol concerned, as the case may be. Thereafter the amendments shall enter into force for any other Contracting Party on the thirtieth day after the date on which that Party deposits its instrument.
6. After entry into force of an amendment to this Convention or to a protocol, any new Contracting Party to the Convention or such protocols shall become a Contracting Party to the Convention or protocol as amended.

Article 19 ANNEXES AND AMENDMENTS TO ANNEXES

1. Annexes to this Convention or to a protocol shall form an integral part of the Convention or, as the case may be, such protocol.
2. Except as may be otherwise provided in any protocol with respect to its annexes, the following procedure shall apply to the adoption and entry into force of amendments to annexes to this Convention or to annexes to a protocol:
 - a. Any Contracting Party may propose amendments to annexes to this Convention or to annexes to any protocol at a meeting convened pursuant to article 16;
 - b. Such amendments shall be adopted by a three-fourths majority vote of the Contracting Parties to the instrument in question present at the meeting referred to in article 16;
 - c. The Depository shall without delay communicate the amendments so adopted to all Contracting Parties to the Convention;
 - d. Any Contracting Party that is unable to accept an amendment to annexes to this Convention or to annexes to any protocol shall so notify the Depository in writing within 90 days from the date on which the amendment was adopted;
 - e. The Depository shall without delay notify all Contracting Parties of notifications received pursuant to the preceding subparagraph;
 - f. On expiration of the period referred to in subparagraph (d), the amendment to the annex shall become effective for all Contracting Parties to this Convention or to the protocol concerned which have not submitted a notification in accordance with the provisions of that subparagraph;
 - g. A Contracting Party may at any time substitute an acceptance for a previous declaration of objection, and the amendment shall thereupon enter into force for that Party.
3. The adoption and entry into force of a new annex shall be subject to the same procedure as that for the adoption and entry into force of an amendment to an annex, provided that, if it entails an amendment to the Convention or to one of its protocols, the new annex shall not enter into force until such time as that amendment enters into force.
4. Any amendment to the Annex on Arbitration shall be proposed and adopted, and shall enter into force, in accordance with the procedures set out in article 18.

Article 20 RULES OF PROCEDURE AND FINANCIAL RULES

1. The Contracting Parties shall unanimously adopt rules of procedure for their meetings.
2. The Contracting Parties shall unanimously adopt financial rules, prepared in consultation with the Organization, to determine, in particular, their financial participation under this Convention and under protocols to which they are parties.

Article 21 SPECIAL EXERCISE OF THE RIGHT TO VOTE

In their fields of competence, the regional economic integration organizations referred to in article 25 shall exercise their right to vote with a number of votes equal to the number of their member States which are Contracting Parties to this Convention and to one or more protocols. Such organizations shall not exercise their right to vote if the member States concerned exercise theirs, and vice versa.

Article 22 TRANSMISSION OF INFORMATION

The Contracting Parties shall transmit to the Organization information on the measures adopted by them in the implementation of this Convention and of protocols to which they are parties, in such form and at such intervals as the meetings of Contracting Parties may determine.

Article 23 SETTLEMENT OF DISPUTES

1. In case of a dispute between Contracting Parties as to the interpretation or application of this Convention or its protocols, they shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.
2. If the Contracting Parties concerned cannot settle their dispute through the means mentioned in the preceding paragraph, the dispute shall upon common agreement, except as may be otherwise provided in any protocol to this Convention, be submitted to arbitration under the conditions set out in the Annex on Arbitration. However, failure to reach common agreement on submission of the dispute to arbitration shall not absolve the Contracting Parties from the responsibility of continuing to seek to resolve it by the means referred to in paragraph 1.
3. A Contracting Party may at any time declare that it recognizes as compulsory ipso facto and without special agreement, in relation to any other Contracting Party accepting the same obligation, the application of the arbitration procedure set out in the Annex on Arbitration. Such declaration shall be notified in writing to the Depository, who shall communicate it to the other Contracting Parties.

Article 24 RELATIONSHIP BETWEEN THE CONVENTION AND ITS PROTOCOLS

1. No State or regional economic integration organization may become a Contracting Party to this Convention unless it becomes at the same time a Contracting Party to at least one protocol to the Convention. No State or regional economic integration organization may become a Contracting Party to a protocol unless it is, or becomes at the same time, a Contracting Party to the Convention.
2. Decisions concerning any protocol shall be taken only by the Contracting Parties to the protocol concerned.

Article 25 SIGNATURE

This Convention and the Protocol concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region shall be open for signature at Cartagena de Indias on 24 March 1983 and at Bogota from 25 March 1983 to 23 March 1984 by States invited to participate in the Conference of Plenipotentiaries on the Protection and Development of the Marine Environment of the Wider Caribbean Region, held at Cartagena de Indias from 21 to 24 March 1983. They shall also be open for signature between the same dates by any regional economic integration organization exercising competence in fields covered by the Convention and that Protocol and having at least one member State which

belongs to the wider Caribbean region, provided that such regional organization has been invited to participate in the Conference of Plenipotentiaries.

Article 26 RATIFICATION, ACCEPTANCE AND APPROVAL

1. This Convention and its protocols shall be subject to ratification, acceptance or approval by States. Instruments of ratification, acceptance or approval shall be deposited with the Government of the Republic of Colombia, which will assume the functions of Depository.
2. This Convention and its protocols shall also be subject to ratification, acceptance or approval by the organizations referred to in article 25 having at least one member State a party to the Convention. In their instruments of ratification, acceptance or approval, such organizations shall declare the extent of their competence with respect to the matters governed by the Convention and the relevant protocol. Subsequently these organizations shall inform the Depository of any substantial modification in the extent of their competence.

Article 27 ACCESSION

1. This Convention and its protocols shall be open for accession by the States and organizations referred to in article 25 as from the day following the date on which the Convention or the protocol concerned is closed for signature.
2. After entry into force of this Convention and of any protocol, any State or regional economic integration organization not referred to in article 25 may accede to the Convention and to any protocol subject to prior approval by three fourths of the Contracting Parties to the Convention or the protocol concerned, provided that any such regional economic integration organization exercises competence in fields covered by the Convention and the relevant protocol and has at least one member State belonging to the wider Caribbean region, that is a party to the Convention and the relevant protocol.
3. In their instruments of accession, the organizations referred to in paragraphs 1 and 2 shall declare the extent of their competence with respect to the matters governed by the Convention and the relevant protocol. These organizations shall also inform the Depository of any substantial modification in the extent of their competence.
4. Instruments of accession shall be deposited with the Depository.

Article 28 ENTRY INTO FORCE

1. This Convention and the Protocol concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region shall enter into force on the thirtieth day following the date of deposit of the ninth instrument of ratification, acceptance or approval of, or accession to, those agreements by the States referred to in article 25.
2. Any additional protocol to this Convention, except as otherwise provided in such protocol, shall enter into force on the thirtieth day following the date of deposit of the ninth instrument of ratification, acceptance, or approval of such protocol, or of accession thereto.

3. For the purposes of paragraphs 1 and 2, any instrument deposited by an organization referred to in article 25 shall not be counted as additional to that deposited by any member State of such organization.
4. Thereafter, this Convention and any protocol shall enter into force with respect to any State or organization referred to in article 25 or article 27 on the thirtieth day following the date of deposit of its instruments of ratification, acceptance, approval or accession.

Article 29 DENUNCIATION

1. At any time after two years from the date of entry into force of this Convention with respect to a Contracting Party, that Contracting Party may denounce the Convention by giving written notification to the Depositary.
2. Except as may be otherwise provided in any protocol to this Convention, any Contracting Party may, at any time after two years from the date of entry into force of such protocol with respect to that Contracting Party, denounce the protocol by giving written notification to the Depositary.
3. Denunciation shall take effect on the ninetieth day after the date on which notification is received by the Depositary.
4. Any Contracting Party which denounces this Convention shall be considered as also having denounced any protocol to which it was a Contracting Party.
5. Any Contracting Party which, upon its denunciation of a protocol, is no longer a Contracting Party to any protocol of this Convention, shall be considered as also having denounced the Convention itself.

Article 30 DEPOSITARY

1. The Depositary shall inform the Signatories and the Contracting Parties, as well as the Organization, of:
 - a. The signature of this Convention and of its protocols, and the deposit of instruments of ratification, acceptance, approval or accession;
 - b. The date on which the Convention or any protocol will come into force for each Contracting Party;
 - c. Notification of any denunciation and the date on which it will take effect;
 - d. The amendments adopted with respect to the Convention or to any protocol, their acceptance by the Contracting Parties and the date of their entry into force;
 - e. All matters relating to new annexes and to the amendment of any annex;
 - f. Notifications by regional economic integration organizations of the extent of their competence with respect to matters governed by this Convention and the relevant protocols, and of any modifications thereto.
2. The original of this Convention and of any protocol shall be deposited with the Depositary, the Government of the Republic of Colombia, which shall send certified copies thereof to the Signatories, the Contracting Parties, and the Organization.
3. As soon as the Convention and its protocols enter into force, the Depositary shall transmit a certified copy of the instrument concerned to the Secretary-General of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

In witness whereof the undersigned, being duly authorized by their respective Governments, have signed this Convention. Done at Cartagena de Indias this twenty-fourth day of March one thousand nine hundred and eighty-three in a single copy in the English, French and Spanish languages, the three texts being equally authentic.

Annex

ARBITRATION

Article 1

Unless the agreement referred to in article 23 the Convention provides otherwise, the arbitration procedure shall be conducted in accordance with articles 2 to 10 below.

Article 2

The claimant party shall notify the Secretariat that the parties have agreed to submit the dispute to arbitration pursuant to paragraph 2 or paragraph 3 of article 23 of the Convention. The notification shall state the subject-matter of arbitration and include, in particular, the articles of the Convention or the protocol, the interpretation or application of which are at issue. The Secretariat shall forward the information thus received to all Contracting Parties to the Convention or to the protocol concerned.

Article 3

The arbitral tribunal shall consist of three members. Each of the parties to the dispute shall appoint an arbitrator and the two arbitrators so appointed shall designate by common agreement the third arbitrator who shall be the chairman of the tribunal. The latter shall not be a national of one of the parties to the dispute, nor have his usual place of residence in the territory of one of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.

Article 4

1. If the chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the Secretary-General of the United Nations shall, at the request of either party, designate him within a further two months period.
2. If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other party may inform the Secretary-General of the United Nations who shall designate the chairman of the arbitral tribunal within a further two

months' period. Upon designation, the chairman of the arbitral tribunal shall request the party which has not appointed an arbitrator to do so within two months. After such period, he shall inform the Secretary-General of the United Nations, who shall make this appointment within a further two months' period.

Article 5

1. The arbitral tribunal shall render its decision in accordance with international law and in accordance with the provisions of this Convention and the protocol or protocols concerned.
2. Any arbitral tribunal constituted under the provisions of this annex shall draw up its own rules of procedure.

Article 6

1. The decisions of the arbitral tribunal, both on procedure and on substance, shall be taken by majority vote of its members.
2. The tribunal may take all appropriate measures in order to establish the facts. It may, at the request of one of the parties, recommend essential interim measures of protection.
3. The parties to the dispute shall provide all facilities necessary for the effective conduct of the proceedings.
4. The absence or default of a party to the dispute shall not constitute an impediment to the proceedings.

Article 7

The tribunal may hear and determine counterclaims arising directly out of the subject-matter of the dispute.

Article 8

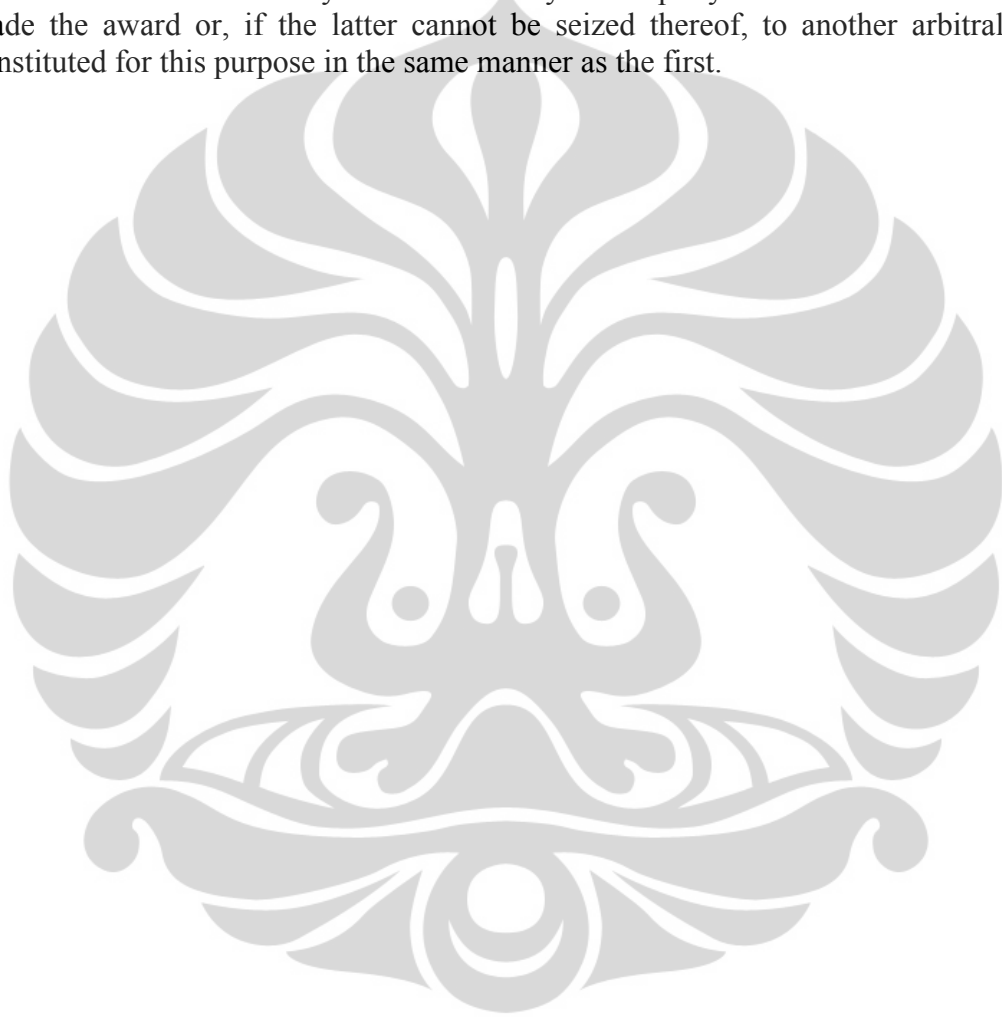
Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the expenses of the tribunal, including the remuneration of its members, shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its expenses, and shall furnish a final statement thereof to the parties.

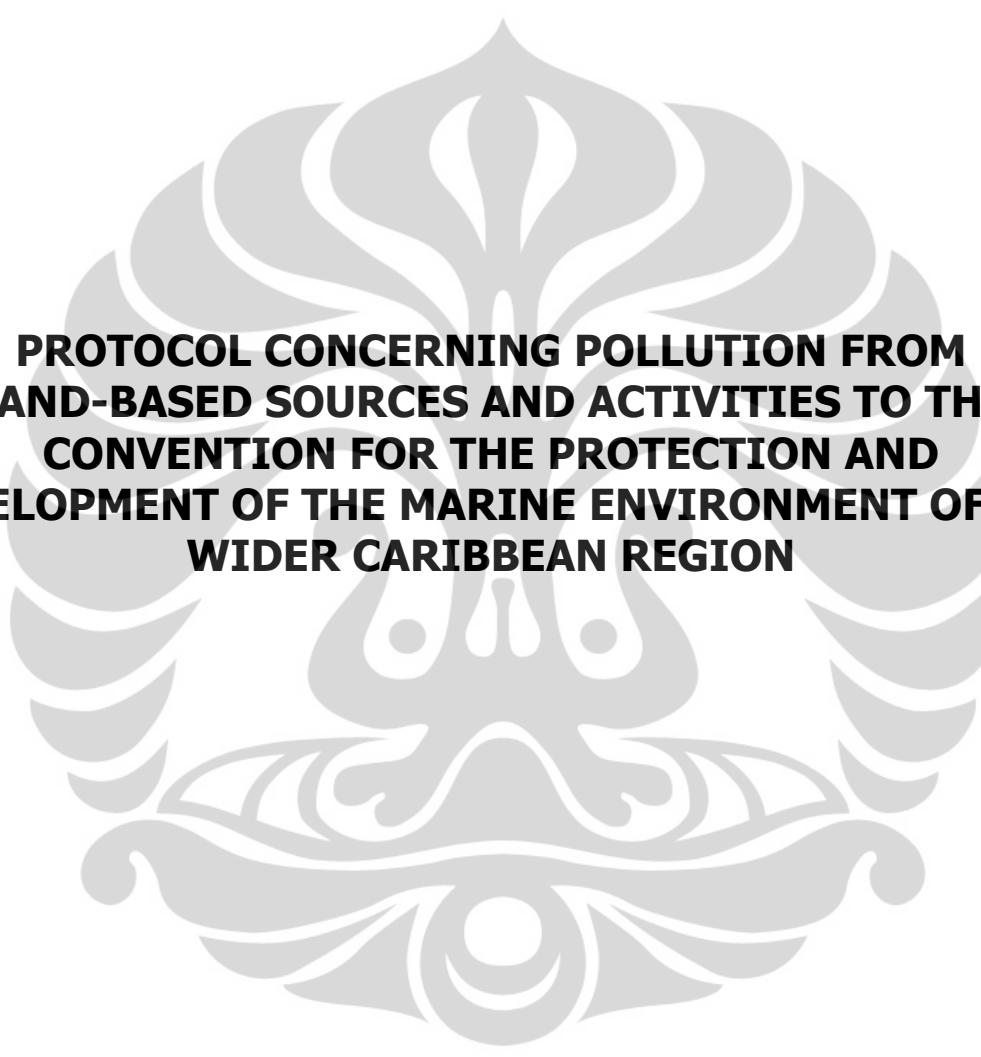
Article 9

Any Contracting Party that has an interest of a legal nature in the subject-matter of the dispute which may be affected by the decision in the case, may intervene in the proceedings with the consent of the tribunal.

Article 10

1. The tribunal shall render its award within five months of the date on which it is established unless it finds it necessary to extend the time-limit for a period which should not exceed five months.
2. The award of the arbitral tribunal shall be accompanied by a statement of reasons on which it is based. It shall be final and binding upon the parties to the dispute.
3. Any dispute which may arise between the parties concerning the interpretation or execution of the award may be submitted by either party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another arbitral tribunal constituted for this purpose in the same manner as the first.





**PROTOCOL CONCERNING POLLUTION FROM
LAND-BASED SOURCES AND ACTIVITIES TO THE
CONVENTION FOR THE PROTECTION AND
DEVELOPMENT OF THE MARINE ENVIRONMENT OF THE
WIDER CARIBBEAN REGION**

**UNITED NATIONS
1999**

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**PROTOCOL CONCERNING POLLUTION FROM LAND-BASED SOURCES AND
ACTIVITIES TO THE CONVENTION FOR THE PROTECTION AND
DEVELOPMENT OF THE MARINE ENVIRONMENT OF
THE WIDER CARIBBEAN REGION**

The Contracting Parties to this Protocol,

Being Parties to the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region, done at Cartagena de Indias, Colombia on 24 March 1983,

Resolved, therefore, to implement the Convention and specifically Article 7,

Taking note of Article 4, paragraph 4 of the Convention,

Considering the principles of the Rio Declaration and Chapter 17 of Agenda 21 adopted by the United Nations Conference on the Environment and Development (Rio de Janeiro, 1992), and the Programme of Action for the Small Islands Developing States (Barbados, 1994), as well as the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (Washington, 1995), including the illustrative list of funding sources set forth in its Annex,

Recalling the relevant rules of international law as reflected in the 1982 United Nations Convention on the Law of the Sea and in particular its Part XII,

Conscious of the serious threat to the marine and coastal resources and to human health in the Wider Caribbean Region posed by pollution from land-based sources and activities,

Aware of the ecological, economic, aesthetic, scientific, recreational and cultural value of the marine and coastal ecosystems of the Wider Caribbean Region,

Recognising the inequalities in economic and social development among the countries of the Wider Caribbean Region and their needs for the achievement of sustainable development,

Determined to cooperate closely in taking the appropriate measures to protect the marine environment of the Wider Caribbean Region against pollution from land-based sources and activities,

Further recognising the need to encourage national, sub-regional and regional action through a national political commitment at the highest level, and international cooperation to deal with the problems posed by pollutants entering the Convention area from land-based sources and activities,

Have agreed as follows:

Article I Definitions

For the purposes of this Protocol:

- (a) "Convention" means the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena de Indias, Colombia, March 1983);
- (b) "Organisation" means the United Nations Environment Programme as referred to in Article 2(2) of the Convention;
- (c) "Pollution of the Convention area" means the introduction by humans, directly or indirectly, of substances or energy into the Convention area, which results or is likely to result in such deleterious effects as harm to living resources and marine ecosystems, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities;
- (d) "Land-based sources and activities" means those sources and activities causing pollution of the Convention area from coastal disposal or from discharges that emanate from rivers, estuaries, coastal establishments, outfall structures, or other sources on the territory of a Contracting Party, including atmospheric deposition originating from sources located on its territory;
- (e) "Most Appropriate Technology" means the best of currently available techniques, practices, or methods of operation to prevent, reduce or control pollution of the Convention area that are appropriate to the social, economic, technological, institutional, financial, cultural and environmental conditions of a Contracting Party or Parties; and
- (f) "Monitoring" means the periodic measurement of environmental quality indicators.

Article II General Provisions

1. Except as otherwise provided in this Protocol, the provisions of the Convention relating to its protocols shall apply to this Protocol.
2. In taking measures to implement this Protocol, the Contracting Parties shall fully respect the sovereignty, sovereign rights and jurisdiction of other States, in accordance with international law.

Article III General Obligations

1. Each Contracting Party shall, in accordance with its laws, the provisions of this Protocol, and international law, take appropriate measures to prevent, reduce and control pollution of the Convention area from land-based sources and activities, using for this purpose the best practicable means at its disposal and in accordance with its capabilities.
2. Each Contracting Party shall develop and implement appropriate plans, programmes and measures. In such plans, programmes and measures, each Contracting Party shall adopt effective means of preventing, reducing or controlling pollution of the Convention area from land-based sources and activities on its territory, including the use of most appropriate technology and management approaches such as integrated coastal area management.
3. Contracting Parties shall, as appropriate, and having due regard to their laws and their individual social, economic and environmental characteristics and the characteristics of a specific area or subregion, jointly develop subregional and regional plans, programmes and measures to prevent, reduce and control pollution of the Convention area from land-based sources and activities.

Article IV Annexes

1. The Contracting Parties shall address the source categories, activities and associated pollutants of concern listed in Annex I to this Protocol through the progressive development and implementation of additional annexes for those source categories, activities, and associated pollutants of concern that are determined by the Contracting Parties as appropriate for regional or sub-regional action. Such annexes shall, as appropriate, include *inter alia*:

- (a) effluent and emission limitations and/or management practices based on the factors identified in Annex II to this Protocol; and
- (b) timetables for achieving the limits, management practices and measures agreed by the Contracting Parties.

2. In accordance with the provisions of the annexes to which it is party, each Contracting Party shall take measures to prevent, reduce and control pollution of the Convention area from the source categories, activities and pollutants addressed in annexes other than Annexes I and II to this Protocol.

3. The Contracting Parties may also develop such additional annexes as they may deem appropriate, including an annex to address water quality criteria for selected priority pollutants identified in Annex I to this Protocol.

Article V Cooperation and Assistance

1. Contracting Parties shall cooperate, bilaterally or, where appropriate, on a sub-regional, regional or global basis or through competent organisations in the prevention, reduction and control of pollution of the Convention area from land-based sources and activities.

2. In carrying out the obligations provided for in paragraph 1 above, Contracting Parties shall promote cooperation in the following areas:

- (a) monitoring activities undertaken in accordance with Article VI;
- (b) research on the chemistry, fate, transport and effects of pollutants;
- (c) exchange of scientific and technical information;
- (d) identification and use of most appropriate technologies applicable to the specific source categories, activities and pollutants identified in Annex I to this Protocol; and
- (e) research and development of technologies and practices for the implementation of this Protocol.

3. Contracting Parties shall promote cooperation, directly or through competent sub-regional, regional and global organisations, with those Contracting Parties which request it in obtaining assistance for the implementation of this Protocol particularly to:

- (a) develop scientific, technical, educational and public awareness programmes to prevent, reduce and control pollution of the Convention area from land-based sources and activities in accordance with this Protocol;
- (b) train scientific, technical and administrative personnel;
- (c) provide technical advice, information and other assistance necessary to address the source categories, activities and pollutants identified in Annex I to this Protocol; and
- (d) identify and approach potential sources of financing for projects necessary to implement this Protocol.

Article VI Monitoring and Assessment Programmes

1. Each Contracting Party shall formulate and implement monitoring programmes, as appropriate, in accordance with the provisions of this Protocol and relevant national legislation. Such programmes may, *inter alia*:
 - (a) systematically identify and assess patterns and trends in the environmental quality of the Convention area; and
 - (b) assess the effectiveness of measures taken to implement the Protocol.
2. Monitoring information shall be made available to the Scientific, Technical and Advisory Committee to facilitate the work of the Committee, as provided in Article XIV.
3. These programmes should avoid duplication of other programmes, particularly of similar regional programmes carried out by competent international organisations.

Article VII Environmental Impact Assessment

1. The Contracting Parties shall develop and adopt guidelines concerning environmental impact assessments, and review and update those guidelines as appropriate.
2. When a Contracting Party has reasonable grounds to believe that a planned land-based activity on its territory, or a planned modification to such an activity, which is subject to its regulatory control in accordance with its laws, is likely to cause substantial pollution of, or significant and harmful changes to, the Convention area, that Contracting Party shall, as far as practicable, review the potential effects of such activity on the Convention area, through means such as an environmental impact assessment.
3. Decisions by the competent government authorities with respect to land-based activities, referred to in paragraph 2 above, should take into account any such review.
4. Each Contracting Party shall, subject to its domestic law and regulations, seek the participation of affected persons in any review process conducted pursuant to paragraph 2 above, and, where practicable, publish or make available relevant information obtained in this review.

Article VIII Development of Information Systems

The Contracting Parties shall cooperate directly or through relevant sub-regional, regional and, where appropriate, global organisations to develop information systems and networks for the exchange of information to facilitate the implementation of this Protocol.

Article IX Transboundary Pollution

Where pollution from land-based sources and activities originating from any Contracting Party is likely to affect adversely the coastal or marine environment of one or more of the other Contracting Parties, the Contracting Parties concerned shall use their best efforts to consult at the request of any affected Contracting Party, with a view to resolving the issue.

Article X Participation

Each Contracting Party shall, in accordance with its national laws and regulations, promote public access to relevant information and documentation concerning pollution of the Convention area from land-based sources and activities and the opportunity for public participation in decision-making processes concerning the implementation of this Protocol.

Article XI Education and Awareness

The Contracting Parties shall develop and implement individually and collectively programmes on environmental education and awareness for the public related to the need to prevent, reduce and control pollution of the Convention area from land-based sources and activities, and shall promote the training of individuals involved in such prevention, reduction and control.

Article XII Reporting

1. The Contracting Parties shall submit reports to the Organisation containing information on measures adopted, results obtained and any difficulties experienced in the implementation of this Protocol. These reports should include, whenever possible, information on the state of the Convention area. The Meeting of the Contracting Parties shall determine the nature of the information to be included, and the collection, presentation and timing of these reports, which will be made available to the public with the exception of information submitted in accordance with paragraph 3 below.

2. The Scientific, Technical and Advisory Committee shall use the data and information contained in these national reports to prepare regional reports on the implementation of this Protocol, including the state of the Convention area. The regional reports shall be submitted to the Contracting Parties in accordance with Article XIV.

3. Information provided pursuant to paragraphs 1 and 2 above, that is designated by a Contracting Party as confidential, shall be used for the purposes referred to in paragraph 2 above in such a manner that assures its confidentiality.

4. Nothing in this Protocol shall require a Contracting Party to supply information the disclosure of which is contrary to the essential interests of its security.

Article XIII Institutional Mechanisms

1. Each Contracting Party shall designate a focal point to serve as liaison with the Organisation on the technical aspects of the implementation of this Protocol.

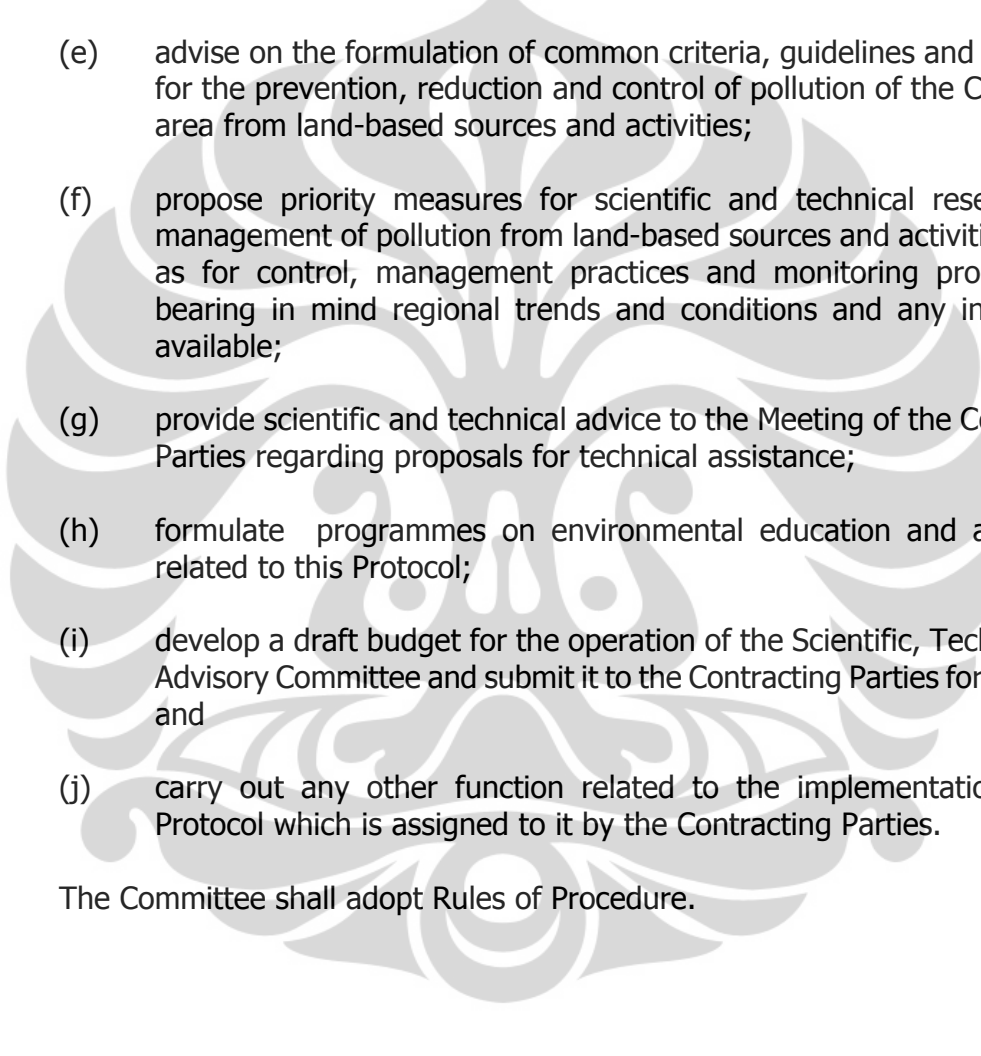
2. The Contracting Parties designate the Organisation to carry out the following Secretariat functions:

- (a) convene and service the meetings of the Contracting Parties;
- (b) assist in raising funds as provided for in Article XVI;
- (c) provide such assistance that the Scientific, Technical and Advisory Committee may require to carry out its functions as referred to in Article XIV;
- (d) provide the appropriate assistance as may be identified by the Contracting Parties to facilitate:
 - (i) the development and implementation of the plans, programmes and measures necessary to achieve the objectives of this Protocol;
 - (ii) the development of incentive programmes to implement this Protocol;
 - (iii) the development of information systems and networks for the exchange of information for the purposes of facilitating the implementation of this Protocol, as referred to in Article VIII; and
 - (iv) the development and implementation of environmental education, training and public awareness programmes, as referred to in Article XI;
- (e) communicate and work with the Caribbean Environment Programme on activities relevant to the implementation of this Protocol;
- (f) prepare common formats as directed by the Contracting Parties to be used as the basis for notifications and reports to the Organisation, as provided in Article XII;
- (g) establish and update databases on national, sub-regional and regional measures adopted for the implementation of this Protocol, including any other pertinent information, in keeping with the provisions of Articles III and XII;

- (h) compile and make available to the Contracting Parties reports and studies which may be required for the implementation of this Protocol or as requested by them;
- (i) cooperate with relevant international organisations;
- (j) provide to the Contracting Parties a report which shall include a draft budget for the coming year and an audited revenue and expenditure statement of the preceding year; and
- (k) carry out any other functions assigned to it by the Contracting Parties.

Article XIV
Scientific, Technical and Advisory Committee

1. A Scientific, Technical and Advisory Committee is hereby established.
2. Each Contracting Party shall designate as its representative to the Committee an expert in the fields covered by this Protocol, who may be accompanied at its meetings by other experts and advisors also designated by the Contracting Party. The Committee may request scientific and technical advice from competent experts and organisations.
3. The Committee shall be responsible for reporting to and advising the Contracting Parties regarding the implementation of this Protocol. To carry out this function the Committee shall:
 - (a) review on a regular basis the annexes to this Protocol as well as the state of pollution of the Convention area from land-based sources and activities and, where necessary, recommend amendments or additional annexes for consideration by the Contracting Parties;
 - (b) examine, assess and analyze the information submitted by the Contracting Parties in accordance with Articles VI and XII and other relevant information to determine the effectiveness of the measures adopted to implement this Protocol, and submit regional reports to the Contracting Parties on the state of the Convention area. The regional reports shall set forth an assessment of the effectiveness and the socio-economic impact of measures adopted to implement the Protocol, and may propose any other appropriate measures;
 - (c) provide advice to the Contracting Parties for the preparation and updating of information, including national inventories on marine pollution from land-based sources and activities;

- 
- (d) provide guidance to the Contracting Parties:
 - (i) on measures and methodologies to assess pollution loads in the Convention area, and to ensure regional compatibility in data; and
 - (ii) on the development of plans, programmes and measures for the implementation of this Protocol;
 - (e) advise on the formulation of common criteria, guidelines and standards for the prevention, reduction and control of pollution of the Convention area from land-based sources and activities;
 - (f) propose priority measures for scientific and technical research and management of pollution from land-based sources and activities as well as for control, management practices and monitoring programmes, bearing in mind regional trends and conditions and any information available;
 - (g) provide scientific and technical advice to the Meeting of the Contracting Parties regarding proposals for technical assistance;
 - (h) formulate programmes on environmental education and awareness related to this Protocol;
 - (i) develop a draft budget for the operation of the Scientific, Technical and Advisory Committee and submit it to the Contracting Parties for approval; and
 - (j) carry out any other function related to the implementation of this Protocol which is assigned to it by the Contracting Parties.
4. The Committee shall adopt Rules of Procedure.

Article XV Meetings of the Contracting Parties

1. The ordinary meetings of the Contracting Parties to this Protocol shall generally be held in conjunction with the ordinary meetings of the Contracting Parties to the Convention held pursuant to Article 16 of the Convention. The Contracting Parties may also hold extraordinary meetings as deemed necessary, upon the request of the Organisation or at the request of any Contracting Party, provided that such requests are supported by the majority of the Contracting Parties. The meetings shall be governed by the Rules of Procedure adopted pursuant to Article 20 of the Convention.

2. It shall be the function of the meetings of the Contracting Parties to this Protocol to:

- (a) keep under review the implementation of this Protocol and the effectiveness of actions taken pursuant to it;
- (b) consider proposed amendments to this Protocol, including additional annexes, with a view to their subsequent adoption in accordance with the procedures established in the Convention and this Protocol;
- (c) approve the expenditure of funds identified in Article XVI that are not otherwise designated for a specific project by the donors;
- (d) review and adopt, as appropriate, regional reports developed by the Scientific, Technical and Advisory Committee in accordance with Articles XII and XIV as well as other information that a Contracting Party may transmit to the Meeting of the Contracting Parties;
- (e) take appropriate action with regard to the recommendations of the Scientific, Technical and Advisory Committee;
- (f) promote and facilitate, directly or through the Organisation, the exchange of information, experience and expertise and any other type of exchange between the Contracting Parties in accordance with Article V; and
- (g) conduct such other business as appropriate.

Article XVI Funding

1. In addition to the financial participation by the Contracting Parties in accordance with Article 20, paragraph 2 of the Convention, the Organisation may, in response to requests from Contracting Parties, seek additional funds or other forms of assistance for activities related

to this Protocol. These funds may include voluntary contributions for the achievement of specific objectives of this Protocol made by the Contracting Parties, other governments and government agencies, international organisations, non-governmental organisations, the private sector and individuals.

2. The Contracting Parties, taking into account their capabilities, shall endeavour as far as possible to ensure that adequate financial resources are available for the formulation and implementation of projects and programmes necessary to implement this Protocol. To this end, the Contracting Parties shall:

- (a) promote the mobilisation of substantial financial resources, including grants and concessional loans, from national, bilateral and multilateral funding sources and mechanisms, including multilateral financial institutions; and
- (b) explore innovative methods and incentives for mobilising and channeling resources, including those of foundations, non-governmental organisations and other private sector entities.

3. In keeping with its development priorities, policies and strategies, each Contracting Party undertakes to mobilise financial resources to implement its plans, programmes and measures pursuant to this Protocol.

Article XVII

Adoption and Entry into Force of New Annexes and Amendments to Annexes

1. Except as provided in paragraphs 2 and 3 below, the adoption and entry into force of new annexes and amendments to annexes to this Protocol shall take place in accordance with paragraphs 2 and 3 of Article 19 of the Convention.

2. The Contracting Parties may, at the time of adoption of any amendment to an annex, decide by a three-fourths majority vote of the Contracting Parties present and voting, that such amendment is of such importance that it shall enter into force in accordance with paragraphs 5 and 6 of Article 18 of the Convention.

3. With respect to any Contracting Party that has made a declaration with respect to new annexes in accordance with Article XVIII, such annex shall enter into force on the thirtieth day after the date of deposit with the Depository of its instrument of ratification, acceptance, approval or accession with respect to such annexes.

Article XVIII
Ratification, Acceptance, Approval and Accession

1. This Protocol, including Annexes I to IV, shall be subject to ratification, acceptance, approval or accession as provided by Articles 26 and 27 of the Convention.

2. In its instrument of ratification, acceptance, approval or accession, any State or regional economic integration organisation may declare that any new annex shall enter into force for it only upon the deposit of its instrument of ratification, acceptance, approval or accession thereto.

3. Following entry into force of this Protocol, any new Contracting Party to this Protocol may, at the time of acceding, declare that such accession does not apply to any annex, other than Annexes I to IV.

Article XIX
Signature

This Protocol shall be open for signature at Oranjestad, Aruba on 6 October 1999, and at Santa Fe de Bogotá, Republic of Colombia, from 7 October 1999 to 6 October 2000, by any Party to the Convention.

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments, have signed this Protocol.

DONE AT Oranjestad, Aruba, this 6 October 1999, in a single copy in the English, French and Spanish languages, the three texts being equally authentic.

ANNEX I

Source Categories, Activities and Associated Pollutants of Concern

A. Definitions

For the purposes of subsequent Annexes:

1. "Point Sources" means sources where the discharges and releases are introduced into the environment from any discernable, confined and discrete conveyance, including but not limited to pipes, channels, ditches, tunnels, conduits or wells from which pollutants are or may be discharged; and
2. "Non-Point Sources" means sources, other than point sources, from which substances enter the environment as a result of land run-off, precipitation, atmospheric deposition, drainage, seepage or by hydrologic modification.

B. Priority Source Categories and Activities Affecting the Convention Area

The Contracting Parties shall take into account the following priority source categories and activities when formulating regional and, as appropriate, sub-regional plans, programmes and measures for the prevention, reduction and control of pollution of the Convention area:

Domestic Sewage

Agricultural Non-Point Sources

Chemical Industries

Extractive Industries and Mining

Food Processing Operations

Manufacture of Liquor and Soft Drinks

Oil Refineries

Pulp and Paper Factories

Sugar Factories and Distilleries

Intensive Animal Rearing Operations

C. Associated Pollutants of Concern

1. Primary Pollutants of Concern

The Contracting Parties shall consider, taking into account the recommendations and other work of relevant international organisations, the following list of pollutants of concern, which were identified on the basis of their hazardous or otherwise harmful characteristics, when formulating effluent and emission limitations and management practices for the sources and activities in this Annex:

- (a) Organohalogen compounds and substances which could result in the formation of these compounds in the marine environment;
- (b) Organophosphorus compounds and substances which could result in the formation of these compounds in the marine environment;
- (c) Organotin compounds and substances which could result in the formation of these compounds in the marine environment;
- (d) Heavy metals and their compounds;
- (e) Crude petroleum and hydrocarbons;
- (f) Used lubricating oils;
- (g) Polycyclic aromatic hydrocarbons;
- (h) Biocides and their derivatives;
- (i) Pathogenic micro-organisms;
- (j) Cyanides and fluorides;
- (k) Detergents and other non-biodegradable surface tension substances;
- (l) Nitrogen and phosphorus compounds;
- (m) Persistent synthetic and other materials, including garbage, that float, flow or remain in suspension or settle to the bottom and affect marine life and hamper the uses of the sea;
- (n) Compounds with hormone-like effects;
- (o) Radioactive substances;
- (p) Sediments; and

- (q) Any other substance or group of substances with one or more of the characteristics outlined in paragraph 2 below.

2. Characteristics and Other Factors To Be Considered in Evaluating Additional Pollutants of Concern

The Contracting Parties should, taking into account the recommendations and other work of relevant international organisations, consider the following characteristics and factors, where relevant, in evaluating potential pollutants of concern other than those listed in paragraph 1 above:

- (a) Persistency;
- (b) Toxicity or other harmful properties (for example, carcinogenic, mutagenic and teratogenic properties);
- (c) Bio-accumulation;
- (d) Radioactivity;
- (e) Potential for causing eutrophication;
- (f) Impact on, and risks to, health;
- (g) Potential for migration;
- (h) Effects at the transboundary level;
- (i) Risk of undesirable changes in the marine ecosystem, irreversibility or durability of effects;
- (j) Negative impacts on marine life and the sustainable development of living resources or on other legitimate uses of the seas; and
- (k) Effects on the taste or smell of marine products intended for human consumption or effects on the smell, colour, transparency or other characteristics of the water in the marine environment.

ANNEX II

Factors To Be Used in Determining Effluent and Emission Source Controls and Management Factors

A. The Contracting Parties, when developing sub-regional and regional source-specific effluent and emission limitations and management practices pursuant to Article IV of this Protocol, shall evaluate and consider the following factors:

1. Characteristics and Composition of the Waste
 - (a) Type and size of waste source (for example, industrial process);
 - (b) Type and form of waste (origin, physical, chemical and biological properties, average composition);
 - (c) Physical state of waste (solid, liquid, sludge, slurry);
 - (d) Total quantity (units discharged, for example, per year or per day);
 - (e) Discharge frequency (continuous, intermittent, seasonally variable, etc.);
 - (f) Concentration with respect to major constituents contained in the wastes emanating from the source or activity; and
 - (g) Interaction with the receiving environment.
2. Characteristics of the Activity or Source Category
 - (a) Performance of existing technologies and management practices, including indigenous technologies and management practices;
 - (b) Age of facilities, as appropriate; and
 - (c) Existing economic, social and cultural characteristics.
3. Alternative Production, Waste Treatment Technologies or Management Practices
 - (a) Recycling, recovery and reuse opportunities;
 - (b) Less hazardous or non-hazardous raw material substitution;
 - (c) Substitution of cleaner alternative activities or products;
 - (d) Economic, social and cultural impacts of alternatives, activities or products;

- (e) Low-waste or totally clean technologies or processes; and
- (f) Alternative disposal activities (for example, land application).

B. Pursuant to Article IV of this Protocol, each Contracting Party shall, at a minimum, apply the effluent and emission source controls and management practices set out in subsequent annexes. A Contracting Party may impose more stringent source controls or management practices. To determine if more stringent limitations are appropriate, a Contracting Party should also take into account characteristics of the discharge site and receiving marine environment, including:

1. Hydrographic, meteorological, geographical and topographical characteristics of the coastal areas;
2. Location and type of the discharge (outfall, canal outlet, gullies, etc.) and its relation to sensitive areas (such as swimming areas, reef systems, sea grass beds, spawning, nursery and fishing areas, shellfish grounds and other areas that are particularly sensitive) and other discharges;
3. Initial dilution achieved at the point of discharge into the receiving marine environment;
4. Dispersion characteristics (due to currents, tides and wind) that may affect the horizontal transport and vertical mixing of the affected waters;
5. Receiving water characteristics with respect to the physical, chemical, biological and ecological conditions in the discharge area; and
6. Capacity of the receiving marine environment to assimilate waste discharges.

C. The Contracting Parties shall keep the source controls and management practices set out in subsequent annexes under review. They shall consider that:

1. If the reduction of inputs resulting from the use of the effluent and emission limitations and management practices established in accordance with this Annex do not lead to environmentally acceptable results, the effluent and emission limitations or management practices may need to be revised; and
2. The appropriate effluent and emission limitations and management practices for a particular source or activity may change with time in light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.

ANNEX III

Domestic Wastewater

A. Definitions

For the purposes of this Annex:

1. "Domestic wastewater" means all discharges from households, commercial facilities, hotels, septage and any other entity whose discharge includes the following:
 - (a) Toilet flushing (black water);
 - (b) Discharges from showers, wash basins, kitchens and laundries (grey water); or
 - (c) Discharges from small industries, provided their composition and quantity are compatible with treatment in a domestic wastewater system.

Small quantities of industrial waste or processed wastewater may also be found in domestic wastewater. (See Part D - Industrial Pretreatment.)
2. "Class I waters" means waters in the Convention area that, due to inherent or unique environmental characteristics or fragile biological or ecological characteristics or human use, are particularly sensitive to the impacts of domestic wastewater. Class I waters include, but are not limited to:
 - (a) waters containing coral reefs, seagrass beds, or mangroves;
 - (b) critical breeding, nursery or forage areas for aquatic and terrestrial life;
 - (c) areas that provide habitat for species protected under the Protocol Concerning Specially Protected Areas and Wildlife to the Convention (the SPAW Protocol);
 - (d) protected areas listed in the SPAW Protocol; and
 - (e) waters used for recreation.
3. "Class II waters" means waters in the Convention area, other than Class I waters, that due to oceanographic, hydrologic, climatic or other factors are

less sensitive to the impacts of domestic wastewater and where humans or living resources that are likely to be adversely affected by the discharges are not exposed to such discharges.

4. "Existing domestic wastewater systems" means, with respect to a particular Contracting Party, publicly or privately owned domestic wastewater collection systems, or collection and treatment systems, that were constructed prior to entry into force of this Annex for such Contracting Party.
5. "New domestic wastewater systems" means, with respect to a particular Contracting Party, publicly or privately owned domestic wastewater collection systems, or collection and treatment systems, that were constructed subsequent to entry into force of this Annex for such Contracting Party, and includes existing domestic wastewater systems which have been subject to substantial modifications after such entry into force.
6. "Household systems" means on-site domestic wastewater disposal systems for homes and small commercial businesses in areas of low population density, or where centralised collection and treatment systems of domestic wastewater are not economically or technologically feasible. Household systems include, but are not limited to, septic tanks and drain fields or mounds, holding tanks, latrines and bio-digesting toilets.
7. "Wastewater collection systems" means any collection or conveyance system designed to collect or channel domestic wastewater from multiple sources.

B. Discharge of Domestic Wastewater

1. Each Contracting Party shall:
 - (a) Consistent with the provisions of this Annex, provide for the regulation of domestic wastewater discharging into, or adversely affecting, the Convention area;
 - (b) To the extent practicable, locate, design and construct domestic wastewater treatment facilities and outfalls such that any adverse effects on, or discharges into, Class I waters, are minimised;
 - (c) Encourage and promote domestic wastewater reuse that minimises or eliminates discharges into, or discharges that adversely affect, the Convention area;
 - (d) Promote the use of cleaner technologies to reduce discharges to a minimum, or to avoid adverse effects within the Convention area; and

- (e) Develop plans to implement the obligations in this Annex, including, where appropriate, plans for obtaining financial assistance.
2. Each Contracting Party shall be entitled to use whatever technology or approach that it deems appropriate to meet the obligations specified in Part C of this Annex.

C. Effluent Limitations

Each Contracting Party shall ensure that domestic wastewater that discharges into, or adversely affects, the Convention area, is treated by a new or existing domestic wastewater system whose effluent achieves the effluent limitations specified below in paragraphs 1, 2 and 3 of this Part, in accordance with the following timetable:

Category	Effective Date of Obligation (in years after entry into force for the Contracting Party)	Effluent Sources
1	0	All new domestic wastewater systems
2	10	Existing domestic wastewater systems other than community wastewater systems
3	10*	Communities with 10,000 - 50,000 inhabitants
4	15	Communities with more than 50,000 inhabitants already possessing wastewater collection systems
5	20	Communities with more than 50,000 inhabitants not possessing wastewater collection systems
6	20	All other communities except those relying exclusively on household systems
* Contracting Parties which decide to give higher priority to categories 4 and 5 may extend their obligations pursuant to category 3 to twenty (20) years (time frame established in category 6).		

1. Discharges into Class II Waters

Each Contracting Party shall ensure that domestic wastewater that discharges into, or adversely affects, Class II waters is treated by a new or existing domestic wastewater system whose effluent achieves the following effluent limitations based on a monthly average:

Parameter	Effluent Limit
Total Suspended Solids	150 mg/l*
Biochemical Oxygen Demand (BOD ₅)	150 mg/l
pH	5-10 pH units
Fats, Oil and Grease	50 mg/l
Floatables	not visible
* Does not include algae from treatment ponds	

2. Discharges into Class I Waters

Each Contracting Party shall ensure that domestic wastewater that discharges into, or adversely affects, Class I waters is treated by a new or existing domestic wastewater system whose effluent achieves the following effluent limitations based on a monthly average:

Parameter	Effluent Limit
Total Suspended Solids	30 mg/l*
Biochemical Oxygen Demand (BOD ₅)	30 mg/l
pH	5-10 pH units
Fats, Oil and Grease	15 mg/l
Faecal Coliform (Parties may meet effluent limitations either for faecal coliform or for <i>E. coli</i> (freshwater) and enterococci (saline water).)	Faecal Coliform: 200 mpn/100 ml; or a. <i>E. coli</i> : 126 organisms/100ml; b. enterococci: 35 organisms/100 ml
Floatables	not visible
* Does not include algae from treatment ponds	

3. All Discharges

- (a) Each Contracting Party shall take into account the impact that total nitrogen and phosphorus and their compounds may have on the degradation of the Convention area and, to the extent practicable, take appropriate measures to control or reduce the amount of total nitrogen and phosphorus that is discharged into, or may adversely affect, the Convention area.
- (b) Each Party shall ensure that residual chlorine from domestic wastewater treatment systems is not discharged in concentrations or amounts that would be toxic to marine organisms that reside in or migrate to the Convention area.

D. Industrial Pretreatment

Each Contracting Party shall endeavour, in keeping with its economic capabilities, to develop and implement industrial pretreatment programmes to ensure that industrial discharges into new and existing domestic wastewater treatment systems:

- (a) do not interfere with, damage or otherwise prevent domestic wastewater collection and treatment systems from meeting the effluent limitations specified in this Annex;
- (b) do not endanger operations of, or populations in proximity to, collection and treatment systems through exposure to toxic and hazardous substances;
- (c) do not contaminate sludges or other reusable products from wastewater treatment; and
- (d) do not contain toxic pollutants in amounts toxic to human health and/or aquatic life.

Each Contracting Party shall endeavour to ensure that industrial pretreatment programmes include spill containment and contingency plans.

Each Contracting Party, within the scope of its capabilities, shall promote appropriate industrial wastewater management, such as the use of recirculation and closed loop systems, to eliminate or minimise wastewater discharges to domestic wastewater systems.

E. Household Systems

Each Contracting Party shall strive to, as expeditiously, economically and technologically feasible, in areas without sewage collection, ensure that household systems are constructed, operated and maintained to avoid contamination of surface or ground waters that are likely to adversely affect the Convention area.

For those household systems requiring septage pump out, each Contracting Party shall strive to ensure that the septage is treated through a domestic wastewater system or appropriate land application.

F. Management, Operations and Maintenance

Each Contracting Party shall ensure that new and existing domestic wastewater systems are properly managed and that system managers develop and implement training programmes for wastewater collection and treatment system operators. Managers and operators shall have access to operators' manuals and technical support necessary for proper system operation.

Each Contracting Party shall provide for an evaluation of domestic wastewater systems by competent national authorities to assess compliance with national regulations.

G. Extension Period

1. Any Contracting Party may, at least two years before the effective date of an obligation in categories 2, 3, 4 or 5 of the timetable in Part C above, submit to the Organisation a declaration that, with respect to such category, it is unable to achieve the effluent limitations set forth in paragraphs 1 and 2 of Part C above in accordance with that timetable, provided that such Contracting Party:
 - (a) has developed action plans pursuant to Part B, paragraph 1(e);
 - (b) has achieved the effluent limitations for a subset of the discharges associated with those categories, or a reduction of at least 5 percent of total loading of pollutants associated with those categories; and

- (c) has taken actions to achieve those effluent limitations, but has been unable to achieve those limitations due to a lack of financial or other capacity.
2. With respect to a Contracting Party that has submitted a declaration pursuant to paragraph 1 above, the effective date of an obligation in the timetable in Part C for categories 2, 3, 4 or 5 of that timetable shall be extended for a period of five years. The five-year period shall be extended for a maximum of one additional five-year period if the Contracting Party submits a new declaration prior to the expiration of the first period, and if it continues to meet the requirements set out in paragraph 1 above.
3. The Contracting Parties recognise that the complete fulfilment* of the obligations contained in this Annex will require the availability and accessibility of financial resources.

* In this context, the Spanish word "cumplimiento" that appears in the Spanish text shall have the meaning of the English word "fulfilment" and not "compliance".

ANNEX IV

Agricultural Non-Point Sources of Pollution

A. Definitions

For purposes of this Annex:

1. "Agricultural non-point sources of pollution" means non-point sources of pollution originating from the cultivation of crops and rearing of domesticated animals, excluding intensive animal rearing operations that would otherwise be defined as point sources; and
2. "Best management practices" means economical and achievable structural or non-structural measures designed to prevent, reduce or control the run-off of pollutants into the Convention area.

B. Plans for the Prevention, Reduction and Control of Agricultural Non-Point Sources of Pollution

Each Contracting Party shall, no later than five years after this Annex enters into force for it, formulate policies, plans and legal mechanisms for the prevention, reduction and control of pollution of the Convention area from agricultural non-point sources of pollution that may adversely affect the Convention area. Programmes shall be identified in such policies, plans and legal mechanisms to mitigate pollution of the Convention area from agricultural non-point sources of pollution, in particular, if these sources contain nutrients (nitrogen and phosphorus), pesticides, sediments, pathogens, solid waste or other such pollutants that may adversely affect the Convention area. Plans shall include *inter alia* the following elements:

1. An evaluation and assessment of agricultural non-point sources of pollution that may adversely affect the Convention area, which may include:
 - (a) an estimation of loadings that may adversely affect the Convention area;
 - (b) an identification of associated environmental impacts and potential risks to human health;
 - (c) the evaluation of the existing administrative framework to manage agricultural non-point sources of pollution;

- (d) an evaluation of existing best management practices and their effectiveness; and
 - (e) the establishment of monitoring programmes.
2. Education, training and awareness programmes, which may include:
- (a) the establishment and implementation of programmes for the agricultural sector and the general public to raise awareness of agricultural non-point sources of pollution and their impacts on the marine environment, public health and the economy;
 - (b) the establishment and implementation of programmes at all levels of education on the importance of the marine environment and the impact of pollution from agricultural activities;
 - (c) the establishment and implementation of training programmes for government agencies and the agricultural sector on the implementation of best management practices, including the development of guidance materials for agricultural workers on structural and non-structural best management practices, to prevent, reduce and control agricultural non-point sources of pollution; and
 - (d) the establishment of programmes to facilitate effective technology transfer and information exchange.
3. The development and promotion of economic and non-economic incentive programmes to increase the use of best management practices to prevent, reduce and control pollution of the Convention area from agricultural non-point sources.
4. An assessment and evaluation of legislative and policy measures, including a review of the adequacy of plans, policies and legal mechanisms directed toward the management of agricultural non-point sources and the development of a plan to implement such modifications as may be necessary to achieve best management practices.

C. Reporting

Each Contracting Party shall report on its plans for prevention, reduction and control of pollution of the Convention area from agricultural non-point sources in accordance with Article XII of this Protocol.

**PROTOCOL CONCERNING POLLUTION FROM
LAND-BASED SOURCES AND ACTIVITIES TO THE CONVENTION FOR THE
PROTECTION AND DEVELOPMENT OF THE MARINE ENVIRONMENT OF THE
WIDER CARIBBEAN REGION**

The Final Act was signed on 6 October 1999 by the following Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region:



Barbados
Republic of Colombia
Republic of Costa Rica
Republic of Cuba
Commonwealth of Dominica
Dominican Republic
Republic of France
Jamaica
United Mexican States
Kingdom of the Netherlands
Republic of Panama
St. Lucia
Republic of Trinidad and Tobago
United Kingdom of Great Britain and Northern Ireland
United States of America
Republic of Venezuela

The Protocol was signed on 6 October 1999 by the following Contracting Parties to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region:

Republic of Costa Rica
Republic of France
Kingdom of the Netherlands
United States of America



Agreement
between the Government of the Russian Federation and the Government
People's Republic of China on Cooperation in the field of
Environment
(Beijing, May 27, 1994)

The Government of the Russian Federation and the Government of the People's Republic, hereinafter referred to as the Parties,

Aware that the safeguarding and improvement of the environment are of utmost importance to the vital interests of present and future generations of the peoples of both countries,

Confident that the cooperation of both parties in the protection of the environment is mutually beneficial and will further strengthen the trust and friendship between the peoples of two countries,

Aware of the natural geographical conditions of both countries and their laws, customs and rules

Determined to seek to use for an extended period of natural resources, while providing favorable conditions for environmental protection

Taking into account the Joint Declaration on Principles of Relations between the Russian Federation and the People's Republic of China on December 18, 1992, and expressing hope for further increase exchanges and cooperation between the two countries in the field of environmental protection,

Considering the relevant documents of the Conference of the United Nations Conference on Environment and Development in Rio de Janeiro in June 1992,

Have agreed as follows:

Article 1

The Parties will promote cooperation in the field of environmental protection on the basis of equality and mutual benefit.

Article 2

The Parties shall develop cooperation in the following areas related to environmental protection:

1. Prevention and control of air pollution and acid rain.
2. Integrated water resources management and water protection, including transboundary watercourses.
3. Transport, use and handling of hazardous waste.
4. Technique and technology of cleaner production.
5. Protecting the marine environment, particularly in the north-western zone of the Pacific.
6. Monitoring, evaluation and forecasting of the environment.
7. Protecting the environment and the protection of diversity, species of flora and fauna, including the establishment and operation of joint conservation areas in the border areas.
8. Environmental protection in cities and industrial areas.
9. Advocacy and education on environmental protection.
10. Assessing the impact on the environment.

**Agreement on Environmental Cooperation Between
the Government of the Republic of Turkey
and the Government of Georgia**

The Government of the Republic of Turkey and The Government of Georgia hereinafter referred as the "Parties",

Considering the similarities in climatic and natural conditions and their close bilateral and multilateral relations,

Recognizing the significance of the sustainable development approach for the protection and improvement of the environment for the health and welfare of the present and future Generations,

Taking into account their mutual interest in the conservation and development of the bioproductive potential of the Black Sea,

Noting the importance of enhancing their bilateral co-operation for the fulfillment of the regional and global responsibilities of both parties on environmental protection,

Recognizing the significance of the principles adopted by the United Nation's Conference on Environment and Development,

Recognizing the significance of the successful implementation of International Agreements and Conventions in the field of environment,

Taking into account the Convention on Protection of Black Sea Against Pollution 1992, the objectives of the Ministerial Declaration of 1993, the objectives of the Program for Environmental Protection and Management of the Black Sea and the relevant provisions of the Black Sea Economical Co-operation of 1993,

Bearing in Mind the need for close co-operation on scientific technical and technological aspects of the protection of the environment and conservation of natural resources,

Have agreed in the field of environmental protection and improvement, as follows:

ARTICLE I

The parties shall cooperate in the field of environment on the basis of equity, reciprocity, and mutual benefit within the framework of relevant legislation of each party for this purpose.

ARTICLE II

The Government of the Republic of Turkey and The Government of Georgia shall encourage co-operation in the field of the prevention of pollution and the protection of the environment. Their efforts shall be directed primarily at mitigation of harmful influences over the environment and to obtain a sustainable resource management policy.

ARTICLE III

The countries shall cooperate on the basis of mutual benefit for the protection of the environment effectively in the following fields;

1. Prevention of air pollution and acid rains, due to transboundary movement of pollutants.
2. Analysis of land based pollution loads flowing into sea and monitoring studies, establishment of the required systems to exchange information between the two countries.
3. Enhancing the quality of inland, coastal and drinking water and safe disposal of domestic and industrial wastewater.
4. Carrying out projects on conservation of biological diversity and management of protected areas,
5. The protection of endangered flora and fauna species, especially the migratory animals including birds and marine mammals.
6. Joint studies on prevention of soil erosion and rehabilitation projects.
7. Adoption of environmentally sound solid waste management strategies.
8. Preparation of joint programs to develop eco-tourism in Black Sea coasts of each country.
9. Prevention of illegal traffic of hazardous wastes, harmonization of legislation at national, regional and global levels and development of early warning and information mechanisms.
10. In the event of an ecological emergency caused by and industrial accident or natural disasters, the parties jointly will take all due measures to prevent trans-border consequences.
11. Co-operation on the protection of the Black Sea Marine environment Against Pollution by Dumping.
12. Co-operation on the environmental aspects of industrial and agricultural policies as well as transportation, energy, forestry and marine products; integration of environment and development policies to attain the objectives of sustainable development.

13. Planning and implementation of short and long-term environmental programs.

14. Exchange of information and experience and assessment of suitable technologies on new and renewable energy resources to prevent environmental pollution arising from energy production and consumption.

15. Development of methodologies for pilot Projects.

16. Exchange of information on Chorohi river.

17. Environmental impact assessment on jointly decided environmental problems in Turkey and in Georgia.

18. Joint environmental programs.

ARTICLE IV

The parties shall cooperate on the items stated in Article III of this Agreement through,

1. Exchange of information and data in environmental policies legislation and environmental practices, research and development activities, environmentally sound technologies and where necessary co-ordination of research and monitoring activities,
2. Organization of joint meetings of experts and officials of the Parties on the issues covered by this Agreement,
3. Organization of technical symposiums, conferences and seminars on topics of mutual interest to the Parties,
4. Preparation and implementation of joint training programs for training experts in the areas of co-operation exchange of experts between the two countries.

ARTICLE V

The Ministry of Environment of the Republic of Turkey and The Ministry of Environment of Georgia shall be responsible for the co-ordination and arrangement of the activities to be performed under this Agreement. Each Party shall ensure on its part the appropriate co-ordination of the activities under this Agreement with the other existing cooperative programs between the two governments. Unless otherwise is agreed, each Party shall bear the costs of its own participation to the activities carried out under this Agreement.

ARTICLE VI

The Parties shall encourage the public and academic institutions, private companies and non-governmental organisations to participate in the cooperative activities carried out within the framework of this Agreement.

ARTICLE VII

Either party, by mutual agreement may pass the results of their co-operation on to third parties. During exchange of information, the parties shall take into account the provisions of the existing legislation, the rights of the third parties and international commitments. The use of information-either protected or worthy of protection-shall be subject to specific arrangements.

ARTICLE VIII

No provision in this Agreements shall be construed to prejudice other arrangements for cooperation between the parties or with third parties.

ARTICLE IX

In case of a dispute, between two Parties concerning the interpretation and implementation of this Agreement they shall seek a settlement of the dispute through negotiations.

ARTICLE X

This Agreement shall enter into force on the first day following the exchange of notes between the parties informing the completion of their national formalities for the ratification of this Agreement, and shall remain in force for a period of five years. This agreement may be amended or prolonged upon written approval of the parties at any time.

This Agreement shall remain in force for another period of five years unless either of the Parties gives to the other a written notice of three months in advance of its intention to terminate it before the date of its expiry. The termination of this Agreement shall not affect the validity or duration of the activities agreed upon pursuant to this Agreement and initiated prior to such termination.

Done at Tbilisi on 14 July 1997 in two originals, each in Turkish, Georgian and English languages all texts being equally authentic. In case of divergence the English text shall prevail.

ON BEHALF OF THE GOVERNMENT OF
THE REPUBLIC OF TURKEY

ON BEHALF OF THE GOVERNMENT OF
GEORGIA

11. Laws and regulations, policies, and above all the appropriate economic policies in the field of environment and natural resources.
12. More relevant to the protection and improvement of the environment in which it is agreed by both Parties.

Article 3

Cooperation under this Agreement shall be conducted in the following forms:

1. Exchange of information and materials relating to research, technology, production processes, policies and laws, regulations and other issues related to environmental protection.
2. Exchange of scientists, technical and other specialists.
3. The joint organization of symposia, seminars and other activities on the environment with the participation of scientists, technicians and other professionals.
4. Implementation plans agreed by the Parties cooperation, including joint research.
5. Other forms of cooperation agreed upon by the Parties.

Article 4

Under appropriate conditions, the Parties shall encourage cooperation in the field of environmental protection among local authorities and various public organizations and agencies. However, neither Party shall not be liable for the obligations of the aforementioned partner organizations.

Article 5

This Agreement will be executed under the legislation of each of the collaborating states within the financial and other resources that can be used by them.

Article 6

Party or agency approved by the Parties that implement cooperation projects, may enter into agreements for the implementation of specific cooperation projects, in accordance with the provisions of this Agreement.

Article 7

Public authorities of both Parties responsible for organizing and coordinating work on the implementation of this Agreement are:

the Russian Party - Ministry of Environment and Natural Resources of the Russian Federation;

Party of China - The government of the People's Republic of Environmental Protection.

Article 8

Nothing in this Agreement shall be without prejudice to other agreements entered into by the Parties.

Article 9

For the purposes of this Agreement, monitoring and evaluating its implementation, the development of plans for cooperation on specific dates, as well as for the nomination, if necessary, propose specific methods to strengthen cooperation between the Parties under this Agreement, the Parties agree to establish a Joint Russian-Chinese joint working group on Environment. Each Party shall, within three months after the signing of this Agreement shall appoint one of two co-chairs the working group. A mixed working group will tend to hold one meeting a year, alternately in Russia and in China.

Article 10

By mutual agreement of the Parties to this Agreement may be amended.

Article 11

This Agreement shall enter into force upon signature and shall be concluded for 5 years. It shall be automatically extended for successive five year periods, unless one of the Parties no later than 6 months before the expiration of the five-year period does not declare in writing of its desire to terminate it.

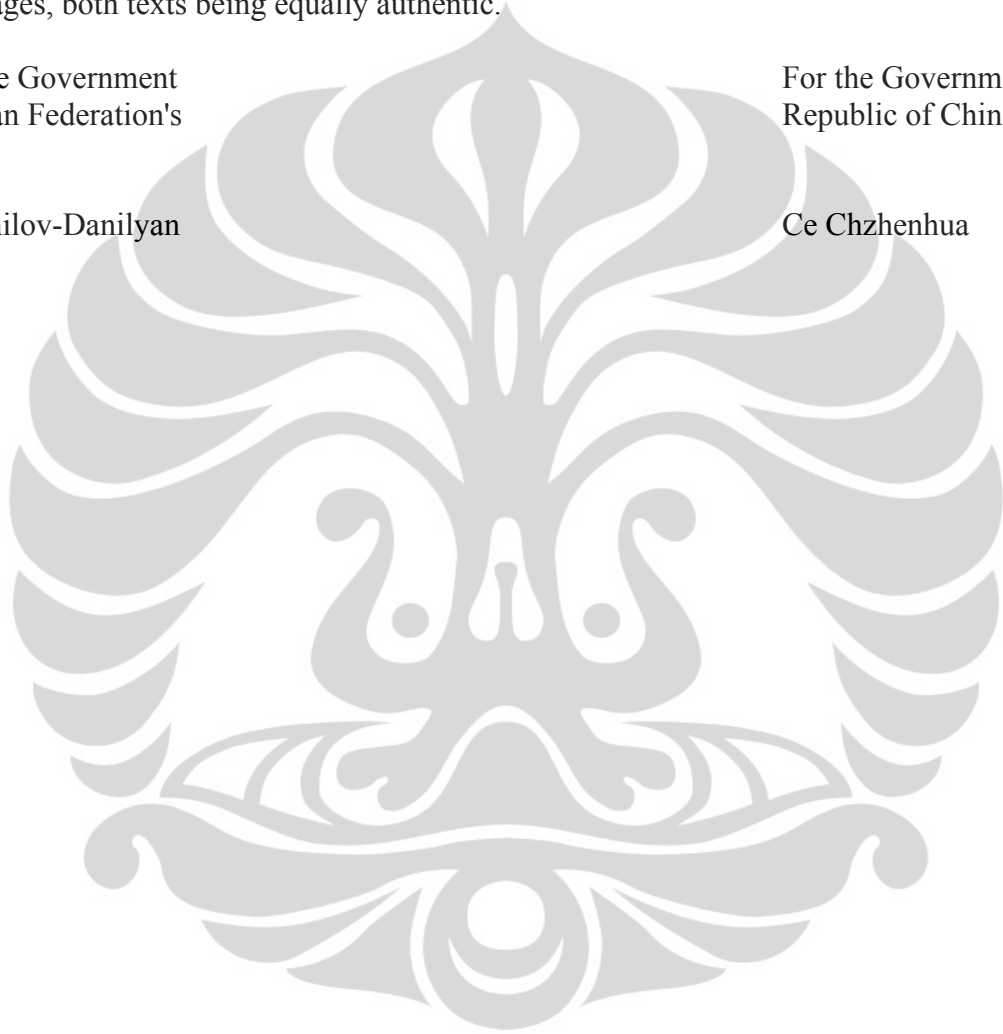
Done in Beijing on May 27, 1994, in duplicate, each in Russian and Chinese languages, both texts being equally authentic.

For the Government
Russian Federation's

V.Danilov-Danilyan

For the Government
Republic of China

Ce Chzhenhua



Соглашение
между Правительством Российской Федерации и Правительством
Китайской Народной Республики о сотрудничестве в области охраны
окружающей среды
(Пекин, 27 мая 1994 г.)

Правительство Российской Федерации и Правительство Китайской Народной Республики, именуемые в дальнейшем Сторонами,

осознавая, что охрана и улучшение окружающей среды имеют исключительное значение для жизненных интересов нынешнего и будущих поколений народов обеих стран,

будучи уверенными, что сотрудничество обеих Сторон в области охраны окружающей среды является взаимовыгодным и будет укреплять в дальнейшем доверие и дружбу между народами двух стран,

полностью учитывая естественные географические условия обоих государств, их законы, обычаи и правила,

преисполненные решимости стремиться к использованию в течение продолжительного времени природных ресурсов, обеспечивая при этом благоприятные условия для охраны окружающей среды,

принимая во внимание Совместную декларацию об основах взаимоотношений между Российской Федерацией и Китайской Народной Республикой от 18 декабря 1992 г. и выражая надежду на дальнейшее наращивание контактов и сотрудничества между двумя странами в сфере охраны окружающей среды,

учитывая соответствующие документы Конференции Организации Объединенных Наций по окружающей среде и развитию в Рио-де-Жанейро в июне 1992 года,

согласились о нижеследующем:

Статья 1

Стороны будут способствовать развитию сотрудничества в области охраны окружающей среды на основе равноправия и взаимной выгоды.

Статья 2

Стороны будут развивать сотрудничество по следующим направлениям, связанным с охраной окружающей среды:

1. Предотвращение и борьба с загрязнением атмосферы и кислотными дождями.
2. Комплексное использование водных ресурсов и охрана вод, включая трансграничные водотоки.
3. Транспортировка, использование и обработка опасных отходов.
4. Техника и технология экологически чистого производства.
5. Охрана морской среды, в особенности в северо-западной зоне Тихого океана.
6. Мониторинг, оценка и прогнозирование состояния окружающей среды.
7. Охрана природной среды, а также защита многообразия, разновидностей животного и растительного мира, включая создание и обеспечение функционирования совместных заповедных зон в приграничных районах.
8. Охрана окружающей среды в городах и промышленных районах.
9. Пропаганда и образование в области охраны окружающей среды.
10. Оценка воздействия на окружающую среду.
11. Законодательство и нормативные документы, политика и прежде всего соответствующий экономический курс в сфере охраны окружающей среды и использования природных ресурсов.

12. Другие имеющие отношение к охране и улучшению окружающей среды области, по которым будет достигнуто согласие обеих Сторон.

Статья 3

Сотрудничество в рамках настоящего Соглашения осуществляется в следующих формах:

1. Обмен информацией и материалами относительно исследований, технологии, производственных процессов, политики, а также законодательства, правил и других вопросов, имеющих отношение к охране окружающей среды.
2. Обмен учеными, техническими и другими специалистами.
3. Совместное проведение симпозиумов, семинаров и других мероприятий по вопросам охраны окружающей среды с участием ученых, технических и других специалистов.
4. Осуществление согласованных Сторонами планов сотрудничества, включая совместные исследования.
5. Другие формы сотрудничества, согласованные Сторонами.

Статья 4

При соответствующих условиях Стороны будут поощрять сотрудничество в области охраны окружающей среды между местными органами власти и различными общественными организациями и ведомствами. Однако ни одна из Сторон не несет ответственности по обязательствам вышеупомянутых сотрудничающих организаций.

Статья 5

Настоящее Соглашение будет осуществляться в рамках законодательства каждого из сотрудничающих государств в пределах финансовых средств и других ресурсов, которые могут быть использованы ими.

Статья 6

Стороны или утвержденные Сторонами ведомства, реализующие проекты сотрудничества, могут заключать соглашения по осуществлению конкретных проектов сотрудничества, в соответствии с положениями настоящего Соглашения.

Статья 7

Государственными органами обеих Сторон, ответственными за организационную и координационную работу по реализации настоящего Соглашения, являются:

от Российской Стороны - Министерство охраны окружающей среды и природных ресурсов Российской Федерации;

от Китайской Стороны - Государственное управление Китайской Народной Республики по охране окружающей среды.

Статья 8

Ничто в настоящем Соглашении не будет наносить ущерб другим соглашениям, заключенным Сторонами.

Статья 9

В целях осуществления настоящего Соглашения, контроля и оценки хода его реализации, разработки планов сотрудничества на конкретные сроки, а также для выдвижения в случае необходимости предложений о конкретных методах укрепления сотрудничества Сторон в рамках настоящего Соглашения, Стороны согласились создать Смешанную российско-китайскую совместную рабочую группу по охране окружающей среды. Каждая Сторона в течение трех месяцев после подписания настоящего Соглашения назначает одного из двух сопредседателей рабочей группы. Смешанная рабочая группа будет, как правило, проводить по одному заседанию в год поочередно в Российской Федерации и в Китайской Народной Республике.

Статья 10

По взаимному согласию Сторон в настоящее Соглашение могут вноситься изменения.

Статья 11

Настоящее Соглашение вступает в силу с даты подписания и заключается на 5 лет. Оно будет автоматически продлеваться на последующие пятилетние периоды, если ни одна из Сторон не позднее чем за 6 месяцев до истечения соответствующего пятилетнего срока не заявит в письменной форме о своем желании прекратить его действие.

Совершено в Пекине 27 мая 1994 г. в двух экземплярах, каждый на русском и китайском языках, причем оба текста имеют одинаковую силу.

За Правительство

Российской Федерации
В.Данилов-Данильян

За Правительство

Китайской Народной Республик
Се Чженьхуа





BRAZIL

Environmental Cooperation

*Memorandum of understanding signed at Washington November 16,
1990;
Entered into force November 16, 1990.*

MEMORANDUM OF UNDERSTANDING BETWEEN THE ENVIRONMENTAL PROTECTION AGENCY OF THE UNITED STATES OF AMERICA AND THE SECRETARIAT OF THE ENVIRONMENT OF THE PRESIDENCY OF THE FEDERATIVE REPUBLIC OF BRAZIL WITH THE BRAZILIAN INSTITUTE OF ENVIRONMENT AND RENEWABLE NATURAL RESOURCES

Whereas the Environmental Protection Agency (EPA) is responsible for implementing the federal laws designed to protect the environment in the United States of America; the Secretariat of the Environment of the Presidency of the Federative Republic of Brazil (SEMAM) is responsible for planning, coordinating and supervising to the Brazilian National Policy on the Environment; and the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) is the federal agency in charge of implementing the Brazilian National Policy on the Environment;

Whereas the Government of the United States of America and the Government of the Republic of Brazil have signed the Agreement relating to Cooperation on Science and Technology hereafter referred to as "the Agreement", which entered into force on May 15, 1986;¹

Whereas cooperation between the Parties in the fields of environment and natural resources among others may be undertaken in accordance with Article III of the Agreement;

It is hereby agreed that:

ARTICLE I: PARTIES

The Parties to this Memorandum of Understanding (MOU) are EPA on the one hand and SEMAM and IBAMA on the other hand.

ARTICLE II: GENERAL PURPOSE

In accordance with the laws and regulations in their respective countries, the Parties shall cooperate to assist their respective nations to solve environmental problems of mutual concern, through the exchange of information and personnel, pursuant to this MOU and the Agreement or any applicable scientific and technological cooperation agreement that may be entered into by and between the United States and Brazil.

¹ Signed Feb. 6, 1984. TIAS 10990.

ARTICLE III: BASIC OBLIGATIONS

The Parties shall make available, upon request, advisors and services in fields such as air pollution, water pollution, soil pollution, marine pollution, environmental protection of human health and ecological systems, improvement of the urban environment, environmental legislation, environmental management and environmental economics, in accordance with the terms of the MOU and such Annexes which may mutually be agreed upon for specific cooperative activities as enumerated in Article IV.

ARTICLE IV: COOPERATIVE ACTIVITIES

Cooperation under this MOU may take the following forms:

1. Exchange of scientists, engineers, scholars, specialists and delegations;
2. Exchange of non-proprietary information in the field of environmental protection;
3. Joint organization of symposia, seminars and lectures;
4. Cooperative study of environmental protection topics; and
5. Exchange and provision of samples, reagents, materials, data, instruments and components for testing, evaluation and other purposes.

Within the framework of this MOU, the Parties shall facilitate the exchange of personnel, entry of equipment and materials for research, and other elements of the project.

ARTICLE V: PARTICIPANTS

The scientists and engineers involved in activities shall be those in government agencies and in academic or other institutions including enterprises from the private sectors of the two countries.

ARTICLE VI: FUNDING

Activities under this MOU shall be subject to the availability of authorized funds and personnel as determined by the Administrator of EPA and the competent Brazilian authorities respectively. Except as otherwise specifically provided in this MOU and in any future Annex hereto, each Party shall bear the costs of discharging its respective responsibilities for activities of equal benefit. For activities which are not equally beneficial, costs shall be borne by each Government in proportion to the benefits derived, as agreed by the Parties.

ARTICLE VII: RELEASE OF INFORMATION

Scientific and technical information of a nonproprietary nature derived from cooperative activities under this MOU may be disseminated subject to the agreement of each Party.

ARTICLE VIII: INTELLECTUAL PROPERTY

Intellectual property shall be handled in accordance with provisions worked out in the Scientific and Technological Cooperation Agreement of May 15, 1986,¹ or any future provisions agreed upon by the Parties.

ARTICLE IX: GENERAL PROVISIONS

Participation of EPA, SEMAM, IBAMA and any other entities in activities undertaken pursuant to this MOU shall be subject to the relevant national laws and regulations and international obligations entered into by each country. The MOU shall not affect the rights of EPA, SEMAM and IBAMA to conclude other Agreements in the same field.

ARTICLE X: PROJECT MANAGEMENT

The activities under this MOU shall be mutually agreed upon and shall be embodied in Annexes to this MOU that will:

1. Clearly describe the project and its objectives;
2. Clearly define the technical and financial responsibilities of the Parties;
3. Define the estimated duration of the activities undertaken in the framework of such project;
4. Establish a schedule of written progress and financial reports.

The Parties shall begin cooperative activities only after receipt of written approval of the respective Annex.

ARTICLE XI

ENTRY INTO FORCE, DURATION, AMENDMENT AND TERMINATION

1. This MOU shall enter into force on the date of signature and shall remain in force for five (5) years. It may be extended by the mutual written agreement of the Parties.

2. This MOU may be amended and Annexes added at any time by mutual written agreement of the Parties.

¹ Signed Feb. 6, 1984; entered into force May 15, 1986.

3. This MOU may be terminated by either Party giving six months written notice to the other Party. The termination of the MOU shall not affect the duration of specific activities initiated prior to the termination but not yet completed thereunder.

IN WITNESS WHEREOF, the undersigned, being duly authorized by their respective governments, sign this MOU.

DONE in Washington, D.C., in duplicate, in the English and the Portuguese languages, both being equally authentic, this sixteenth day of November 1990.

FOR THE ENVIRONMENTAL
PROTECTION AGENCY OF
THE UNITED STATES OF
AMERICA:

William K. Reilly

FOR THE SECRETARIAT FOR THE
ENVIRONMENT OF THE
PRESIDENCY OF THE FEDERATIVE
REPUBLIC OF BRAZIL:

[Signature]

FOR THE BRAZILIAN INSTITUTE
OF ENVIRONMENT AND
RENEWABLE NATURAL
RESOURCES:

[Signature]

**MEMORANDUM DE ENTENDIMENTOS ENTRE A SECRETARIA
DE MEIO AMBIENTE DA PRESIDÊNCIA DA REPÚBLICA
FEDERATIVA DO BRASIL (SEMAM) O INSTITUTO BRASILEIRO
DE MEIO AMBIENTE E RECURSOS NATURAIS RENOVÁVEIS
(IBAMA) E A AGÊNCIA DE PROTEÇÃO AMBIENTAL DOS
ESTADOS UNIDOS DA AMÉRICA (EPA)**

CONSIDERANDO que a Secretaria de Meio Ambiente da Presidência da República (SEMAM) é responsável pelo planejamento, coordenação e supervisão da política ambiental brasileira; que o Instituto Brasileiro do Meio Ambiente e Recursos Naturais Renováveis (IBAMA) é a instituição federal encarregada de implementar a política ambiental brasileira; e que a Agência de Proteção Ambiental (EPA) é responsável pela implementação de leis federais para proteger o meio ambiente nos Estados Unidos da América;

CONSIDERANDO que o Governo dos Estados Unidos da América e o Governo da República Federativa do Brasil assinaram o Acordo de Cooperação Científica e Tecnológica, que entrou em vigor em 15 de maio de 1986, doravante denominado “o Acordo”;

CONSIDERANDO que a cooperação entre as Partes nos campos do meio ambiente e recursos naturais, entre outros, pode ser empreendida de conformidade com o artigo III do Acordo.

Fica acordado que:

Artigo I: PARTES

As Partes do presente Memorandum de entendimentos são, de um lado, a SEMAM, o IBAMA, e de outro, a EPA.

Artigo II: OBJETIVO GERAL

De conformidade com as leis e regulamentos de seus respectivos países, as Partes cooperarão para assistir suas respectivas nações na solução de problemas ambientais de mútuo interesse, através do intercâmbio de informações e pessoal. O intercâmbio far-se-á de conformidade com o presente Memorandum, o Acordo ou qualquer acordo de cooperação científica e tecnológica que vier a ser celebrado entre o Brasil e os Estados Unidos da América.

Artigo III: OBRIGAÇÕES BÁSICAS

As Partes colocarão à disposição uma da outra, mediante solicitação, consultores e serviços nos campos de poluição atmosférica, poluição da água, poluição do

TIAS 11770

solo, poluição marítima, proteção ambiental da saúde humana e de sistemas ecológicos, melhoramento do ambiente urbano, legislação ambiental, gerenciamento ambiental e economia ambiental, nos termos do presente Memorandum e os anexos que vierem a ser acordados entre as Partes para atividades específicas de cooperação conforme enumeradas no Artigo IV.

Artigo IV: ATIVIDADES DE COOPERAÇÃO

A cooperação no âmbito do presente Memorandum poderá assumir as seguintes formas:

1. intercâmbio de cientistas, engenheiros, professores universitários, especialistas e delegações;
2. intercâmbio de informações não cobertas por direitos autorais no campo da proteção ambiental;
3. organização conjunta de simpósios, seminários e conferências;
4. estudos conjuntos de aspectos da proteção ambiental; e
5. intercâmbio e fornecimento de amostras, reagentes, materiais, dados, instrumentos e elementos para experiências, avaliações e outros usos.

No âmbito do presente Memorandum, as Partes facilitarão o intercâmbio de pessoal, a internação de equipamentos e materiais para estudos e outros elementos referentes aos projetos de cooperação.

Artigo V: PARTICIPANTES

Os cientistas e engenheiros envolvidos na cooperação deverão ser funcionários de agência governamentais, instituições acadêmicas e outras entidades, inclusive empresas do setor privado dos dois países.

Artigo VI: RECURSOS FINANCEIROS

As atividades empreendidas no âmbito do presente Memorandum estarão sujeitas à disponibilidade de recursos e pessoal, conforme determinado, respectivamente, pelas autoridades brasileiras competentes e pelo Administrador da EPA. Salvo disposição específica em contrário no presente Memorandum e em quaisquer de seus futuros anexos, cada Parte arcará com os custos de suas respectivas responsabilidades no desempenho das atividades de benefício equitativo. Para atividades que não resultarem em benefícios equitativos, os custos serão arcados por cada Governo, em forma proporcional aos benefícios resultantes de tais atividades, conforme acordado entre as Partes.

Artigo VII: DIVULGAÇÃO DE INFORMAÇÕES

As informações científicas e técnicas não cobertas por direito autoral resultantes de atividades de cooperação no âmbito do presente Memorandum podem ser disseminadas, mediante anuência de cada uma das Partes.

Artigo VIII: PROPRIEDADE INTELECTUAL

A propriedade intelectual deverá ser tratada de conformidade com as disposições do Acordo de Cooperação Científica e Tecnológica de 15 de maio de 1986 ou quaisquer outras disposições ulteriores acordadas entre as Partes.

Artigo IX: DISPOSIÇÕES GERAIS

A participação de SEMAM, IBAMA, EPA e quaisquer outras entidades nas atividades empreendidas de conformidade com o presente Memorandum estará sujeita às leis e regulamentos nacionais e obrigações internacionais pertinentes acordadas por cada um dos dois países.

O presente Memorandum não afetará os direitos da SEMAM, do IBAMA e da EPA de concluir outros acordos no mesmo campo.

Artigo X: GERENCIAMENTO DE PROJETOS

As atividades empreendidas nos termos do presente Memorandum deverão ser acordadas entre as Partes e serão objeto de Anexos ao presente Memorandum que deverão:

1. descrever claramente o projeto e seus objetivos;
2. definir claramente as responsabilidades técnicas e financeiras das Partes;
3. definir a duração prevista das atividades empreendidas no âmbito de tal projeto;
4. estabelecer cronograma de entrega de relatórios escritos sobre o andamento e os aspectos financeiros do projeto.

As Partes iniciarão as atividades de cooperação somente após o recebimento da aprovação, por escrito, do Anexo respectivo.

Artigo XI: ENTRADA EM VIGOR, DURAÇÃO, EMENDAS E DENÚNCIA

1. O presente Memorandum entrará em vigor na data de sua assinatura e permanecerá em vigor por cinco (5) anos. Poderá ser prorrogado mediante anuência por escrito das Partes.

TIAS 11770

2. O presente Memorandum poderá ser emendado e Anexos poderão ser adicionados a qualquer momento, mediante anuência por escrito das Partes.

3. O presente Memorandum poderá ser denunciado por qualquer das Partes, mediante notificação escrita à outra Parte. A denúncia terá efeito seis meses após a data da notificação. A denúncia do presente Memorandum não deverá afetar a continuidade de atividades específicas empreendidas em seu âmbito que tenham sido iniciadas antes da denúncia mas não tenham sido ainda terminadas.

EM FÉ DO QUE, os abaixo assinados, devidamente autorizados pelos respectivos Governos, assinam o presente Memorandum.

FEITO EM WASHINGTON, em duplicata, em português e inglês, sendo ambos os textos igualmente autênticos, aos dezesseis dias do mês de Novembro de 1990.

PELA SECRETARIA DO MEIO
AMBIENTE DA PRESIDÊNCIA
DA REPÚBLICA FEDERATIVA
DO BRASIL:

[Signature]

PELO INSTITUTO BRASILEIRO
DO MEIO AMBIENTE E RECUR-
SOS NATURAIS RENOVÁVEIS:

[Signature]

PELA AGÊNCIA DE PROTEÇÃO
AMBIENTAL DOS ESTADOS
UNIDOS DA AMÉRICA:

William K. Reilly

**Agreement on Environmental Cooperation Between
the Government of the Republic of Turkey
and the Government of Georgia**

The Government of the Republic of Turkey and The Government of Georgia hereinafter referred as the "Parties",

Considering the similarities in climatic and natural conditions and their close bilateral and multilateral relations,

Recognizing the significance of the sustainable development approach for the protection and improvement of the environment for the health and welfare of the present and future Generations,

Taking into account their mutual interest in the conservation and development of the bioproductive potential of the Black Sea,

Noting the importance of enhancing their bilateral co-operation for the fulfillment of the regional and global responsibilities of both parties on environmental protection,

Recognizing the significance of the principles adopted by the United Nation's Conference on Environment and Development,

Recognizing the significance of the successful implementation of International Agreements and Conventions in the field of environment,

Taking into account the Convention on Protection of Black Sea Against Pollution 1992, the objectives of the Ministerial Declaration of 1993, the objectives of the Program for Environmental Protection and Management of the Black Sea and the relevant provisions of the Black Sea Economical Co-operation of 1993,

Bearing in Mind the need for close co-operation on scientific technical and technological aspects of the protection of the environment and conservation of natural resources,

Have agreed in the field of environmental protection and improvement, as follows:

ARTICLE I

The parties shall cooperate in the field of environment on the basis of equity, reciprocity, and mutual benefit within the framework of relevant legislation of each party for this purpose.

ARTICLE II

The Government of the Republic of Turkey and The Government of Georgia shall encourage co-operation in the field of the prevention of pollution and the protection of the environment. Their efforts shall be directed primarily at mitigation of harmful influences over the environment and to obtain a sustainable resource management policy.

ARTICLE III

The countries shall cooperate on the basis of mutual benefit for the protection of the environment effectively in the following fields;

1. Prevention of air pollution and acid rains, due to transboundary movement of pollutants.
2. Analysis of land based pollution loads flowing into sea and monitoring studies, establishment of the required systems to exchange information between the two countries.
3. Enhancing the quality of inland, coastal and drinking water and safe disposal of domestic and industrial wastewater.
4. Carrying out projects on conservation of biological diversity and management of protected areas,
5. The protection of endangered flora and fauna species, especially the migratory animals including birds and marine mammals.
6. Joint studies on prevention of soil erosion and rehabilitation projects.
7. Adoption of environmentally sound solid waste management strategies.
8. Preparation of joint programs to develop eco-tourism in Black Sea coasts of each country.
9. Prevention of illegal traffic of hazardous wastes, harmonization of legislation at national, regional and global levels and development of early warning and information mechanisms.
10. In the event of an ecological emergency caused by and industrial accident or natural disasters, the parties jointly will take all due measures to prevent trans-border consequences.
11. Co-operation on the protection of the Black Sea Marine environment Against Pollution by Dumping.
12. Co-operation on the environmental aspects of industrial and agricultural policies as well as transportation, energy, forestry and marine products; integration of environment and development policies to attain the objectives of sustainable development.

13. Planning and implementation of short and long-term environmental programs.

14. Exchange of information and experience and assessment of suitable technologies on new and renewable energy resources to prevent environmental pollution arising from energy production and consumption.

15. Development of methodologies for pilot Projects.

16. Exchange of information on Chorohi river.

17. Environmental impact assessment on jointly decided environmental problems in Turkey and in Georgia.

18. Joint environmental programs.

ARTICLE IV

The parties shall cooperate on the items stated in Article III of this Agreement through,

1. Exchange of information and data in environmental policies legislation and environmental practices, research and development activities, environmentally sound technologies and where necessary co-ordination of research and monitoring activities,

2. Organization of joint meetings of experts and officials of the Parties on the issues covered by this Agreement,

3. Organization of technical symposiums, conferences and seminars on topics of mutual interest to the Parties,

4. Preparation and implementation of joint training programs for training experts in the areas of co-operation exchange of experts between the two countries.

ARTICLE V

The Ministry of Environment of the Republic of Turkey and The Ministry of Environment of Georgia shall be responsible for the co-ordination and arrangement of the activities to be performed under this Agreement. Each Party shall ensure on its part the appropriate co-ordination of the activities under this Agreement with the other existing cooperative programs between the two governments. Unless otherwise is agreed, each Party shall bear the costs of its own participation to the activities carried out under this Agreement.

ARTICLE VI

The Parties shall encourage the public and academic institutions, private companies and non-governmental organisations to participate in the cooperative activities carried out within the framework of this Agreement.

ARTICLE VII

Either party, by mutual agreement may pass the results of their co-operation on to third parties. During exchange of information, the parties shall take into account the provisions of the existing legislation, the rights of the third parties and international commitments. The use of information-either protected or worthy of protection-shall be subject to specific arrangements.

ARTICLE VIII

No provision in this Agreements shall be construed to prejudice other arrangements for cooperation between the parties or with third parties.

ARTICLE IX

In case of a dispute, between two Parties concerning the interpretation and implementation of this Agreement they shall seek a settlement of the dispute through negotiations.

ARTICLE X

This Agreement shall enter into force on the first day following the exchange of notes between the parties informing the completion of their national formalities for the ratification of this Agreement, and shall remain in force for a period of five years. This agreement may be amended or prolonged upon written approval of the parties at any time.

This Agreement shall remain in force for another period of five years unless either of the Parties gives to the other a written notice of three months in advance of its intention to terminate it before the date of its expiry. The termination of this Agreement shall not affect the validity or duration of the activities agreed upon pursuant to this Agreement and initiated prior to such termination.

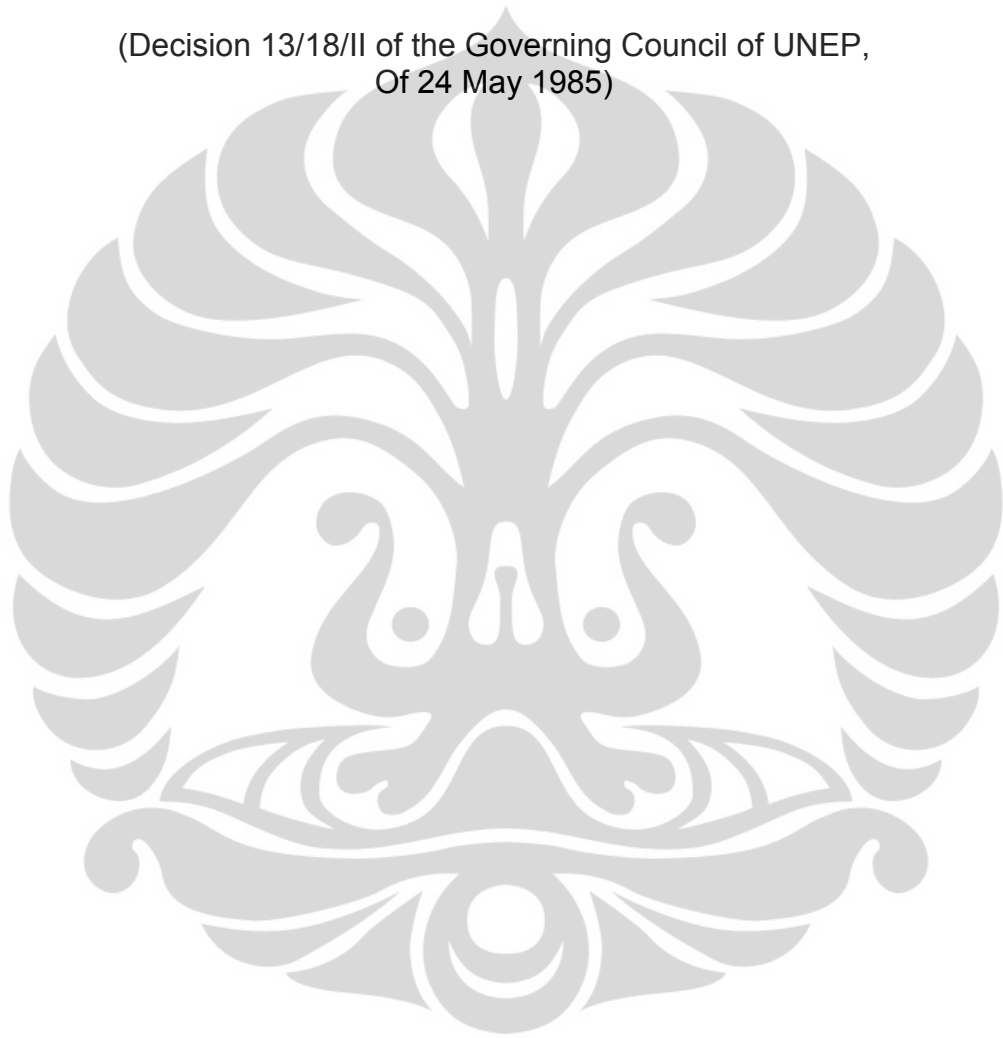
Done at Tbilisi on 14 July 1997 in two originals, each in Turkish, Georgian and English languages all texts being equally authentic. In case of divergence the English text shall prevail.

ON BEHALF OF THE GOVERNMENT OF
THE REPUBLIC OF TURKEY

ON BEHALF OF THE GOVERNMENT OF
GEORGIA

MONTREAL GUIDELINES FOR THE PROTECTION OF THE
MARINE ENVIRONMENT AGAINST POLLUTION
FROM LAND-BASED SOURCES

(Decision 13/18/II of the Governing Council of UNEP,
Of 24 May 1985)



Introduction

This set of guidelines is addressed to Governments with a view to assisting them in the process of developing appropriate bilateral, regional and multilateral agreements and national legislation for the protection of the marine environment against pollution from land-based sources. They have been prepared on the basis of common elements and principles drawn from relevant existing agreements, drawing upon experience already gained through their preparation and implementation. Principal among these agreements are the United Nations Convention on the Law of the Sea (Part XII), the Paris Convention for the Prevention of Marine Pollution from Land-based Sources, the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area, and the Athens protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources.

These guidelines are suggested as a broad framework for the development of similar agreements in those regions where such agreements are called for; for the guidance of Governments in areas which are not at present covered by any regional agreements; and for the preparation in the long term, should the need arise, of a global convention on pollution from land-based sources designed to strengthen international institutional arrangements to ensure the harmonization and application of global and regional rules, criteria, standards and recommended practices and procedures and to review the effectiveness of measures taken.

The guidelines are of a recommendatory nature. They are presented as a check-list of basic provisions rather than a model agreement, which Governments may select from, adapt or elaborate upon, as appropriate, to meet the needs of specific regions. They are without prejudice to the elaboration of cross-sectoral guidelines/principles within the framework of the Montevideo Programme for the Development and Periodic Review of Environmental Law, as recommended by the UNEP Ad hoc Meeting of Senior Government Officials Expert in Environmental law.

The guidelines were drafted, in response to UNEP Governing Council decision 10/24 of 31 May 1982, by an Ad Hoc Working Group of Experts on the Protection of the Marine Environment against Pollution from Land-based Sources which met between 1983 and 1985 and adopted them in Montreal, Canada, on 19 April 1985. In the light of the Working Group's report (UNEP/WG.120/3), the Governing Council by decision 13/18 (II) of 24 May 1985 encouraged "States and international organizations to take the Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-based Sources into account in the process of developing bilateral, regional and, as appropriate, global agreements in this field".

1. Definitions

For the purposes of these guidelines:

- (a) "Pollution" means the introduction by man, directly or indirectly, of substances or energy into the marine environment which results or its likely to result in such deleterious effects as harm to living resources and marine ecosystems, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities;
- (b) "Land-based sources" means:
 - (i) Municipal, industrial or agricultural sources, both fixed and mobile, on land, discharges from which reach the marine environment, in particular:
 - a. From the coast, including from outfalls discharging directly into the marine environment and through run-off;
 - b. Through rivers, canals or other watercourses, including underground watercourses; and
 - c. Via the atmosphere:
 - (ii) Sources of marine pollution from activities conducted on offshore fixed or mobile facilities within the limits of national jurisdiction, save to the extent that these sources are governed by appropriate international agreements.
- (c) "marine environment" means the maritime area extending, in the case of watercourses, up to the freshwater limit and including inter-tidal zones and salt-water marshes;
- (d) "Freshwater limit" means the place in watercourses where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of sea water.

2. Basic obligation

States have the obligation to protect and preserve the marine environment. In exercising their sovereign right to exploit their natural resources, all States have the duty to prevent, reduce and control pollution of the marine environment.

3. Discharges affecting other States or areas beyond the limits of national jurisdiction

States have 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.

4. Adoption of measures against pollution from land-based sources

(a) States should adopt, individually or jointly, and in accordance with their capabilities, all measures necessary to prevent, reduce and control pollution from land-based sources, including those designed to minimize the fullest possible extent the release of toxic, harmful or noxious substances; especially those which are persistent, into the marine environment. States should ensure that such measures take into account internationally agreed rules, criteria, standards and recommended practices and procedures.

(b) In taking measures to prevent, reduce and control pollution from land-based sources, States should refrain, in accordance with international law, from unjustifiable interference with activities carried out by other States in the exercise of their sovereign rights and in pursuance of their duties in conformity with internationally agreed rules, criteria, standards and recommended practices and procedures.

5. Co-operation on a global, regional or bilateral basis

(a) States should undertake, as appropriate, to establish internationally agreed rules, criteria, standards and recommended practices and procedures to prevent, reduce and control pollution from land-based sources, with a view to co-ordinating their policies in this connection, particularly at the local and regional level. Such rules, criteria, standards and recommended practices and procedures should take into account local ecological, geographical and physical characteristics, the economic capacity of States and their need for sustainable development and environmental protection, and the assimilative capacity of the marine environment, and should be reviewed from time to time as necessary;

(b) States not bordering on the marine environment should co-operate in preventing, reducing and controlling pollution of the marine environment originating or partially originating from releases within their territory into or reaching water basis or watercourses flowing into the marine environment or via the atmosphere. To this end, States concerned should as far as possible, and, as appropriate, in co-operation with competent international organizations, take necessary measures to prevent, reduce and control pollution of the marine environment from land-based sources;

(c) If discharges from a watercourse which flows through the territories of two or more States or forms a boundary between them are likely to cause pollution of the marine environment, the States concerned should co-operate in taking necessary measures to prevent reduce and control such pollution.

6. Duty not to transfer or transform pollution from land-based sources

In taking measures to prevent, reduce and control pollution from land-based sources, States have the duty to act so as not to transfer directly or indirectly, damage or hazards from one area to another or transform such pollution into another type of pollution.*

7. Specially protected areas

(a) States should, in a manner consistent with international law, take all appropriate measures, such as the establishment of marine sanctuaries and reserves, to protect certain areas to the fullest possible extent from pollution, including that from land-based sources, taking into account the relevant provisions of annex I;

(b) States should, as practicable, undertake to develop jointly or individually, environmental quality objectives for specially protected areas, conforming with the intended uses, and strive to maintain or ameliorate existing conditions by comprehensive environmental management practices.

8. Scientific and technical co-operation

States should co-operate, directly and/or through competent international organizations, in the field of science and technology related to pollution from land-based sources, and exchange data and other scientific information for the purpose of preventing, reducing and controlling such pollution, taking into account national regulations regarding the protection of confidential information. They should, in particular, undertake to develop and co-ordinate to the fullest possible extent their national research programmes and to co-operate in the establishment and implementation of regional and other international research programmes.

9. Assistance to developing countries

(a) States should, directly and/or through competent international organizations, promote programmes of assistance to developing countries in the fields of education, environmental and pollution awareness, training, scientific research and transfer of technology and know-how for the purpose of improving the capacity of the developing countries to prevent, reduce and control of pollution from land-based sources and to assess its effects on the marine environment;

(b) Such assistance should include:

(i) Training of scientific and technical personnel;

- (ii) Facilitation of the participation of developing countries in relevant international programmes;
 - (iii) Acquisition, utilization, maintenance and production by those countries of appropriate equipment; and
 - (iv) Advice on, and development of, facilities for education, training, research, monitoring and other programmes;
- (c) States should, directly and/or through competent international organizations, promote programmes of assistance to developing countries for the establishment, as necessary, of infrastructure for the effective implementation of applicable internationally agreed rules, criteria, standards and recommended practices and procedures related to the protection of the marine environment against pollution from land-based sources, including the provision of expert advice on the development of the necessary legal and administrative measures.

10. Development of a comprehensive environmental management approach

States should undertake to develop, as far as practicable, a comprehensive environmental management approach to the prevention, reduction and control of pollution from land-based sources, taking into account relevant existing programme at the bilateral, regional or global level and the provisions of annex I. Such a comprehensive approach should include the identification of desired and attainable water use objectives for the specific marine environment.

11. Monitoring and data management

States should endeavour to establish directly or, whenever necessary, through competent international organizations, complementary or joint programmes for monitoring storage and exchange of data, based, when possible, on compatible procedures and methods, taking into account relevant existing programmes at the bilateral, regional or global level and the provisions of annex III, in order to:

- (a) Collect data on natural conditions in the region concerned as regards its physical, biological and chemical characteristics;
- (b) Collect data on inputs of substances or energy that cause or potentially cause pollution emanating from land-based sources, including information on the distribution of sources and the quantities introduced to the region concerned;
- (c) Assess systematically the levels of pollution along their coasts emanating from land-based sources and the fates and effects of pollution in the region concerned; and

- (d) Evaluate the effectiveness of measures in meeting the environmental objectives for specific marine environments.

12. Environmental assessment

States should assess the potential effects/impacts, including possible transboundary effects/impacts, of proposed major projects under their jurisdiction or control, particularly in coastal areas, which may cause pollution from land-based sources, so that appropriate measures may be taken to prevent or mitigate such pollution.

13. Development of control strategies

- (a) States should develop, adopt and implement programmes and measures for the prevention, reduction and control of pollution from land-based sources. They should employ an appropriate control strategy or combination of control strategies, taking into account relevant international or national experience, as described in annex I;

- (b) States should, as appropriate, progressively formulate and adopt, in co-operation with competent international organizations, standards based on marine quality or on emissions, as well as recommended practices and procedures, taking into account the provisions of annex I;

- (c) Where appropriate, States should undertake to establish priorities for action, based on lists of substances pollution by which should be eliminated and of substances pollution by which should be strictly limited on the basis of their toxicity, persistence, bioaccumulation and other criteria as elaborated in annex II, or in relevant international agreements.

14. Pollution emergencies arising from land-based sources

States and, as appropriate, competent international organizations should take all necessary measures for preventing and dealing with marine pollution emergencies from land-based sources, however caused, and for reducing or eliminating damage or the threat of damage therefrom. To this end States should, as appropriate, individually or jointly, develop and promote national and international contingency plans for responding to incidents of pollution from land-based sources and should co-operate with one another and, whenever necessary, through competent international organizations.

15. Notification, information exchange and consultation

Whenever releases originating or likely to originate from land-based sources within the territory of a State are likely to cause pollution to the marine environment of one or more other States or of areas beyond the limits of national

jurisdiction, that State should immediately notify such other State or States, as well as competent international organizations, and provide them with timely information that will enable them, where necessary, to take appropriate action to prevent, reduce and control such pollution. Furthermore, consultations deemed appropriate by States concerned should be undertaken with a view to preventing, reducing and controlling such pollution.

16. National laws and procedures

(a) Each State should adopt and implement national laws and regulations for the protection and preservation of the marine environment against pollution from land-based sources, taking into account internationally agreed rules, criteria, standards and recommended practices and procedures, and take appropriate measures to ensure compliance with such laws and regulations.

(b) Paragraph (a) above is without prejudice to the right of States to take more stringent measures nationally or in co-operation with each other to prevent, reduce and control pollution from land-based sources under their jurisdiction or control;

(c) Each State should, on a reciprocal basis, grant equal access to and non-discriminatory treatment in its courts, tribunals and administrative proceedings to persons in other States who are or may be affected by pollution from land-based sources under its jurisdiction or control.

17. Liability and compensation for pollution damage emanating from land-based sources

(a) States should 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;

(b) To this end, States should formulate and adopt appropriate procedures for the determination of liability for damage resulting from pollution from land-based sources. Such procedures should include measures for addressing damage caused by releases of a significant scale or by the substances referred to in guideline 13 (c).

18. Implementation reports

States should report, as appropriate, to other States concerned, directly or through competent international organizations, on measures taken, on results achieved and, if the case arises, on difficulties encountered in the implementation of applicable internationally agreed rules, criteria, standards and recommended

practices and procedures. To this end, States should designate national authorities as focal points for the reporting of such measures, results and difficulties.

19. Institutional arrangements

- (a) States should ensure that adequate institutional arrangements are made at the appropriate regional or global level, for the purpose of achieving the objectives of these guidelines, and in particular for promoting the formulation, adoption and application of international rules, criteria, standards and recommended practices and procedures, and for monitoring the condition of the marine environment;
- (b) the functions of such institutional arrangements should include:
 - (i) Periodic assessment of the state of the specific marine environment concerned;
 - (ii) Formulation and adoption, as appropriate, of a comprehensive environmental management approach consistent with the provisions of guidelines 7 and 10;
 - (iii) Adoption, review and revision, as necessary, of the lists referred to in guideline 13;
 - (iv) Development and adoption, as appropriate, of programmes and measures consistent with the provisions of guidelines 10 and 13;
 - (v) Consideration, where necessary, of the reports and information submitted in accordance with guidelines 15 and 18;
 - (vi) Recommendation of appropriate measures to be taken for the prevention, reduction and control of pollution from land-based sources, such as assistance to developing countries, the strengthening of regional co-operation mechanisms, consideration of aspects of transboundary pollution, and the difficulties encountered in the implementation of agreed rules; and
 - (vii) Review of the implementation of relevant internationally agreed rules, criteria, standards and recommended practices and procedures, and of the efficacy of the measures adopted and the advisability of any other measures.

Annex I

STRATEGIES FOR PROTECTING, PRESERVING AND ENHANCING THE QUALITY OF THE MARINE ENVIRONMENT

INTRODUCTION

In controlling marine pollution from land-based sources, an overall approach to the uses and the natural values of the marine environment should be taken, while still considering the needs of populations and industries for waste disposal. It is important to note that for many types of waste, the use of the marine environment is only one option among several. However, in some instances, marine disposal may be a feasible alternative. The present annex describes a number of strategies which can be employed to protect the marine environment against pollution from land-based sources and, where necessary, restore areas that have been affected. The goal is to protect the marine ecosystem by maintaining its quality within acceptable levels as determined on the basis of scientific, institutional, social and economic factors. It should be recognized that there are many activities competing to derive benefits from the marine environment. None of these activities, save the perpetuation of a marine ecosystem as a vital component of global life support, should be regarded as having guaranteed rights. Compromise and consideration of all alternatives must always be considered. Consequently, in the course of the decision-making process determining the use of a particular sector of the marine environment, social, economic and political factors, as well as natural environmental factors must be taken into account.

Once decision-makers have determined the desired present, interim and long-term uses and associated objectives for a water body, a number of control strategies may be employed to achieve those objectives. Flexibility will be an important consideration in the strategies or regulatory instruments implemented for various water bodies, reflecting their different environmental capacities and other properties and differences in regional socio-economic standards, on emission standards and on environmental planning. Experience shows that a combination of strategies is often needed. Practical constraints may prevent full implementation of a strategy based on quality standards. Where such an approach cannot be fully implemented, other strategies should be employed.

1.0 CONTROL STRATEGIES

Pollution control strategies in use have been categorized as follows:

- (a) Those based on marine environmental quality standards;
- (b) Those based on emission standards;

- (c) Those based on environmental planning.

Priorities for control are often established by the classification of substances into a “black” and a “grey” list. Substances are assessed according to the criteria described in annex II. States undertake to eliminate pollution by those substances in the black list and strictly to limit pollution by those in the grey list.

1.1. Strategies based on marine quality standards

Such strategies relate directly to the quality of water, biota or sediments that must be maintained for a desired level of quality and intended use. Several applications of such quality-based strategies exist.

1.1.1. Direct derivation from quality objectives

Technical assessments are conducted to determine the maximum allowable inputs that will ensure that the desired levels of environmental quality are met. The assessments consider the fates and effects of various contaminants, amounts of input, and the existing natural characteristics of the relevant marine ecosystem. Numerical standards are then established, to which concentrations measured in the receiving environment may be compared. They are usually more restrictive than numbers derived from the technical assessment to allow for monitoring and enforcement capabilities and safety requirements. They may apply to water, sediment, fish or the tissues, health or community composition of organisms in the marine ecosystem.

Monitoring is required to detect changes and compliance with the standards. Changes in the items monitored, after adjustment for natural fluctuation, may signal a need to reduce inputs further and vary existing standards and controls.

1.1.2. No change above ambient

Standards are set based on existing levels which must not be exceeded. This strategy is employed in situations where the aim is to prevent any increase in prevailing specific contaminant levels. It is an interim strategy to allow time to develop a solid scientific base on which more precise quality criteria may be employed for a specific use. It does not imply that an existing state of the environment is satisfactory, nor does it eliminate the need for its improvement.

1.1.3. Dilution

Some contaminants discharged at the source are assumed to attenuate as they spread from that source. Dynamic characteristics of the receiving environment are employed to determine the rate and level of dilution. Standards

are derived from measured parameters taken at given distances from the discharging source. This strategy may accept short-term or local excess of a potential pollutant at the source of discharge. Application is generally used with effluent that is considered biodegradable, and avoided where scientific evidence suggests that the effluent may accumulate in a given receiving environment.

1.1.4. Loading allocations

These impose priority of control on the larger sources in consideration of the most cost-effective solutions. Allowable discharge are measured in terms of the total allowable for an entire receiving environment, regardless of specific site quality. Application is suited to relatively self contained receiving environments, such as lagoons and semi-enclosed bodies of water. It allows flexibility of contaminant output, in that certain sources may emit more than adjacent ones as long as loading limits are not exceeded. All these strategies may employ criteria for water, air or sediment quality, as well as criteria related to specific marine life. Receiving environment quality standards are most prevent for uses – e.g. swimming, direct harvesting of fish for human consumption – where sound scientific criteria exist to determine levels of harm. Emissions of potential pollutants are usually controlled to ensure that the desired quality is achieved. If the quality needs to be upgraded, additional controls are placed on allowable emissions.

1.2 Strategies based on emission standards

These strategies may be based on:

- (a) A general principle of pollution control;
- (b) Achievable technology;
- (c) distribution of control costs;
- (d) Enforceability.

They differ from strategies based on marine quality in that the standards set are not primarily determined by the level of contaminant in the environment.

1.2.1 Technology-based standards

These standards are usually applied on a sectoral basis, thus providing a means of imposing similar costs across a particular sector. Alternatively, they may be determined on a case-by-case basis. The standards will need to be reviewed periodically in the light of developing technology.

Standards may be based on:

1.2.1.1 Best practicable technology

This reflects the application of demonstrable and sound treatment technology or a spectrum of technologies which is affordable by the sector concerned.

1.2.1.2 Best available technology

This reflects state-of-the-art technology in use in contaminant control. In general, the standards set would reflect a more stringent level of control as compared to best practicable technology. Application is generally for the control of emissions of the most noxious substances or to protect a sensitive environmental use.

1.2.1.3 As low as reasonably achievable

This is mainly applied to radio-nuclides, and is based on the principles of “optimization”. This, as defined by the International Commission on Radiological Protection, requires radiation doses to be kept to levels that are “reasonably achievable”, by technological improvements and by a suitable choice among alternative options. “Reasonably achievable” takes into account both the ease with which the technology can be applied and the balance between the benefits, in terms of dose reduction, and the social and economic costs of its application.

1.2.1.4 Zero discharge

In a situation where stringent protection of a sensitive marine environment is deemed appropriate, consideration may be given to the denial of any release of a contaminant to the environment.

1.2.2 Uniform regional emission standards

Such standards are usually applied in situations where there are existing pollution problems of a similar nature and there is an urgent need to reduce pollution. They do not give primary consideration to the nature of sources, their economic base, or the receiving environment.

1.3 Planning strategies

This set of strategies draws in part on those mentioned in section 1.1 and 1.2 above and will often be used to supplement them (the reverse is also true). Planning strategies allow an approach to the management and protection of particular environments which may involve restrictions on, or modification of, activities and sites as well as discharges.

1.3.1 Activity management

Certain activities are deemed appropriate or inconsistent with the value or uses of an environment. Consideration should be given to whether the activity is essential, and if so, whether it can be accommodated elsewhere or in a different manner.

1.3.1.1 Use designation

Use of the receiving environment is the determining factor for pollution control standards as well as the basis for regulations or guidelines affecting other activities. For example, if the desire is to maintain or develop a shellfish harvest (a socio-economic decision), then quality standards and uses are developed with this in mind.

The application may result from a perceived threat to an established economic base or cultural value or a conscious effort to change the existing use of a receiving environment.

1.3.1.2 Environmental assessment of activities

Siting of any activity significantly affecting the marine environment is subject to a comprehensive analysis and assessment of:

- (a) The ecological characteristics of the receiving environment;
- (b) The direct and indirect potential effects/impacts of the activity on the environment; and, as appropriate,
- (c) The direct and indirect potential effects/impacts on the environment of any reasonable alternative to the activity.

1.3.2 Regional planning

Plans are drawn up for particular regions, taking into account socio-economic and ecological factors, which are then used as a basis for development.

1.3.2.1 Coastal zone management

The strategy employs planning capabilities to make the best use of the coastal zone.

It is not use-specific or source-specific but area-specific. Potential activities are assessed as components of a coastal zone. Planning is based on regional socio-economic and ecological considerations. Zoning and other land use restrictions or modifications are major regulatory tools. Many States make

use of regional planning authorities or councils which are given the task of managing overall resource planning within a particular coastal area.

1.3.2.2 Watershed or drainage basin planning

This strategy acknowledges that a large proportion of pollution enters the marine environment via watercourses. It does not necessarily account for inputs via the atmosphere, though air management areas have also been employed for control purposes.

Through consideration of socio-economic and environmental factors, taking the area of a drainage system as the planning unit, the desired uses and level of quality that can be attained for any given marine water body are determined.

Pollution via watercourses is controlled through regulation of point and diffuse sources of such pollution within the given watershed.

1.3.2.3 Specially protected areas

This strategy involves the identification of unique or pristine areas, rare or fragile ecosystems, critical habitats and the habitat of depleted, threatened or endangered species and other forms of marine life.

Those areas to be protected or preserved from pollution, including that from land-based sources, are selected on the basis of a comprehensive evaluation of factors, including conservational, ecological recreational, aesthetic and scientific values.

States should notify an appropriate international organization of the establishment of any modification to such areas, with a view to the inclusion of such information in an inventory of specially protected areas.

2.0 CONTROL INSTRUMENTS

This section outlines the various types of mechanism which can be invoked to implement control strategies:

2.1 Regulations

Regulations are developed pursuant to enabling legislation and can exist in forms such as:

2.1.1 - Emission standards (air/water)

Standards based on best practicable technology, best available technology, geographical area, etc.

2.1.2 - Environmental quality standards

Standards for the receiving environment which vary according to its intended use.

2.2 Guidelines/codes of practice

These are descriptions of practices and abatement technologies that may be developed to meet the pollution control needs of various point and non-point sources. They provide a listing of basic requirements that may be implemented or adopted by industry or local authorities.

2.3 Permits

Legislation may require a discharger to have a permit to satisfy the requirements for the release of pollutants. These requirements can be based on standards in the form of a mission control regulations, guidelines, codes of practice or specific requirements derived from environmental quality standards prescribed to protect the receiving environment.

2.4 Equipment standards certification

Environmental considerations may be incorporated directly in association with particular equipment. To this end, the equipment or configuration of equipment may be designed, manufactured, tested and certified to comply with the requirements for source releases of pollutants.

2.5 Product controls

If a particular substance or assemblage of substances in the form of a commercial product is deemed to be of environmental significance, a restriction may be placed on the production, use and export/import of the product.

2.6 Planning restrictions

Under planning law or practice, restrictions may be placed on the use of certain land.

2.7 Economic measures

These may take a variety of forms, e.g. tax incentives, subsidies and effluent charges. To be effective, the incentive offered must be strong enough or

the charge levied high enough to persuade the discharger or user that it is in his own financial interest to limit his discharge or use of the substance concerned.

3.0 FACTORS INFLUENCING CHOICE OF STRATEGIES AND CONTROL INSTRUMENTS

There is a wide range of strategies and control instruments which can be utilized either individually or in combination to address pollution of the marine environment from land-based sources. A number of factors may influence such a choice. In general terms, they may be categorized as economic, scientific/technical or social/cultural/political, as follows:

3.1 Economic

General economic conditions and trends (deficit, balance of trade, inflation, etc.);
Availability of public financing;
Availability of external funding;
Unemployed;
Economic viability of various sectors;
The “polluter pays” principle;
Availability of institutions and infrastructure.

3.2 Scientific/technical

3.2.1 Availability/accessibility of scientific data, including:

Physical characteristics affecting flushing and mixing;
Natural nutrient cycles and geochemical cycles;
Biological processes and nature of communities.

3.2.2 Availability/accessibility of technology, including

Basic information on industry types and on total effluent releases, and specific data on waste stream constituents;
Availability of expertise;
Capability for monitoring;
Existing engineering infrastructure;
Experience with implementation of strategies or instruments elsewhere;
Sensitivity of ecosystems to be affected;
Climatic considerations;
Current level of pollution of the receiving environment and identified trends in municipal, agricultural and industrial waste releases.

3.3 Social/culture/political

Infrastructure;
Existing and proposed uses of the marine environment;
Political realities;
Social/cultural awareness of the population;
Perception of environmental, social and cultural values.



ENVIRONMENTAL PROTECTION

Existing and Desired uses	Identification of desired And attainable use objectives	Environment characteristics
Social economic, institutional and cultural factors		Pollutant source characteristics
	<p>CONTROL STRATEGIES</p> <p>1.1 Quality standards Directly derived from quality objectives</p> <p>No change above ambient</p> <p>Dilution</p> <p>Loading allocations</p> <p>1.2 Emission standards</p> <p>Technology based standards</p> <p>Uniform regional standards</p> <p>1.3 Planning</p> <p>Activity management</p> <p>Regional management</p>	Monitoring
	<p>CONTROL INSTRUMENTS</p> <p>Regulations</p> <p>Guidelines/Codes of practice</p> <p>Permits</p> <p>Equipment standards certification</p> <p>Product controls</p> <p>Planning restrictions</p> <p>Economic measures</p>	

Annex II

CLASSIFICATION OF SUBSTANCES

INTRODUCTION

Substances may be classified into a black list of those substances pollution by which should be eliminated and a grey list of those substances pollution by which should be strictly limited and reduced.

The basic criteria to be taken into account in allocating substances to one of these lists are:

- (a) Persistence;
- (b) Toxicity or other noxious properties;
- (c) Tendency to bioaccumulation.

These criteria are not necessarily of equal importance for a particular substance or group of substances. Other factors such as location and quantities of discharge may need to be considered.

1.0 BLACK LIST

Substances may be included in this list:

- (a) Because they are not readily degradable or rendered harmless by natural processes; and
- (b) Because they may either:
 - (i) Give rise to dangerous accumulation of harmful material in the food chain; or
 - (ii) Endanger the welfare of living organisms causing undesirable changes in the marine ecosystems; or
 - (iii) Interfere seriously with the harvesting of sea foods or with other legitimate uses of the sea; and
- (c) Because it is considered that pollution by these substances necessitates urgent action.

The substances that fulfill these criteria may include:

- 1.1 Certain organic biocides (e.g. organohalogen compounds and substances which may form such compounds in the marine environment);
- 1.2 Persistent hydrocarbons of petroleum origin;
- 1.3 Certain metals and their compounds (e.g. mercury);
- 1.4 Persistent synthetic materials which may seriously interfere with legitimate use of the sea;
- 1.5 Radioactive materials;
- 1.6 Substances which have been proved to possess carcinogenic properties in or via the aquatic environment;
- 1.7 Materials in whatever form (e.g. solid, liquid, semi-liquid, gaseous or in a living state) produced for biological and chemical warfare.

2.0 GREY LIST

Substances may be included in this list because, although exhibiting similar characteristics to the substances in the black list and requiring strict control, they seem less noxious or are more readily rendered harmless by natural processes. The substances to which this may apply include:

- 2.1 Organic biocides not included in the black list;
- 2.2 Hydrocarbons of petroleum origin and their derivatives not included in the black list;
- 2.3 Certain elements and their compounds (e.g. fluorides and cyanides);
- 2.4 Inorganic and synthetic organic materials, other than those included in the black list, which are likely to produce harmful effects on marine organisms or to make edible marine organisms unpalatable, as well as chemicals which may lead to the formation of such substances in the marine environment;
- 2.5 Acid and alkaline compounds of such composition and in such quantity that they may seriously impair the quality of the marine environment;

- 2.6 Substances which, though not producing toxic effects, may become harmful because of the concentrations or quantities in which they are discharged, or which are liable to reduce amenities seriously or to endanger human life or marine organisms or to impair other legitimate uses of the sea;
- 2.7 Pathogenic micro-organisms which are or may become harmful because of the concentrations and quantities in which they are discharged or which are liable to endanger human life or marine organisms, or to impair other legitimate uses of the marine environment and coastal waters in particular.

Annex III

MONITORING AND DATA MANAGEMENT

1.0 MONITORING

In the protection of the marine environment against pollution from land-based sources, monitoring can be defined as the measurement of a pollutant or its effects on either man or marine resources for the purposes of assessing and controlling exposure to that pollutant. Thus monitoring is used to assess, first, the need for pollution prevention measures, and subsequently the effectiveness of any protection measures introduced. If monitoring is to meet these objectives and be cost-effective it must be carefully designed and implemented.

1.1 Resources to be protected

One of the first things to ascertain is what resources need protecting in the area concerned and the various pollutant sources and ways in which each could possibly be threatened. For example, the well-being of a nature reserve, fish hatchery or fish resource might be threatened by a variety of substances. Similarly, the suitability of fish or shellfish for human consumption might be affected by other substances such as mercury or arsenic which may adversely affect man whilst not affecting fisheries.

1.2 Information on inputs

It is also important at an early stage to establish for each area the activities already practiced and the pollutants likely to reach the sea via point, non-point and riverine sources.

A knowledge of the resources to be protected and the pollutants which are most likely to affect them will allow attention to be focused on those substances which appear most likely to be of concern, thereby reducing the amount of effort

devoted to establishing a data base on inputs. Information on inputs can also be used to focus environmental monitoring efforts on those pollutants most likely to be encountered in each area. If possible the scale of input should also be established, at least in order of magnitude terms. This will normally be fairly easy but more accurate qualification will require improvements in the quality of data on both concentration and flow.

Information on inputs from direct discharges may be determined from descriptions of unit processes in use. If permit programmes have been established, information on controlled pollutants should be available from the permit issuing authority. Inputs from non-point sources are generally estimated by employing accepted formulae describing land use in the watershed and the associated run-off. In estimating inputs from point and non-point sources, the pollutants of concern may include a wide range of substances, for example, toxicants and nutrients.

1.3 Establishing baseline concentrations

Having decided what needs to be monitored, on the basis of what resources must be protected and which pollutants are likely to be of interest, the concentrations actually present in the environment can be established. This information can then be used to assess those protection measures necessary and their effectiveness. The need for control measures may be judged by comparing the concentrations found either with some form of water quality criteria, for example maximum permissible concentration, or with similar data from other areas known not to be contaminated.

When baseline concentrations are being ascertained, the most appropriate substrate should be selected. Three options exist: water, biota and sediments. Only rarely should it be necessary to analyse samples of all three. The choice will depend on the pollutant concerned, the water quality criteria selected and the nature of the pathways exposed. For example, water would be most suitable for nutrients, biochemical oxygen demand (BOD), pH and certain metals, but biota would be more appropriate for polychlorinated biphenyls (PCBs) or mercury, and undisturbed sediments can be particularly useful in time or spatial trend assessments.

1.4 Ongoing monitoring

Monitoring will be required to establish the effectiveness of pollution protection measures. Even if no reductions in inputs are deemed necessary, it may be desired to check that the situation does not deteriorate. Whatever their purpose, monitoring programmes should be designed to consider the receiving capacity of the environment as well as inputs. This means considering present water quality in relation to the desired quality, and the scale of environmental protection measures taken in relation to the existing concentrations, the nature of

the pollutants present, the scale of their input and their removal processes. On his basis it will be possible to define what should be monitored and with what frequency.

1.5 Sampling and analysis

The number and nature of the samples collected should be representative of the substrate being monitored. Water quality, biological tissues and sediments can all be very variable even over short distances, and the sampling strategy should, when necessary, be tested statistically to ensure it is sound. The programme design should take account of the hydrographic characteristics of the area so as to avoid sampling the same body of water at different places as it moves under the influence of a current. Finally, the sample collected must be adjusted to the form in which the pollutant occurs in the environment or in the discharge streams.

Once a suitable sampling programme has been designed, it may be possible to bulk samples for analysis in order to reduce the analytical workload and costs. This will inevitably lead to the loss of some information, and should be considered only if the complexity of the analytical technique demands it, the loss of information can be tolerated or the monitoring is to be used only to pick up abnormalities, as in compliance monitoring.

1.6 Resource monitoring

In addition to monitoring the pollutants of interest in the selected substrate, it is essential that the state of the resource(s) be monitored. However, if adverse changes do occur it should not be assumed the protection measures taken were inadequate. For example, fish stocks decline due to fishing effort as well as pollution and undesirable plankton blooms occur for reasons other than nutrients enrichment. Monitoring of biological effects is desirable but very few techniques can be applied routinely on a wide scale and most give unspecific responses. Once suitable effect monitoring techniques are available, they may be more attractive alternatives than purely chemical monitoring in environmental matrices.

2.0 DATA AND DATA MANAGEMENT

Before the data from any monitoring programme are used, it is important that confidence limits be established and reported in order to ensure that the confidence with which recorded numbers are handled and interpreted is not misplaced. It is also necessary to decide how the data should be handled for future reference and use.

2.1 Limitation in the data and the extent to which they can be tolerated

The results obtained from any monitoring programme will be subject to errors of accuracy and precision, the size of which must be quantified. If precision is high and accuracy poor then all results for a set of analyses of the same sample will be very close together, for example, differing by no more than 1 per cent, though they may differ from the true result by much more, possibly by as much as an order of magnitude. Some errors will derive from the nature of the samples. These can be minimized by proper statistical design of the sampling procedures and attention to the collection of uncontaminated samples.

All analytical procedures have inherent errors in precision and accuracy. To a greater or lesser extent either or both types of error can be compounded by operator or laboratory errors, which are often not recognized. However, by using good analytical equipment and methods and following a rigorous analytical quality assurance scheme, it should be possible to achieve high accuracy and precision for all analytical data, and allow quantification of the scale errors.

2.2 Intercomparability requirements

In most cases where monitoring programmes are operated on a multilateral basis it is essential that the results obtained by all contributors are truly comparable. Establishing comparable monitoring programmes may prove difficult. However, it is desirable that targets be set for comparability of the data.

Analytical comparability is only one aspect of monitoring data. The actual programmes run by different countries must also be comparable. It obviously will not be possible to compare results from three countries if one analyses water, another a fish species and another sediments. Even when agreement is reached on whether to sample water, biota or sediments it will be necessary to agree, for example, which species of fish should be used, whether the water should be filtered before analysis or whether whole sediment should be analysed or only a particular size fraction.

2.3 Requirements for analytical quality control

It may be impossible to arrange that all contributors use identical analytical procedures. Even if they do, for the reasons given previously, intercomparability is not guaranteed. To establish whether differences do exist and to minimize them a programme of intercalibration is essential. Each laboratory should assure the quality of its data by participating in intercalibration exercises and analyzing at intervals reference materials containing certified concentrations of the pollutants of interest in appropriate matrices and concentrations.

2.4 Data storage, retrieval and exchange

Depending on the scale of the monitoring programme various methods of data storage and transfer may be appropriate. It is essential that the design of

the storage/retrieval system be carefully worked out to reflect the end use of the data in both raw and interpreted form. The most efficient method in many respects is to use a computer. It is essential that the limitations of any set of data be instantly recognizable when it is retrieved. To this end, information such as performance in a recognized intercalibration exercise, analysis of reference materials, etc., should be retrievable with the data. Ideally the data should be freely accessible by all contributors and the scientific community in general. However, if a country or group of countries wish certain types of data to be available only to a limited audience that wish must be safeguarded.

Regions may exhibit different natural background or baseline concentrations, have different resources to be protected and be exposed to different pollutants. As a consequence their monitoring programmes may differ – for example, different fish species may be used as indicators, permissible limits differ according to exposure patterns and different targets may be set for sampling and analytical accuracy. Therefore it will probably be more practical and effective, at least initially, to organize monitoring programmes and data storage on a regional rather than a global basis.

Once a satisfactory level of regional comparability has been achieved, interregional comparability should follow as a logical progression.

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UNITED NATIONS ENVIRONMENT PROGRAMME

UNEP

Environmental Law
Guidelines and Principles

1. Stockholm Declaration (1972)
2. Shared Natural Resources (1978)
3. Weather Modification (1980)
4. Offshore Mining and Drilling (1982)
5. World Charter for Nature (1982)
6. Banned and Severely Restricted Chemicals (1984)
7. Marine Pollution from land-based Sources (1985)

UNEP
P.O. Box 30552
Nairobi
Kenya

WASHINGTON DECLARATION ON PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

The representatives of Governments and the European Commission participating in the Conference held in Washington from 23 October to 3 November 1995,

Affirming the need and will to protect and preserve the marine environment for present and future generations,

Reaffirming the relevant provisions of chapters 17, 33 and 34 of Agenda 21 and the Rio Declaration on Environment and Development,

Recognizing the interdependence of human populations and the coastal and marine environment, and the growing and serious threat from land-based activities, to both human health and well-being and the integrity of coastal and marine ecosystems and biodiversity,

Further recognizing the importance of integrated coastal area management and the catchment-area-based approach as means of coordinating programmes aimed at preventing marine degradation from land-based activities with economic and social development programmes,

Also recognizing that the alleviation of poverty is an essential factor in addressing the impacts of land-based activities on coastal and marine areas,

Noting that there are major differences among the different regions of the world, and the States which they comprise, in terms of environmental, economic and social conditions and level of development which will lead to different judgments on priorities in addressing problems related to the degradation of the marine environment by land-based activities,

Acknowledging the need to involve major groups in national, regional and international activities to address degradation of the marine environment by land-based activities,

Strongly supporting the processes set forth in decisions 18/31 and 18/32 of 25 May 1995 of the Governing Council of the United Nations Environment Programme for addressing at the global level the priority issues of persistent organic pollutants and adequate treatment of waste water,

Having therefore adopted the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities,

Hereby declare their commitment to protect and preserve the marine environment from the impacts of land-based activities, and

Declare their intention to do so by:

1. Setting as their common goal sustained and effective action to deal with all land-based impacts upon the marine environment, specifically those resulting from sewage, persistent organic pollutants, radioactive substances, heavy metals, oils (hydrocarbons), nutrients, sediment mobilization, litter, and physical alteration and destruction of habitat;
2. Developing or reviewing national action programmes within a few years on the basis of national priorities and strategies;

3. Taking forward action to implement these programmes in accordance with national capacities and priorities;
4. Cooperating to build capacities and mobilize resources for the development and implementation of such programmes, in particular for developing countries, especially the least developed countries, countries with economies in transition and small island developing States (hereinafter referred to as "countries in need of assistance");
5. Taking immediate preventive and remedial action, wherever possible, using existing knowledge, resources, plans and processes;
6. Promoting access to cleaner technologies, knowledge and expertise to address land-based activities that degrade the marine environment, in particular for countries in need of assistance;
7. Cooperating on a regional basis to coordinate efforts for maximum efficiency and to facilitate action at the national level, including, where appropriate, becoming parties to and strengthening regional cooperative agreements and creating new agreements where necessary;
8. Encouraging cooperative and collaborative action and partnerships, among governmental institutions and organizations, communities, the private sector and non-governmental organizations which have relevant responsibilities and/or experience;
9. Encouraging and/or making available external financing, given that funding from domestic sources and mechanisms for the implementation of the Global Programme of Action by countries in need of assistance may be insufficient;
10. Promoting the full range of available management tools and financing options in implementing national or regional programmes of action, including innovative managerial and financial techniques, while recognizing the differences between countries in need of assistance and developed States;
11. Urging national and international institutions and the private sector, bilateral donors and multilateral funding agencies to accord priority to projects within national and regional programmes to implement the Global Programme of Action and encouraging the Global Environment Facility to support these projects;
12. Calling upon the United Nations Environment Programme, the United Nations Development Programme, the World Bank, the regional development banks, as well as the agencies within the United Nations system to ensure that their programmes support (through, inter alia, financial cooperation, capacity-building and institutional-strengthening mechanisms) the regional structures in place for the protection of the marine environment;
13. According priority to implementation of the Global Programme of Action within the United Nations system, as well as in other global and regional institutions and organizations with responsibilities and capabilities for addressing marine degradation from land-based activities, and specifically:
 - (a) Securing formal endorsement of those parts of the Global Programme of Action that are relevant to such institutions and organizations and incorporating the relevant provisions into their work programmes;
 - (b) Establishing a clearing-house mechanism to provide decision makers in all States with direct access to relevant sources of information, practical experience and scientific and technical

expertise and to facilitate effective scientific, technical and financial cooperation as well as capacity-building; and

(c) Providing for periodic intergovernmental review of the Global Programme of Action, taking into account regular assessments of the state of the marine environment;

14. Promoting action to deal with the consequences of sea-based activities, such as shipping, offshore activities and ocean dumping, which require national and/or regional actions on land, including establishing adequate reception and recycling facilities;

15. Giving priority to the treatment and management of waste water and industrial effluents, as part of the overall management of water resources, especially through the installation of environmentally and economically appropriate sewage systems, including studying mechanisms to channel additional resources for this purpose expeditiously to countries in need of assistance;

16. Requesting the Executive Director of the United Nations Environment Programme, in close partnership with the World Health Organization, the United Nations Centre for Human Settlements

(Habitat), the United Nations Development Programme and other relevant organizations, to prepare proposals for a plan to address the global nature of the problem of inadequate management and treatment of waste water and its consequences for human health and the environment, and to promote the transfer of appropriate and affordable technology drawn from the best available techniques;

17. Acting to develop, in accordance with the provisions of the Global Programme of Action, a global, legally binding instrument for the reduction and/or elimination of emissions, discharges and, where appropriate, the elimination of the manufacture and use of the persistent organic pollutants identified in decision 18/32 of the Governing Council of the United Nations Environment Programme. The nature of the obligations undertaken must be developed recognizing the special circumstances of countries in need of assistance. Particular attention should be devoted to the potential need for the continued use of certain persistent organic pollutants to safeguard human health, sustain food production and to alleviate poverty in the absence of alternatives and the difficulty of acquiring substitutes and transferring of technology for the development and/or production of those substitutes; and

18. Elaborating the steps relating to institutional follow-up, including the clearing-house mechanism, in a resolution of the United Nations General Assembly at its fifty-first session, and in that regard, States should coordinate with the United Nations Environment Programme, as secretariat of the Global Programme of Action, and other relevant agencies within the United Nations system in the development of the resolution and include it on the agenda of the Commission on Sustainable Development at its inter- sessional meeting in February 1996 and its session in April 1996.

Washington, D.C., 1 November 1995



United Nations
Environment
Programme



Distr.

GENERALE

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5 December 1995

ORIGINAL: ENGLISH

INTERGOVERNMENTAL CONFERENCE
TO ADOPT A GLOBAL PROGRAMME OF
ACTION FOR THE PROTECTION OF THE
MARINE ENVIRONMENT FROM LAND-
BASED ACTIVITIES

Washington, D.C., 23 October - 3 November 1995

**GLOBAL PROGRAMME OF ACTION FOR
THE PROTECTION OF THE MARINE
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GLOBAL PROGRAMME OF ACTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

Note by the secretariat

The secretariat has the honour to circulate herewith the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, as adopted on 3 November 1995 by the Intergovernmental Conference which met for that purpose in Washington, D.C., from 23 October to 3 November 1995.

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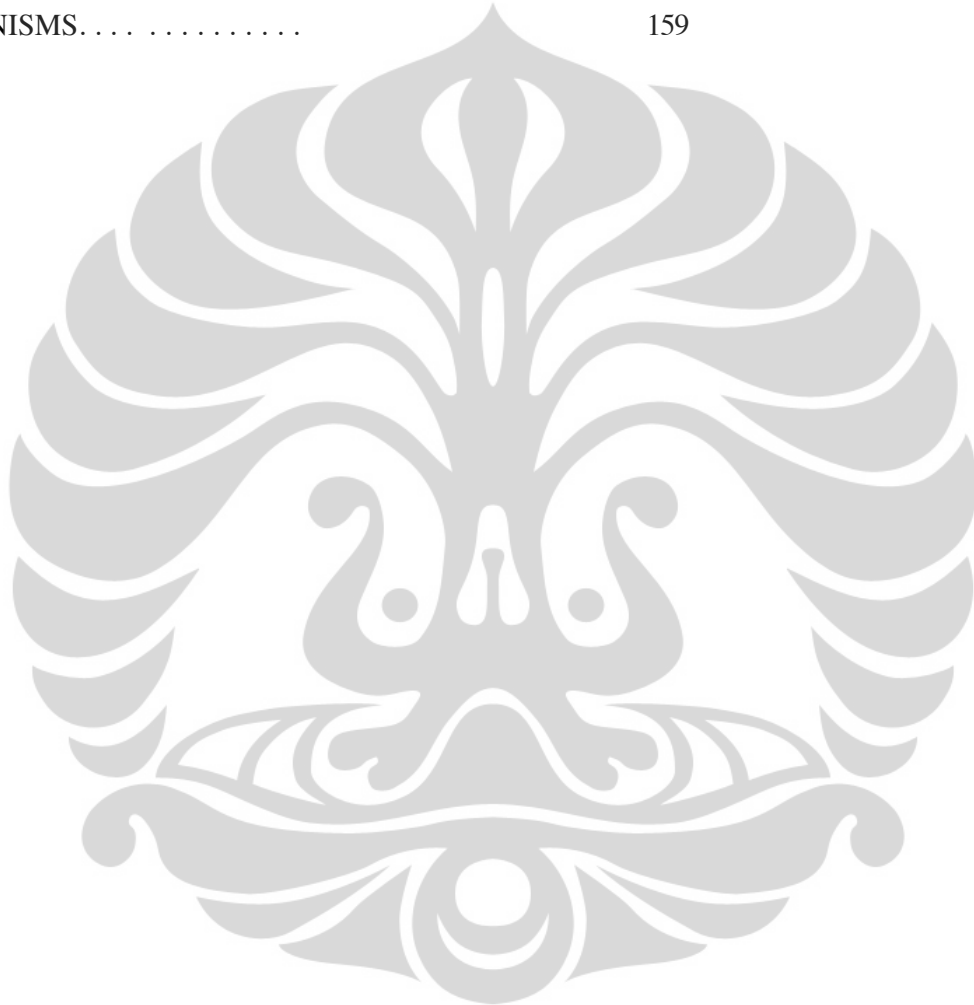
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I. INTRODUCTION

A. The need for action

1. The major threats to the health and productivity and biodiversity of the marine environment result from human activities on land -in coastal areas and further inland. Most of the pollution load of the oceans, including municipal, industrial and agricultural wastes and run-off, as well as atmospheric deposition, emanates from such land-based activities and affects the most productive areas of the marine environment, including estuaries and near-shore coastal waters. These areas are likewise threatened by physical alteration of the coastal environment, including destruction of habitats of vital importance for ecosystem health. Moreover, contaminants which pose risks to human health and living resources are transported long distances by watercourses, ocean currents and atmospheric processes.

2. The bulk of the world's population lives in coastal areas, and there is a continuing trend towards its concentration in these regions. The health, well-being and, in some cases, the very survival of coastal populations depend upon the health and well-being of coastal systems -estuaries and wetlands -as well as their associated watersheds and drainage basins and near-shore coastal waters. Ultimately, sustainable patterns of human activity in coastal areas depend upon a healthy marine environment, and vice versa.

B. Aims of the Global Programme of Action

3. The Global Programme of Action aims at preventing the degradation of the marine environment from land-based activities by facilitating the realization of the duty of States to preserve and protect the marine environment. It is designed to assist States in taking actions individually or jointly within their respective policies, priorities and resources, which will lead to the prevention, reduction, control and/or elimination of the degradation of the marine environment, as well as to its recovery from the impacts of land-based activities. Achievement of the aims of the Programme of Action will contribute to maintaining and, where appropriate, restoring the productive capacity and biodiversity of the marine environment, ensuring the protection of human health, as well as promoting the conservation and sustainable use of marine living resources.

C. Legal and institutional framework

4. International law, as reflected in the provisions of the United Nations Convention on the Law of the Sea (UNCLOS) and elsewhere, sets forth rights and obligations of States and provides the international basis upon which to pursue the protection and sustainable development of the marine and coastal environment and its resources.

5. In accordance with general international law, while States have the sovereign right to exploit their natural resources pursuant to their environmental policies, the enjoyment of such right shall be in accordance with the duty to protect and preserve the marine environment. This fundamental duty is to protect and preserve the marine environment from all sources of pollution, including land-based activities. Of particular significance for the Global Programme of Action are the provisions contained in articles 207 and 213 of UNCLOS.

/...

6. Also of particular importance for the Programme of Action is the emphasis, in parts XII, XIII and XIV of the Convention, dealing, respectively, with protection and preservation of the marine environment, marine scientific research and the development and transfer of marine technology, on the obligation of States to cooperate in the development of the marine scientific and technological capacity of developing States and to provide them with scientific and technical assistance.

7. The duty of States to preserve and protect the marine environment has been reflected and elaborated upon in numerous global conventions and regional instruments (e.g. the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; Convention on Biological Diversity; United Nations Framework Convention on Climate Change; Regional Seas Conventions; International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), etc.). Innovative new principles and approaches applicable to the prevention of the degradation of the marine environment from land-based activities have been included in a number of such agreements.

8. In 1982, the United Nations Environment Programme (UNEP) took the initiative to develop advice to Governments on addressing impacts on the marine environment from land-based activities. This initiative resulted in the preparation of the Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-based Sources in 1985.

9. The duty to protect the marine environment from land-based activities was placed squarely in the context of sustainable development by the United Nations Conference on Environment and Development in 1992. Therein, States agreed it is necessary:

- (a) To apply preventive, precautionary, and anticipatory approaches so as to avoid degradation of the marine environment, as well as to reduce the risk of long-term or irreversible adverse effects upon it;
- (b) To ensure prior assessment of activities that may have significant adverse impacts upon the marine environment;
- (c) To integrate protection of the marine environment into relevant general environmental, social and economic development policies;
- (d) To develop economic incentives, where appropriate, to apply clean technologies and other means consistent with the internalization of environmental costs, such as the "polluter pays" principle, so as to avoid degradation of the marine environment;
- (e) To improve the living standards of coastal populations, particularly in developing countries, so as to contribute to reducing the degradation of the coastal and marine environment.

10. As set out in paragraph 17.23 of Agenda 21, States agree that provision of additional financial resources, through appropriate international mechanisms, as well as access to cleaner technologies and relevant research, would be necessary to support action by developing countries to implement this commitment.

11. Agenda 21 linked the implementation of those duties with action to implement commitments to integrated management and sustainable development of the marine environment, including coastal areas under national jurisdiction. In this regard, States agreed to implement the provisions of the programme of action adopted at the World Coast Conference in Noordwijk in 1993 and to further develop those provisions in order to make them more operational.

12. Agenda 21 also linked action to combat marine degradation caused by land-based activities to action to address the specific problems of small island developing States. In this regard, States agreed to implement the provisions of the priority areas of the Programme of Action for the Sustainable Development of Small Island Developing States, adopted in Barbados in 1994.

13. In order to promote, facilitate and finance implementation of Agenda 21 by developing countries, an objective of Agenda 21 is to provide additional financial resources that are both adequate and predictable. Another objective in this context is to promote, facilitate and finance, as appropriate, the access to and the transfer of environmentally sound technologies and corresponding know-how, in particular to developing countries, on favourable terms, including concessional and preferential terms, as mutually agreed, taking into account the need to protect intellectual property rights as well as the special needs of developing countries for the implementation of Agenda 21.

D. The Global Programme of Action

14. The Programme of Action, therefore, is designed to be a source of conceptual and practical guidance to be drawn upon by national and/or regional authorities in devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities. Effective implementation of this Programme of Action is a crucial and essential step forward in the protection of the marine environment and will promote the objectives and goals of sustainable development.

15. The Global Programme of Action reflects the fact that States face a growing number of commitments flowing from Agenda 21 and related conventions. Its implementation will require new approaches by, and new forms of collaboration among, Governments, organizations and institutions with responsibilities and expertise relevant to marine and coastal areas, at all levels—national, regional and global. These include the promotion of innovative financial mechanisms to generate needed resources.

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II. ACTIONS AT THE NATIONAL LEVEL

Basis for action

16. Sustainable use of the oceans depends on the maintenance of ecosystem health, public health, food security, and economic and social benefits including cultural values. Many countries depend on sources of income from activities that would be directly threatened by degradation of the marine environment: industries such as fishing and tourism are obvious examples. The subsistence economy of large coastal populations, in particular in the developing countries, is based on marine living resources that would also be threatened by such degradation. Also to be considered are the impacts of such degradation on maritime culture and traditional lifestyles.

17. Food security is threatened, in particular in developing countries, by the loss of marine living resources that are vital for the adequate provision of food and for combating poverty. Public health considerations from a degraded marine environment manifest themselves through the contamination of seafood, direct contact, such as through bathing, and the use of sea water in desalination and food-processing plants.

Objectives

18. To develop comprehensive, continuing and adaptive programmes of action within the framework of integrated coastal area management which should include provisions for:
- (a) Identification and assessment of problems;
 - (b) Establishment of priorities;
 - (c) Setting management objectives for priority problems;
 - (d) Identification, evaluation and selection of strategies and measures, including management approaches;
 - (e) Criteria for evaluating the effectiveness of strategies and programmes;
 - (f) Programme support elements.

Actions

19. States should, in accordance with their policies, priorities and resources, develop or review national programmes of action within a few years and take forward action to implement these programmes with the assistance of the international cooperation identified in chapter IV, in particular to developing countries, especially the least developed countries, countries with economies in transition and small island developing States (hereinafter referred to as "countries in need of assistance"). The effective development and implementation of national programmes of action should focus on sustainable, pragmatic and integrated environmental management approaches and processes, such as integrated coastal area management, harmonized, as appropriate, with river basin management and land-use plans.

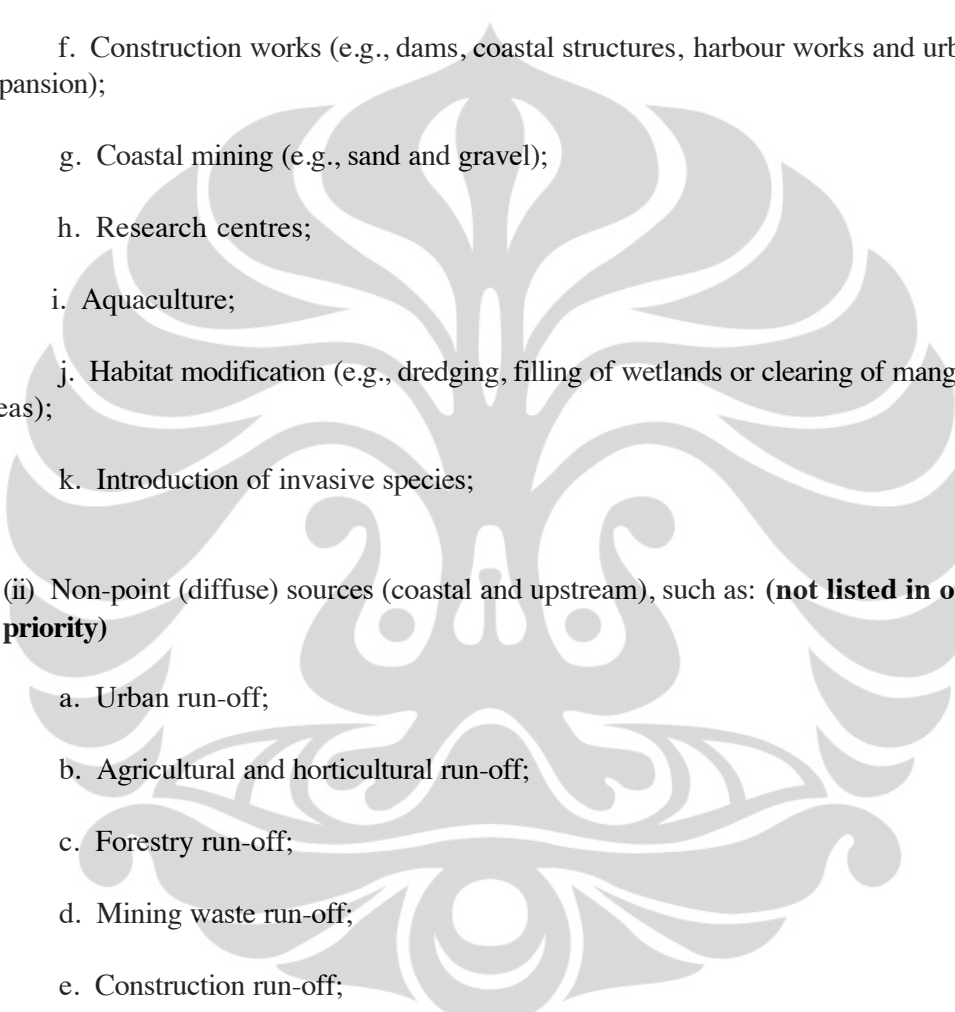
20. Recommended actions to give effect to the objectives in the development of national programmes of action by States are summarized in sections A, B, C, D, E and F below. They are illustrated in more detail in the actions and targets identified in chapter V below.

A. Identification and assessment of problems

21. The identification and assessment of problems is a process of combining five elements:

- (a) Identification of the nature and severity of problems in relation to:
 - (i) Food security and poverty alleviation;
 - (ii) Public health;
 - (iii) Coastal and marine resources and ecosystem health, including biological diversity;
 - (iv) Economic and social benefits and uses, including cultural values;
- (b) Contaminants: **(not listed in order of priority)**
 - (i) Sewage;
 - (ii) Persistent organic pollutants;
 - (iii) Radioactive substances;
 - (iv) Heavy metals;
 - (v) Oils (hydrocarbons);
 - (vi) Nutrients;
 - (vii) Sediment mobilization;
 - (viii) Litter;
- (c) Physical alteration, including habitat modification and destruction in areas of concern;
- (d) Sources of degradation:

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- (i) Point sources (coastal and upstream), such as: **(not listed in order of priority)**
 - a. Waste-water treatment facilities;
 - b. Industrial facilities;
 - c. Power plants;
 - d. Military installations;
 - e. Recreational/tourism facilities;
 - f. Construction works (e.g., dams, coastal structures, harbour works and urban expansion);
 - g. Coastal mining (e.g., sand and gravel);
 - h. Research centres;
 - i. Aquaculture;
 - j. Habitat modification (e.g., dredging, filling of wetlands or clearing of mangrove areas);
 - k. Introduction of invasive species;
 - (ii) Non-point (diffuse) sources (coastal and upstream), such as: **(not listed in order of priority)**
 - a. Urban run-off;
 - b. Agricultural and horticultural run-off;
 - c. Forestry run-off;
 - d. Mining waste run-off;
 - e. Construction run-off;
 - f. Landfills and hazardous waste sites;
 - g. Erosion as a result of physical modification of coastal features;
 - (iii) Atmospheric deposition caused by:
 - a. Transportation (e.g., vehicle emissions);
 - b. Power plants and industrial facilities;

- c. Incinerators;
- d. Agricultural operations;

(e) Areas of concern (what areas are affected or vulnerable): **(not listed in order of priority)**

- (i) Critical habitats, including coral reefs, wetlands, seagrass beds, coastal lagoons and mangrove forests;
- (ii) Habitats of endangered species;
- (iii) Ecosystem components, including spawning areas, nursery areas, feeding grounds and adult areas;
- (iv) Shorelines;
- (v) Coastal watersheds;
- (vi) Estuaries and their drainage basins;
- (vii) Specially protected marine and coastal areas; and
- (viii) Small islands.

B. Establishment of priorities

22. Priorities for action should be established by assessing the five factors described above and should specifically reflect:

- (a) The relative importance of impacts upon food security, public health, coastal and marine resources, ecosystem health, and socio-economic benefits, including cultural values, in relation to:
 - (i) Source-categories (contaminants, physical alteration, and other forms of degradation and the source or practice from which they emanate);
 - (ii) The area affected (including its uses and the importance of its ecological characteristics);
- (b) The costs, benefits and feasibility of options for action, including the long-term cost of no action.

23. In the process of establishing priorities for action and throughout all stages of developing and implementing national programmes of action, States should:

- (a) Apply integrated coastal area management approaches, including provision to involve stakeholders, in particular local authorities and communities and relevant social and economic sectors, including non-governmental organizations, women, indigenous people and other major groups;

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- (b) Recognize the basic linkages between the freshwater and marine environments through, inter alia, application of watershed management approaches;
- (c) Recognize the basic linkages between sustainable management of coastal and marine resources, poverty alleviation and protection of the marine environment;
- (d) Apply environmental impact assessment procedures in assessing options;
- (e) Take into account the need to view such programmes as an integrated part of existing or future comprehensive environmental programmes;
- (f) Take steps to protect: (i) critical habitats, using community-based participatory approaches that are consistent with current approaches to conservation and uses compatible with sustainable development; and (ii) endangered species;
- (g) Integrate national action with any relevant regional and global priorities, programmes and strategies;
- (h) Establish focal points to facilitate regional and international cooperation;
- (i) Apply the precautionary approach and the principle of intergenerational equity.

24. The precautionary approach should be applied through preventive and corrective measures based on existing knowledge, impact assessments, resources and capacities at national level, drawing on pertinent information and analyses at the subregional, regional and global levels. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent the degradation of the marine environment.

C. Setting management objectives for priority problems

25. On the basis of the priorities established, States should define specific management objectives, both with respect to source categories and areas affected. Such objectives should be set forth in terms of overall goals, targets and timetables, as well as specific targets and timetables for areas affected and for individual industrial, agricultural, urban and other sectors. Wherever possible, States should take immediate preventive and remedial action using existing knowledge, resources, plans and processes.

D. Identification, evaluation and selection of strategies and measures

26. Strategies and programmes to achieve these management objectives should include a combination of:

- (a) Specific measures, including, as appropriate:

- (i) Measures to promote sustainable use of coastal and marine resources and to prevent/reduce degradation of the marine environment, such as:
- a. Best available techniques (*) and best environmental practices, including substitution of substances or processes entailing significant adverse effects;
 - b. Introduction of clean production practices, including efficient use of energy and water in all economic and social sectors;
 - c. Application of best management practices;
 - d. Use of appropriate, environmentally sound and efficient technologies;
 - e. Product substitution;
- (ii) Measures to modify contaminants or other forms of degradation after generation, such as:
- a. Waste recovery;
 - b. Recycling, including effluent reuse;
 - c. Waste treatment;
- (iii) Measures to prevent, reduce or ameliorate degradation of affected areas, such as:
- a. Environmental quality criteria, with biological, physical and/or chemical criteria for measuring progress;
 - b. Land-use planning requirements, including criteria for siting of major facilities;
 - c. Rehabilitation of degraded habitats;
- (b) Requirements and incentives to induce action to comply with measures, such as:
- (i) Economic instruments and incentives, taking into account the "polluter pays" principle and the internalization of environmental costs;
 - (ii) Regulatory measures;
 - (iii) Technical assistance/cooperation, including training of personnel;

* For the purposes of this Programme, "best available techniques" is understood to include socio-economic factors.

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(iv) Education and public awareness;

(c) Identification/designation of the institutional arrangement with the authority and resources to carry out management tasks associated with the strategies and programmes, including implementation of compliance provisions;

(d) Identification of short-term and long-term data-collection and research needs;

(e) Development of a monitoring and environmental-quality reporting system to review and, if necessary, help adapt the strategies and programmes;

(f) Identification of sources of finance and mechanisms available to cover the costs of administering and managing the strategies and programmes.

E. Criteria for evaluating the effectiveness of strategies and measures

27. A key element in successful strategies and programmes is to develop ongoing means of determining whether they are meeting their management objectives. States should develop specific criteria to evaluate the effectiveness of such strategies and programmes. While such criteria must be tailored to the particular mix of elements (illustrated in section C above) in each strategy or programme, they should address:

- (a) Environmental effectiveness;
- (b) Economic costs and benefits;
- (c) Equity (costs and benefits of the strategy or programme are being shared fairly);
- (d) Flexibility in administration (the strategy or programme can adapt to changes in circumstances);
- (e) Effectiveness in administration (management of the strategy or programme is cost-effective and accountable);
- (f) Timing (the timetable needed to put the strategy or programme in place and to begin producing results);
- (g) Inter-media effects (the achievement of the objectives of the strategy or programme creates a net environmental benefit).

F. Programme support elements

28. The long-term objective of national programmes of action should be to develop integrated strategies and programmes to address all action priorities in relation to impacts upon the marine environment from land-based activities. In addition, the programmes of action must themselves be integrated with overall national objectives and other relevant programmes in relation to sustainable development. States therefore should seek to ensure that there are administrative and management structures necessary to support the national programmes of action. These include, as appropriate:

- (a) Organizational arrangements to coordinate among sectors and sectoral institutions;
- (b) Legal and enforcement mechanisms (e.g., need for new legislation);
- (c) Financial mechanisms (including innovative approaches to provide continuing and predictable programme funding);
- (d) Means of identifying and pursuing research and monitoring requirements in support of the programme;
- (e) Contingency planning;
- (f) Human resources development and education;
- (g) Public participation and awareness (e.g., based on integrated coastal area management principles).

III Regional Cooperation

Basis for action

29. Regional and subregional cooperation and arrangements are crucial for successful actions to protect the marine environment from land-based activities. This is particularly so where a number of countries have coasts in the same marine and coastal area, most notably in enclosed or semi-enclosed seas. Such cooperation allows for more accurate identification and assessment of the problems in particular geographic areas and more appropriate establishment of priorities for action in these areas. Such cooperation also strengthens regional and national capacity-building and offers an important avenue for harmonizing and adjusting measures to fit the particular environmental and socio-economic circumstances. It, moreover, supports a more efficient and cost-effective implementation of the programmes of action.

Objectives

30. To strengthen and, where necessary, create new regional cooperative arrangements and joint actions to support effective action, strategies and programmes for:
- a) Identification and assessment of problems;
 - b) Establishment of targets and priorities for action;
 - c) Development and implementation of pragmatic and comprehensive management approaches and processes;
 - d) Development and implementation of strategies to mitigate and remediate land-based sources of harm to the coastal and marine environment.

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Activities

A. Participation in regional and subregional arrangements

31. States should :

- a) Pursue more active participation, including accession or ratification, as appropriate, in regional seas and other international marine and freshwater agreements, conventions and related arrangements;
- b) Strengthen existing regional conventions and programmes, and their institutional arrangements;
- c) Negotiate as, appropriate, new regional conventions and programmes.

B. Effective functioning of regional and subregional arrangements

32. With respect to the institutional aspects of regional and subregional arrangements, States should:

- a) Invite multilateral financing agencies, including regional development banks, and national institutions for bilateral development cooperation to cooperate in programming and in national implementation of regional agreements in the developing country regions;
- b) National action strategies and programmes can sometimes be best developed in a regional and subregional context. In developing such programmes of action, due consideration should be given to the suggested approaches and targets identified in chapter V of the present Programme of Action, and to the methodology specified in chapter II above. The programmes of action should be developed and implemented on a timetable appropriate to regional or subregional circumstances and decided upon by the governing bodies of the regional or subregional agreements, conventions or arrangements as appropriate;
- c) Establish or strengthen regional information networks and linkages for communicating with clearing-houses and other sources of information;
- d) Ensure close collaboration between the national and regional focal points and regional economic groupings, other relevant regional and international organizations, development banks and regional rivers authorities / commissions, in the development and implementation of regional programmes of action;
- e) Encourage and facilitate cooperation between and among regional organizations / conventions to promote the exchange of information, experience and expertise;
- f) Ensure that there is adequate secretariat support for regional and subregional arrangements (legal agreements and programmes of action), including:
 - i. Clear definition of secretariat functions and responsibilities;

- ii. Consolidation of secretariats, including reliance on existing institutional arrangements, where cost-effective;
- iii. Cooperation between secretariats;
- iv. Close integration of regional and subregional programmes of action and the relevant legal agreements that apply to the region and subregion.

33. In the development and implementation of the regional programmes of action, consideration should also be given to the following;

- a) Steps towards harmonization of environmental and control standards for emissions and discharges of pollutants, and agreement on data-quality assurance standards, data validation, comparative analysis, reference methods and training that are required for reliable monitoring and assessment carried out for the protection of the marine environment from land-based activities;
- b) Steps to protect critical habitats and endangered species;
- c) Exploring the use of innovative financing mechanisms that will assist the implementation of national and regional programmes of action;
- d) Building capacity and, where appropriate, identifying regional centres of excellence for research, management tools and concepts, training and capacity-building as well as contingency-planning, monitoring and assessment, including environmentally sound technology assessment;
- e) Arrangements to ensure that decision-making at the regional level is based in an integrated planning and management approach adopted at the national level;
- f) Establishment of linkages with regional or subregional fisheries arrangements, as well as other mechanisms dealing with conservation of marine species, to promote collaboration in the exchange of data and information and mutual reinforcement in the achievement of respective objectives.

34. Land-locked States whose river systems and drainage basins are linked to a particular marine region or subregion should be encouraged to participate in the relevant regional and subregional arrangements for:

- a) Identification and characterization of drainage basins that are closely linked to degradation of the coastal areas and the marine environment.
- b) of scale and monitoring of national activities and practices that are associated with degradation of the marine environment;
- c) Establishment or strengthening of national environmental management and surveillance mechanisms and networks that are consistent with regional seas agreements or other arrangements.

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35. States should encourage, where appropriate, regions to enter into interregional cooperation in order to exchange experiences and to help implement policies. Interregional cooperation may also be necessary to promote coordination of efforts for the protection and preservation of marine ecosystems and habitats.

IV. INTERNATIONAL COOPERATION

Basis for action

36. Effective international cooperation is important for the successful and cost-effective implementation of the Programme of Action. International cooperation serves a central role in enhancing capacity-building, technology transfer and cooperation, and financial support. Moreover, effective implementation of the Programme of Action requires efficient support from appropriate international agencies. Furthermore, international cooperation is required to ensure regular review of the implementation of the Programme and its further development and adjustment.

37. At the global level, there is a need for regular reviews of the state of the world marine environment, as well as dialogues, based on reports from relevant regional organizations, on implementation of regional action programmes, including exchange of experiences, the flow of financial resources in support of the implementation, in particular by countries in need of assistance, of national action to prevent and reduce marine degradation caused by land-based activities as well as scientific and technological cooperation and transfer of cleaner technology, in particular, to countries in need of assistance.

Objective

38. To strengthen existing international cooperation and institutional mechanisms and, where appropriate, to establish new arrangements, in order to support States and regional groups to undertake sustained action to address impacts upon the marine environment from land-based activities. Such actions should be based on the commitments with respect to financial resources contained in chapter 33 of Agenda 21, including paragraph 33.11, and those with respect to transfer of environmentally sound technology, cooperation and capacity-building contained in chapter 34 of Agenda 21, including paragraphs 34.4 and 34.14, as well as the commitments contained in paragraphs 17.23 and 17.48.

Activities

39. Recommended actions to give effect to these objectives in support of national and regional action to prevent and reduce marine degradation caused by land-based activities fall into four general categories:

- (a) Capacity-building;
- (b) The mobilization of financial resources;

- (c) The international institutional framework;
- (d) Additional areas of international cooperation.

A. Capacity-building

40. The mechanisms and cooperative actions should include:

- (a) The mobilization of experience in support of national and regional action to prevent and reduce marine degradation caused by land-based activities;
- (b) A clearing-house mechanism.

These mechanisms and cooperative actions should take into account the special needs of countries in need of assistance, including support for the establishment of infrastructures and the development of action programmes, as well as the alternatives and solutions that such countries are able to offer.

1. Mobilization of experience and expertise

41. States should cooperate to ensure that the most up-to-date information, experience and technical expertise with respect to each source-category of impacts upon the marine environment from land-based activities are made available and brought to bear upon national and regional actions to address such impacts. The steps to this end should include:

- (a) Establishment of linkages with international and regional organizations, including specialized agencies, with relevant expertise and responsibilities with respect to particular sources and sectors;
- (b) Promotion of cooperative interaction with private-sector groups and non-governmental organizations to introduce cost-effective and environmentally sound practices;
- (c) Facilitation and promotion of access, in particular for countries in need of assistance, to new and innovative technologies relevant to each source-category of impacts upon the marine environment from land-based activities, including those causing physical degradation and destruction of habitats;
- (d) Promotion of cleaner production techniques, inter alia, through training of industry personnel;
- (e) Promotion of new information technologies that facilitate knowledge transfer within countries and between States, including, in particular, from developed countries to countries in need of assistance;
- (f) Facilitation of access to sources (public or private, national or multilateral) of technical advice and assistance with respect to particular source-categories and sectors;

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(g) Facilitation of identification of opportunities for projects contributing to sustainable development for the private sector, including by industry and banks;

(h) Establishment of linkages with the activities of ongoing international programmes monitoring and assessing the state of marine environment and relevant river systems, for example, the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), the Global Ocean Observing System (GOOS), the Global Investigation of Pollution in the Marine Environment (GIPME), the Global Environment Monitoring System/Water, and the World Hydrological Cycle Observing System; and

(i) Establishment of linkages with international organizations, including specialized agencies and other organizations of the United Nations system, for dealing with environmental emergencies.

2. Clearing-house

42. As a means of mobilizing experience and expertise, including facilitation of effective scientific, technical and financial cooperation, as well as capacity-building, States should cooperate in the development of a clearing-house mechanism, i.e., a referral system through which decision makers at the national and regional level are provided with access to current sources of information, practical experience and scientific and technical expertise relevant to developing and implementing strategies to deal with the impacts of land-based activities. The referral system would be designed to allow decision makers to establish rapid and direct contact with the organizations, institutions, firms and/or individuals most able to provide relevant advice and assistance. It would therefore be a mechanism for responding to requests from national Governments on a timely basis. The clearing-house would consist of three basic elements:

(a) A data directory, with components organized by source-category, cross-referenced to economic sectors, containing information on current sources of information, practical experience and technical expertise;

(b) Information-delivery mechanisms to allow decision makers to have ready access to the data directory and obtain direct contact with the sources of information, practical experience and technical expertise identified therein (including the organizations, institutions, firms and/or individuals most able to provide relevant advice and assistance);

(c) Infrastructure - the institutional process for developing, organizing and maintaining the directory and delivery mechanisms.

43. Data directory.

The data directory would include a component for each source-category delineated in this Programme of Action. Each such component would contain descriptions and contact information for each existing database and source of practical information and technical expertise. The descriptions and contact information would allow decision makers to determine which sources of information, experience and expertise are most relevant in a given situation and to contact these sources quickly. A key prerequisite for maintaining the directory is regular review of the descriptions and contact information to ensure that it is up-to-date. For each source-category, the relevant databases and sources of information, experience and expertise are likely to be dispersed among a large number of institutions and repositories, including global

and regional organizations and national Governments, the private sector and non-governmental organizations. These institutions and repositories should be fully involved in the development of the data directory component for that source-category. In this way, the directory and its components should be built upon, not replicate, the work of organizations such as the World Bank, the United Nations Development Programme (UNDP), UNEP, including the UNEP International Cleaner Production Information Clearing-house (UNEP/ICPIC), the International Atomic Energy Agency (IAEA), the International Maritime Organization (IMO), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Centre for Human Settlements (UNCHS) (Habitat), the United Nations Industrial Development Organization (UNIDO), the World Health Organization (WHO) and the Arctic Monitoring and Assessment Programme (AMAP). It should in addition make full use of the Small Island Developing States Network (SIDS-NET). Where appropriate, it should also draw upon the work of other intergovernmental and non-governmental organizations and the private sector.

44. Each data-directory component should be organized so as to identify:

- (a) Sources of current information, practical experience and technical expertise on:
 - (i) The nature, pathways, fate and effects of the contaminants or other forms of degradation, including data-quality assurance techniques;
 - (ii) Standards and reference methods for monitoring contamination, as well as its concentrations, or other forms of degradation, including biological-effects monitoring and data-quality assurance techniques;
 - (iii) Policies, measures and strategies for action, including mobilization and generation of resources, that have been successfully applied (and those that have been unsuccessful) in addressing activities generating the source-category contaminants or other forms of degradation (what works and what does not); and
 - (iv) Economically rational, environmentally sound and cleaner practices, techniques and technologies to prevent, mitigate and/or control adverse impacts on the marine environment of land-based activities;
- (b) Sources of relevant information:
 - (i) In international and regional organizations (including non-governmental organizations) with relevant expertise and experience; and
 - (ii) Concerning intergovernmental and private sources of assistance, scientific, technical and financial, including such matters as the terms and conditions for the provision of such assistance.

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45. Information-delivery mechanisms.

The clearing-house mechanism must include simple and widely available means of gaining entry to the directory and retrieving information from its components, including directing inquiries to the organizations, institutions, firms and/or individuals most able to provide relevant advice and assistance. In other words, the data directory must be easily accessible to decision makers on a real-time basis. The objective would be user-friendly access to the data directory and its components through electronic means. The World Wide Web on the Internet offers such a basic access mechanism. It is recognized, however, that the Internet is not universally available. It is important, therefore, to also use and build upon existing information-delivery systems, including the UNDP network of resident representatives, INFOTERRA, and linked regional systems, including the secretariats of regional seas and other regional conventions.

46. Infrastructure.

The development, organization and maintenance of the data directory and its components and the delivery mechanisms have both specific (source-category) and general dimensions. At the general level, an inter-organizational group should be established by the relevant international organizations to coordinate the basic design and structure of the data directory as well as its linkages to information-delivery mechanisms. This group would be responsible for establishing a common format for the individual source-category components and for cross-referencing among components. It would include representatives of each lead organization responsible for coordinating development of individual data-directory components, those responsible for information-delivery mechanisms, and experts on information technology and other relevant fields.

47. For each source-category component of the data directory, a lead organization should be designated to convene or designate a group of experts to develop the content of specific entries for that component. Issues such as ensuring that entries meet quality and relevance criteria and keywords or search items relevant to the source-category would also be the responsibility of each group of experts. There would be provision to reconvene each such group periodically to update the source-category component, including ensuring that the sources of information, practical experience and technical expertise are relevant and do represent the best sources.

48. Recognizing that many developing States may not have the necessary capacity to benefit from the clearing-house mechanism, this process of implementation should provide for capacity-building, including technical training and infrastructure development.

49. The clearing-house mechanism should be designed to include feedback functions to provide for its refinement and evolution to meet the needs of its users. These feedback functions include:

- (a) Identification of data and information gaps and recommendations as to how to address such gaps;
- (b) Identification of training and infrastructure requirements for those using the clearing-house mechanism;
- (c) Provision for establishment of links between the clearing-house mechanism and regional agreements, institutions and centres holding information, experience and technical expertise of specific relevance to the region concerned.

B. Mobilizing financial resources

50. Alongside the mobilization of experience and expertise, the mobilization of financial resources is the other indispensable foundation for the development and implementation of national and regional programmes for the protection of the marine environment from land-based activities. It is recognized that the development of national and regional action programmes are of primary international importance.

51. While States recognize that, in general, the financing for the implementation of the national and regional programmes of action that will embody this Global Programme of Action should come from each country's own public and private sectors, they reaffirm:

(a) Their conclusion that international cooperation for sustainable development should be strengthened in order to support and complement the efforts of countries in need of assistance;

(b) Their acknowledgement that, for countries in need of assistance, substantial new and additional funding will be required for the actions flowing from Agenda 21;

(c) Their commitment that such funding should be provided in a way that maximizes the availability of new and additional resources and uses all available funding sources and mechanisms, as set out in paragraph 17.23 and, more generally, in chapter 33 of Agenda 21.

52. There is increasing realization worldwide of the need for action to protect the world's marine environment, described in the opening paragraphs of this Programme. Equally, it is increasingly realized that land-based activities are the predominant source of adverse impacts on the marine environment. This realization should lead to a correspondingly greater political emphasis, at national, regional and global levels, on the need to ensure the mobilization of the necessary funding for the action needed within the framework of integrated management of coastal zones and, where appropriate, associated watersheds. This in turn should be translated into an increased willingness by partners for international development cooperation to provide financing, including on concessionary and preferential terms, for projects aimed at fulfilling the objectives of this Programme of Action.

1. Scale of funding required

53. There are major differences among the different regions of the world, and the States which they comprise, in terms of geography, physiography, and ecology and, above all, in economic and social conditions, level of development and regional cooperation. In many cases, as well, the impacts on the marine environment of various contaminants and forms of physical disturbance will have different degrees of importance. All these variations will lead to different judgments on the appropriate priorities to be given to tackling the different problems mentioned in chapters II and III above. Each State will therefore develop its own appropriate set of priorities for the tasks that it decides to undertake to protect the marine environment, and these priorities will be reflected in the composition and scale of its national programme of action and any regional programme in which it participates.

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54. The amount of funding required for implementation of the present Programme, and the mix of sources and mechanisms that is appropriate, will therefore flow from these national decisions on priorities. The differing national priorities, the range of actions which may need to be undertaken and the variety of sources and mechanisms which may be used, separately or in combination, to finance them mean that there will be significant variations between States in the approach to mobilizing financial resources, in particular between developed and developing States.

2. Range of financing possibilities

55. The funding of action to address the priorities at the national and regional levels, consistent with chapters II, III and V of this Programme, requires, in the first place, the identification of all the various potential domestic funding sources and mechanisms, in order to determine which are appropriate for the priority concerned, and to find ways of linking them in an innovative fashion. An illustrative list of domestic sources and mechanisms is set out in the annex to the present Programme of Action. There will be differences between States, particularly between developed countries and countries in need of assistance, in the extent to which use of these various options is possible. As part of the preparation of their national plans, States should evaluate the potential of these options.

56. For many States, whether developed, developing or in economic transition, it will also be appropriate to look more widely for appropriate sources of financial resources and mechanisms to mobilize them effectively. Funding from domestic sources and mechanisms may be insufficient, particularly for countries in need of assistance. An illustrative list of external sources and mechanisms is also included in the annex to the present Programme of Action. Where appropriate, in the preparation of their national programmes, States should investigate the potential roles of such sources and mechanisms.

57. For countries in need of assistance, there is a limited level of domestic resources available and a wide range of demanding challenges to be faced in many fields. Where the lack of domestic financial resources means that projects in such countries will not be able to proceed, there will be recourse to external financing, particularly funding through grants and concessionary loans. In other cases, external financing, through various innovative schemes (such as co-financing and joint ventures, underwriting of country risks, and venture capital funds) can also act as a catalyst for the mobilization of domestic financial resources and provide leverage to attract additional external financial resources in order to mobilize more efficiently new financial flows.

3. Funding the programmes

58. National and regional programmes should ensure that there is a balance between the projects to be undertaken to implement national and regional priorities and the sources of funding available.

59. Where recourse to external sources and mechanisms for financial resources is necessary, the mix of the various possibilities that will be appropriate will vary from country to country. The pattern of funding will have to be determined in accordance with the decisions on individual projects.

60. Further, countries in need of assistance may need help in capacity-building for:

- (a) Development of national programmes of action;
- (b) Preparation of national assessments on each source-category;
- (c) Identification of ways and means of funding the implementation of the national plans.

61. National and international financial institutions, bilateral donors and other competent regional and international organizations should assist in this capacity-building task.

62. As part of the process of ensuring that intergovernmental agencies and other international bodies take due account of this Programme of Action, and in view of the particular significance of external finance for countries in need of assistance, it will be necessary for those international agencies concerned with the provision of finance, particularly in the form of grants and concessionary loans, to ensure that their policies give appropriate priority to assistance for projects aimed at the implementation of the Programme. A similar approach is also needed for bilateral assistance. International financial institutions should provide information on the amounts and terms of the financial resources that they might provide, in particular to countries in need of assistance.

63. Improved cooperation and coordination is essential among national institutions, international organizations, including financial institutions, and the private sector and non-governmental organizations, to enhance the effectiveness of the delivery of financial and other support.

64. Mobilizing financial resources is not a one-off task. As part of the follow-up process to this Programme, periodical reviews should be undertaken by the intergovernmental meetings referred to in paragraph 77 below as to whether it has been possible to achieve an appropriate balance between the scale and type of funding required and that which has been available in practice. In the light of such reviews, a conclusion will have to be reached on any problems encountered over access to new and additional funding sources and mechanisms, in accordance with the commitments in Agenda 21.

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4. Recommended approaches for projects to be funded

65. The recommendations set out below are intended to highlight features which are important for partners in international development cooperation in the design and evaluation of, and for decisions on, projects for the protection of the marine environment for which external financing is to be sought. With appropriate modifications, they will also apply where a national or regional programme contains a series of related projects.

66. Projects need to be prepared in the context of the overall national or regional strategies, policies and programmes related to the protection of the marine environment, on the basis of its sustainable use and development. Accordingly:

(a) Projects should be derived from the priorities established nationally for the prevention, control and reduction of marine and coastal degradation within the framework of integrated management of coastal zones and, where appropriate, their associated watersheds, and consistent with the national sustainable development strategy;

(b) Chapters II, III and V of this Programme should provide the policy framework for the identification of priorities;

(c) Projects should be consistent with the principles and duty set out in chapter I above.

67. The goals for projects responding to the impact of land-based activities upon the marine environment include:

(a) Protection of the health and public amenities of coastal populations, in particular those suffering from poverty and food insecurity, including addressing sewage and industrial effluents;

(b) Conservation of marine living resources, including maintenance or increase of future options for their sustainable use;

(c) Conservation and sustainable use, including restoration, of coastal and marine biological diversity;

(d) Protection, including restoration, of habitats of marine living resources, including critical spawning and feeding areas, as well as areas used or suitable for mariculture;

(e) Alleviation of poverty as a means of reducing pressure on coastal and marine environments;

(f) Addressing, where appropriate, management of associated watersheds.

68. Other features which will make projects more likely to be effective or which will enhance their value generally include:

(a) The involvement of user and local communities that are interested, particularly the economic and social sectors affected;

(b) Consultation with organized civil society and non-governmental organizations, and the private sector;

(c) Provision for capacity-building and the development of institutions, including relevant technology and management training, human-resources development and public outreach and education;

(d) Coordination between those providing external support when several international development partners are involved;

(e) Partnerships and co-financing with the private sector;

(f) Promotion of knowledge and understanding of the marine environment;

(g) Innovation and replicability.

5. The Global Environment Facility

69. The Global Environment Facility (GEF) provides new and additional grants and concessionary loans to eligible countries to meet the agreed environmental costs of measures to achieve agreed global incremental benefits in four focal areas: climate change, biological diversity, international waters and ozone-layer depletion. The agreed incremental costs of activities concerning land degradation, primarily desertification and deforestation, as they relate to the four focal areas, are also eligible for funding. The international waters and biodiversity focal areas are most directly related to the goals of this Programme of Action, through links between land-based activities and other focal areas should be recognized. Where consistent with its operational strategies, GEF assistance can play an important role in catalysing the necessary national and regional action to address those international concerns identified in this Programme which ultimately have global linkages and global policy implications. GEF funding cannot, however, be a substitute for ordinary development aid.

70. GEF is invited to build upon the work that will be undertaken to implement this Programme of Action and fund the agreed incremental costs of activities consistent with the GEF operational strategy. It is also invited to consider:

(a) Reflecting the unity of the marine environment and its linkages to freshwater systems;

(b) Recognizing that, while the focal area of international waters is to be distinct from other areas of GEF funding, land-based activities may have links both with it and with biological diversity and climate change;

(c) Recognizing the international significance of transboundary pollution which may have its origin in a local area;

(d) Recognizing that, even where pollution or its root cause is confined to a local area, some types of pollution may affect the waters of more than one State, and thus be of international significance;

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(e) Including, where appropriate, clearly defined and targeted research and monitoring within projects.

71. States welcome the priority to be given by the GEF operational strategy for international waters to impacts upon the marine environment from land-based activities.

C. International institutional framework

72. A number of international organizations and institutions, including non-governmental organizations, regional and global, have responsibilities and experience with respect to prevention, reduction and control of impacts upon the marine environment from one or more of the source-categories of land-based activities. The international institutional framework for implementation of this Programme of Action, therefore, should be based upon concerted action by States within the relevant organizations and institutions to accord attention and priority to impacts on the marine environment from land-based activities and concerted action by States to ensure effective coordination and collaboration among such organizations and institutions. In addition, the framework should make provision for regular review of the Programme of Action, including its implementation and necessary adjustments.

73. The process of developing this institutional framework will require a series of interlinked steps. States should commit themselves to taking action within the international organizations and institutions with responsibilities and experience regarding impacts upon the marine environment from land-based activities:

(a) To secure formal endorsement of those parts of the Programme of Action that are of relevance to such organizations and institutions;

(b) To accord priority to the prevention, reduction and control of impacts upon the marine environment from land-based activities through the economic, social and environmental mandates of such organizations and institutions; and

(c) To review regularly the state of knowledge and the state of the art with respect to the prevention, reduction and control of impacts upon the marine environment from land-based activities through the economic, social and environmental mandates of such organizations and institutions.

74. Recognizing that States have the primary role in the implementation of this Programme of Action, UNEP, as the coordinator and catalyst of environmental activities within the United Nations system and beyond, should, through its programmes and secretariat role:

(a) Promote and facilitate implementation of the Programme of Action at the national level;

(b) Promote and facilitate implementation at the regional, including subregional, level through, in particular, a revitalization of the Regional Seas Programme; and

(c) Play a catalytic role in the implementation at the international level with other organizations and institutions.

75. It is important that in fulfilling this role, including the secretariat function, UNEP should undertake it in an efficient and cost-effective manner, supported largely by the existing resources, expertise and infrastructure available in all components of UNEP's programmes. UNEP should be flexible and responsive to the evolving needs of the Programme and the availability of resources, e.g. from trust funds.

76. In facilitating the effective implementation of the Programme of Action, UNEP should maintain a close partnership with other organizations and bodies, such as IMO, WHO, FAO, the World Meteorological Organization (WMO), UNDP, UNIDO, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (UNESCO/IOC), IAEA, the World Bank and regional development banks, GEF and UNCHS (Habitat), as well as regional bodies supporting the implementation of regional seas and relevant freshwater programmes. An appropriate division of tasks is of essential importance to ensure the efficient and cost-effective implementation of the Programme of Action.

77. UNEP should, in close collaboration with the relevant organizations and institutions, convene periodic intergovernmental meetings to:

- (a) Review progress on implementation of the Programme of Action;
- (b) Review the results of scientific assessments regarding land-based impacts upon the marine environment provided by relevant scientific organizations and institutions, including GESAMP;
- (c) Consider reports provided on national plans to implement the Programme of Action;
- (d) Review coordination and collaboration among organizations and institutions, regional and global, that have responsibilities and experience with respect to prevention, reduction and control of impacts upon the marine environment from land-based activities;
- (e) Promote exchange of experience between regions;
- (f) Review progress on capacity-building (section A of this chapter) and on mobilization of resources (section B of this chapter) to support the implementation of the Programme of Action, in particular by countries in need of assistance and, where appropriate, provide guidance;
- (g) Consider the need for international rules, as well as recommended practices and procedures, to further the objectives of the Programme of Action.

78. In preparation for these meetings, States should be encouraged to provide reports, directly or through relevant regional organizations, on the implementation of the Programme of Action. Non-governmental organizations would also be invited to report on relevant activities.

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79. A component of the institutional framework for implementation of the Programme of Action is establishment of the clearing-house mechanism called for in section A of this chapter. This will require collaboration between UNEP and a variety of international organizations and institutions, including the United Nations system and international financial institutions. Specific steps include:

- (a) Determination of the composition and providing for the establishment of the inter-organizational steering group;
- (b) Designation of lead organization(s) for the development and updating of each source-category component in the data directory;
- (c) Identification of the appropriate mix of information-delivery systems.

Steps for developing institutional arrangements

80. The process of articulating the institutional framework to support and implement this Programme of Action cuts across existing institutional mandates and will require action within relevant international organizations and institutions, including those of the United Nations system and international financial institutions. It is recommended, therefore, that pertinent provisions outlined in this Programme of Action be set forth in a resolution to be adopted by the United Nations General Assembly at its fifty-first session.

81. The resolution would set forth commitment to the institutional framework outlined in the Programme of Action and agree on specific steps towards its establishment, including the clearing-house. Such steps would include identification of the international organizations and institutions, regional and global, with responsibilities and experience regarding impacts upon the marine environment from land-based activities.

82. It is recommended that the issue of the General Assembly resolution be specifically included on the agenda of the Commission on Sustainable Development for consideration in the context of its review of chapter 17 of Agenda 21, on oceans.

83. The Executive Director of UNEP is called upon to prepare a proposal setting forth a specific plan for implementing the institutional arrangements contained in this Programme of Action, including, in collaboration with other organizations, the preparation of a draft implementation plan and pilot project for the clearing-house. This proposal should be submitted to the inter-sessional meeting for the Commission on Sustainable Development, to be held in February 1996. This plan should include a clear indication of how UNEP intends to carry out its functions in this regard, including secretariat functions, its contributions to the clearing-house mechanism, proposals and action taken on coordination among relevant United Nations and other organizations and how the relevant UNEP programmes, including the Regional Seas Programme, could be strengthened to carry out an effective role in the implementation of this Programme of Action.

D. Additional areas of international cooperation

1. Waste-water treatment and management

84. In accordance with Agenda 21, especially its chapters 17 and 18, States should address the serious public health problems and the degradation of coastal ecosystems that result from the disposal in coastal areas of inadequately treated waste waters. This situation still affects many countries, particularly countries in need of assistance.

85. States agree that planning for pollution prevention, including cleaner-production approaches and best-practice urban design, and the treatment and management of urban waste water, including urban storm-water and separation of industrial effluent, are priorities in the fulfilment of the objectives of this Programme of Action and of Agenda 21. Mechanisms should be studied to expeditiously channel additional resources for this purpose to countries in need of assistance.

86. The Executive Director of UNEP, in close partnership with WHO, UNDP, UNCHS (Habitat) and other relevant organizations, is called upon to prepare a proposal setting forth a specific plan for addressing the global nature of the problems related to the inadequate management and treatment of waste water. This should take account of work already in progress in WHO and other competent international organizations, including the Noordwijk Action Programme. This plan will enable the issue to be addressed in an expeditious and efficient manner in the follow-up to the Global Programme of Action at the international level.

2. Persistent organic pollutants (POPs)

87. Consistent with decision 18/32 adopted by the UNEP Governing Council in May 1995, States should participate actively in the assessment and development of recommendations concerning the list of twelve substances identified in the UNEP decision.

88. There is agreement that:

(a) International action is needed to develop a global, legally binding instrument, amongst other international and regional actions, for the reduction and/or elimination of emissions and discharges, whether intentional or not, and, where appropriate, the elimination of the manufacture and the use of, and illegal traffic in, the persistent organic pollutants identified in UNEP Governing Council decision 18/32, for which the scientific and technical basis for action is already demonstrated, consistent with the principles of the Rio Declaration, in particular Principle 15;

(b) In developing the instrument called for above, the nature of the obligations undertaken must be developed recognizing the special circumstances of countries in need of assistance. Particular attention should be devoted to the potential need for the continued use of certain POPs and the difficulty of acquiring substitutes and of the transfer of technology for the development of those substitutes. This will require special consideration to be given to economically feasible and environmentally sound ways of ceasing to use, discharge or emit POPs selected for priority action. The reduction and/or elimination of use, emissions and discharges of POPs should, if necessary, be taken on a step-by-step basis;

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(c) The range of substances identified in UNEP Governing Council decision 18/32 require differentiated actions depending on their source, nature and use. For example, polychlorinated biphenyls (PCBs) require international cooperation for their proper management and disposal; unintended by-products, such as dioxins and furans, warrant investigation of best available technologies and alternative technologies; while pesticides require approaches addressing use and production;

(d) Furthermore, States should commit themselves to an open and transparent process to facilitate the work of the International Programme on Chemical Safety (IPCS), the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) and the Intergovernmental Forum on Chemical Safety (IFCS), to assess and evaluate the environmental and socio-economic impact of other persistent organic pollutants consistent with the purpose, functions and priorities for action identified by IFCS with a view to their inclusion as appropriate in the global, legally binding instrument mentioned above.

89. To implement Governing Council decision 18/32, UNEP is undertaking a transparent process under the auspices of IOMC, involving Governments, industry, public-interest groups and relevant international organizations. This process is critical to ensuring a balanced consideration of the principal technical matters and central policy issues relevant to global action in this area.

90. States are encouraged to participate actively in the development of a legal instrument for the application of the prior informed consent (PIC) procedure for certain hazardous chemicals in international trade, consistent with UNEP Governing Council decision 18/12, adopted in May 1995.

V. RECOMMENDED APPROACHES BY SOURCE CATEGORY

91. This chapter provides guidance as to the actions that States should consider at national, regional and global levels, in accordance with their national capacities, priorities and available resources, and with the cooperation of the United Nations and other relevant organizations, as appropriate, and with the international cooperation for building capacities and mobilizing resources identified in chapter IV.

92. In the light of the differences between regions and States and the national priorities referred to in paragraphs 53 and 54 above, each State and each regional grouping should develop its own programme of action. This may or may not be a separate document but it should include specific targets and a clear timetable showing the dates by which the State or States involved commit themselves at a political level to achieve these targets.

93. In addition, action will be needed on certain matters at the global level, either to address global effects or to facilitate action at the national or regional levels. Specific targets for these matters are set out in this chapter.

A. Sewage

1. Basis for action

94. Recognizing variation in local conditions, domestic waste water improperly discharged to freshwater and coastal environments may present a variety of concerns. These are associated with: (a) pathogens that may result in human health problems through exposure via bathing waters or through contaminated shellfish, (b) suspended solids, (c) significant nutrient inputs, (d) biochemical oxygen demand (BOD), (e) cultural issues such as taboos in some areas, (f) plastics and other marine debris, (g) ecosystem population effects, and (h) heavy metals and other toxic substances, e.g. hydrocarbons, in those cases where industrial sources may have discharged effluent to municipal collection systems.

95. Environmental effects associated with domestic waste-water discharges are generally local with transboundary implications in certain geographic areas. The commonality of sewage-related problems throughout coastal areas of the world is significant. Consequently, domestic waste-water discharges are considered one of the most significant threats to coastal environments worldwide.

2. Objective/proposed target

96. With regard to objectives and targets, paragraph 21.29 of Agenda 21 states:

"Governments, according to their capacities and available resources and with the cooperation of the United Nations and other relevant organizations, as appropriate, should:

"(a) By the year 2000, establish waste treatment and disposal quality criteria, objectives and standards based on the nature and assimilative capacity of the receiving environment;

"(b) By the year 2000, establish sufficient capacity to undertake waste-related pollution impact monitoring and conduct regular surveillance, including epidemiological surveillance, where appropriate;

"(c) By the year 1995, in industrialized countries, and by the year 2005, in developing countries, ensure that at least 50 per cent of all sewage, waste waters and solid wastes are treated or disposed of in conformity with national or international environmental and health quality guidelines;

"(d) By the year 2025, dispose of all sewage, waste waters and solid wastes in conformity with national or international environmental quality guidelines."

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3. Activities

(a) National actions, policies and measures

97. Actions, policies and measures of States within their national capacities should include:

- (a) Identification of major sewage sources and areas where sewage poses major environmental and health-related hazards;
- (b) Development of national programmes of action for the installation of appropriate and environmentally sound sewage facilities, and to this end ensure:
 - (i) Incorporation of sewage concerns when formulating or reviewing coastal-development and land-use plans, including human-settlements plans;
 - (ii) Building and maintenance of sewer systems and sewage-treatment facilities or other appropriate systems, in accordance with national policies and capacities and international cooperation available;
 - (iii) Location of coastal outfalls so as to obtain or maintain agreed environmental quality criteria and to avoid exposing shell fisheries, water intakes, and bathing areas to pathogens and to avoid the exposure of sensitive environments (such as lagoons, coral reefs, seagrass beds, mangroves, etc.) to excess nutrient loads;
 - (iv) Promotion of the reuse of treated effluents for the conservation of water resources. To this end, infrastructural measures, treatment at source and segregation of industrial effluents, shall be encouraged, as well as:
 - a) Encouragement of the beneficial reuses of sewage effluents and sludges by the appropriate design of treatment plants and processes and controls of the quality of influent waste waters;
 - b) Ensuring the environmentally sound treatment when domestic and compatible industrial effluents are treated together;
 - (v) Promotion of primary, secondary and, where appropriate and feasible, tertiary treatment of municipal sewage discharged to rivers, estuaries and the sea;
 - (vi) Reduction and beneficial use of sewage or other solutions appropriate to specific sites such as no-water and low-water solutions;
 - (vii) Establishment and improvement of local and national regulatory and monitoring programmes to control and assess effluent discharge, using minimum sewage effluent guidelines and water quality criteria and giving due consideration to the characteristics of receiving bodies and the volume and type of pollutants;

(viii) Identification of the availability and sustainability of productive uses of sewage sludge, such as land-spreading, composting, etc.;

(ix) Establishment of research programmes to identify, validate and develop waste-water treatment technologies;

(c) Provision of sufficient training and education for local administrations to plan, build and run adequate sewage treatment facilities;

(d) Formulation and implementation of awareness campaigns for the general public to gain general recognition for the need for the installation of appropriate and environmentally sound sewage facilities.

(b) Regional actions

98. Regional actions should include:

(a) Promotion and implementation of regional cooperation for the establishment and implementation of programmes and priority measures for sewage, particularly in case of transboundary effects;

(b) Development of regional programmes for sharing and exchanging technical information and advice regarding environmentally sound sewage treatment and facilities.

(c) International actions

99. International actions should include:

(a) Participation in a clearing-house on environmentally sound sewage technology and practices;

(b) Facilitation of transfer of environmentally sound sewage technology;

(c) Scientific, technical and financial cooperation with countries in need of assistance, in developing, installing, operating and monitoring appropriate and environmentally sound sewage facilities.

B. Persistent organic pollutants (POPs)

1. Basis for action

100. Persistent organic pollutants (POPs) are a set of organic compounds that: (i) possess toxic characteristics; (ii) are persistent; (iii) are liable to bioaccumulate; (iv) are prone to long-range transport and deposition; and (v) can result in adverse environmental and human health effects at

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locations near and far from their source. POPs are typically characterized as having low water solubility and high fat solubility. Most POPs are anthropogenic in origin. Anthropogenic emissions, both point and diffuse, are associated with industrial processes, product use and applications, waste disposal, leaks and spills, and combustion of fuels and waste materials. Once dispersed, clean-up is rarely possible. Because many POPs are relatively volatile, their remobilization and long-distance redistribution through atmospheric pathways often complicates the identification of specific sources.

101. POPs have long environmental half-lives. Accordingly, successive releases over time result in continued accumulation and the ubiquitous presence of POPs in the global environment.

102. The primary transport routes into the marine and coastal environment include atmospheric deposition and surface run-off. Regional and global transport is predominately mediated by atmospheric circulation, but also occurs through sediment transport and oceanic circulation. Movement may also occur through a successive migration of short-range movements that result from a sequence of volatilization, deposition, and revolatilization. Due to these transport patterns and chemical characteristics, there is a growing body of evidence demonstrating the systematic migration of these substances to cooler latitudes.

2. Objective/proposed target

103. The objective/proposed target is:

- (a) To reduce and/or eliminate emissions and discharges of POPs that threaten to accumulate to dangerous levels in the marine and coastal environment;
- (b) To give immediate attention to finding and introducing preferable substitutes for chemicals that pose unreasonable and otherwise unmanageable risks to human health and the environment;
- (c) To use cleaner production processes, including best available techniques, to reduce and/or eliminate hazardous by-products associated with production, incineration and combustion (e.g. dioxins, furans, hexachlorobenzene, polycyclic aromatic hydrocarbons (PAHs));
- (d) To promote best environmental practice for pest control in agriculture and aquaculture.

3. Activities

(a) National actions, policies and measures

104. Actions, policies and measures of States within their national capacities should include:

- (a) Development, compilation and maintenance of inventories of point-source releases of POPs, identification and assessment of diffuse sources and sinks from which POPs may remobilize, and assessment of inputs from these sources as a basis for pollution control and prevention measures;

(b) Development of comprehensive national programmes of action for the reduction and/or elimination of emissions and discharges, and where applicable, remobilization from all significant sources of POPs, including targets and timetables and sector-specific measures for industry and agriculture:

- i. Adoption of appropriate policy instruments - which could include regulation, economic instruments and voluntary agreements - on POPs applying the precautionary principle and the "polluter pays" principle. Priority should be given to phasing out or banning of chemicals that pose unreasonable and otherwise unmanageable risks to human health and the environment and whose use can not be adequately controlled. This can be achieved through substitution by environmentally sound substances, use of best available techniques (BAT), application of best environmental practice (BEP) and implementation of integrated pollution prevention and control (IPPC);
- ii. Development of appropriate regulatory measures and establishment of facilities for environmentally sound collection and disposal of wastes containing POPs;
- iii. Establishment of an environmental monitoring programme for POPs including the development of assessment criteria and the adoption of internationally accepted quality control and quality assurance procedures;
- iv. Development of programmes to promote the informed use of substances which can result in discharges and emissions of POPs from diffuse sources, including the promotion of good agricultural practice to limit the use of pesticides to the application rates essential for crop protection, and restraint in the non-agricultural use of pesticides, especially on roads and railways;
- v. Establishment of information services for industry and agriculture on least environmentally hazardous handling and use of POPs, and on substitutes, technology and ways and means to prevent, reduce and eliminate pollution by POPs, including best environmental practice (BEP), best available techniques (BAT) and integrated pollution prevention and control (IPPC);
- vi. Ratification and implementation of relevant international and regional conventions and agreements;
- vii. Ensuring the effective implementation of relevant bilateral, regional and international decisions and recommendations, inter alia, by:
 - a) Assessing regularly whether the national goals and measures to reduce and eliminate pollution by POPs are being accomplished;

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- b) Compliance monitoring, assessing and reporting the effects of these measures;
and
- c) Establishing or strengthening, as appropriate, institutions to deal effectively with the problems of POPs.

(b) Regional actions

105. Regional actions should include:

(a) Encouraging existing regional agreements and programmes of action on the prevention and elimination of pollution of the marine and coastal environment from land-based activities, to set up and implement programmes and priority measures to prevent, reduce and/or eliminate emissions and discharges of POPs and materials containing POPs from all sources. To this end, they should, inter alia:

- (i) Adopt targets and timetables for reduction and/or elimination of POPs releases through their substitution, and on best available techniques (BAT), best environmental practice (BEP), and integrated pollution prevention and control (IPPC);
- (ii) Adopt decisions and recommendations on the development of harmonized assessment criteria and monitoring programmes based on regionally or internationally agreed quality control and quality assurance procedures;
- (iii) Provide member States with technical information and advice regarding handling, use and disposal of POPs and their substitutes and ways and means to minimize and eliminate their release to the environment;
- (iv) Ensure transparency of the implementation of decisions and recommendations by adopting regular reporting on implementation and monitoring of measures regarding POPs; and
- (v) Assess compliance with, and the effects of, the agreed measures;

(b) Encouraging States that are not already parties to regional agreements and action plans on the prevention and elimination of pollution of the marine and coastal environment from land-based activities to join such cooperation and to cooperate on a bilateral and/or a multilateral basis in the regulation of POPs;

(c) Encouraging the strengthening of or, as appropriate, establishing regional institutions to deal effectively with the problems of POPs.

(c) International actions

106. International actions should include:

(a) Urging international, regional and subregional funding sources and mechanisms and donor countries, to ensure that the objectives, principles and measures laid down in this chapter be taken into account when supporting projects that directly or indirectly relate to emissions, discharges and, where appropriate, the manufacture and use of POPs, as well as the clean-up and restoration of areas polluted with POPs;

(b) Encouraging international, regional and subregional funding sources and mechanisms to ensure that available financial resources are made available for supporting measures to reduce or eliminate releases of POPs to the environment;

(c) Inviting appropriate international agencies and bodies to strengthen necessary information exchange, transfer of environmentally sound technology and capacity-building for the implementation of the objectives, principles and measures laid down in this chapter for the reduction and/or elimination of POPs releases to the environment;

(d) Strengthening and extending existing international quality assurance, standardization and classification mechanisms for POPs to ensure that inventories and assessments are both reliable and intercomparable. Such existing mechanisms include those co-sponsored by IOC, UNEP and IAEA under the GIPME programme, and the associated activities of the Marine Environmental Studies Laboratory in Monaco;

(e) Cooperation with countries in need of assistance, through financial, technical and scientific support, in order to reduce and/or eliminate emissions and discharges of POPs that threaten to accumulate to dangerous levels in the marine and coastal environment;

(f) Priority attention should be given to finding and introducing preferable substitutes for POPs that pose unreasonable and otherwise unmanageable risks to human health and the environment.

C. Radioactive substances

1. Basis for action

107. Radioactive substances (i.e., materials containing radionuclides) have entered and/or are entering the marine and coastal environment, directly or indirectly, as a result of a variety of human activities and practices. These activities include production of energy, reprocessing of spent fuel, military operations, nuclear testing, medical applications and other operations associated with the management and disposal of radioactive wastes and the processing of natural materials by industrial processes. Other activities, such as the transport of radioactive material, pose risks of such releases.

108. Radioactive materials can present hazards to human health and to the environment. Suspected radioactive contamination of foodstuffs can also have negative effects on marketing of such foodstuffs.

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2. Objective/proposed target

109. The objective/proposed target is to reduce and/or eliminate emissions and discharges of radioactive substances in order to prevent, reduce and eliminate pollution of the marine and coastal environment by human-enhanced levels of radioactive substances.

3. Activities

(a) National actions, policies and measures

110. Actions, policies and measures of States within their national capacities should include:

(a) Promotion of policies and practical measures including setting targets and timetables to minimize and limit the generation of radioactive wastes and provide for their safe processing, storage, conditioning, transportation and disposal;

(b) Ensuring the safe storage, transportation and disposal of radioactive wastes, as well as spent radiation sources and spent fuel from nuclear reactors destined for final disposal, in accordance with international regulations or guidelines;

(c) Ensuring proper planning, including environmental impact assessment, of safe and environmentally sound management of radioactive waste, including emergency procedures, storage, transportation and disposal, prior to and after activities that generate such waste;

(d) Adoption of measures, including best available techniques and best environmental practice, for the reduction and/or elimination of inputs of radioactive substances to the marine and coastal environment for the purpose of preventing and eliminating pollution of the marine and coastal environment;

(e) Ratification and/or implementation of relevant international and regional conventions, decisions and resolutions.

111. States should:

(a) Not promote or allow the storage or disposal of high-level, intermediate-level and low-level radioactive wastes near the marine and coastal environment unless they determine that scientific evidence, consistent with the applicable internationally agreed principles and guidelines, shows that such storage or disposal poses no unacceptable risk to people and the marine and coastal environment or does not interfere with other legitimate uses of the sea, making, in the process of consideration, appropriate use of the concept of the precautionary approach;

(b) Respect, in accordance with international law, the decisions, as far as applicable to them, under other relevant regional and other international environmental conventions dealing with other aspects of safe and environmentally sound management of radioactive wastes;

(c) Conclude and sign the Comprehensive Test Ban Treaty by no later than 1996; (*)

(d) Make available information on the characteristics of terrestrial dump sites in coastal areas through, and consistent with, agreed regional and international reporting procedures. The information should include the magnitude, types of materials, characteristics of storage and status of the dump sites.

(b) Regional actions

112. Relevant regional organizations, in accordance with regional needs and capacities, should ensure:

(a) Monitoring of radioactivity in their regions and identification of any problem areas;

(b) The establishment of criteria for assessing and/or reporting on the use in their region of best available techniques to prevent and eliminate pollution by inputs of radioactive substances;

(c) The preparation of comprehensive environmental assessments of the effect on the marine and coastal environment of historical discharges and current discharges of radioactive substances.

(c) International actions

113. International actions should include:

(a) Support for efforts under the auspices of IAEA to develop and promulgate radioactive waste management safety standards, guidelines or codes of practice, including work being undertaken towards an international convention on the safety of radioactive waste management, in order to provide an internationally accepted basis for the safe and environmentally sound management and disposal of radioactive wastes. This work should take account of the application of best available techniques and best environmental practice for all nuclear applications not currently covered by internationally binding agreements making such provisions;

(b) Cooperation with countries in need of assistance, through financial, technical and scientific support, in ensuring environmentally sound management and storage of radioactive materials as well as supporting environmental restoration efforts;

(c) Maintenance of existing international quality assurance and standardization mechanisms supporting the reliable measurement and assessment of radionuclides in the environment. Such existing mechanisms include the Analytical Quality Control Services provided by the Marine Environmental Studies Laboratory of IAEA;

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(d) Consideration by all Governments and international organizations that have expertise in the field of clean-up and disposal of radioactive contaminants to give appropriate assistance as may be requested for remedial purposes in adversely affected areas.

D. Heavy metals

1. Basis for action

114. Heavy metals are natural constituents of the Earth's crust. Human activities have drastically altered the biochemical and geochemical cycles and balance of some heavy metals. Heavy metals are stable and persistent environmental contaminants since they cannot be degraded or destroyed. Therefore, they tend to accumulate in the soils and sediments. Excessive levels of metals in the marine environment can affect marine biota and pose risk to human consumers of seafood.

115. Metals and their compounds, both inorganic and organic, are released to the environment as a result of a variety of human activities. A wide range of metals and metallic compounds found in the marine environment pose risks to human health through the consumption of seafood where contaminant content and exposure are significant. Many metals are essential to life and only become toxic when exposures to biota become excessive (i.e., exceed some threshold for the introduction of adverse effects). While certain non-essential metals do not have explicit exposure thresholds for the introduction of effects, the nature of biological responses to metal exposure are a direct consequence of exposure and are defined through dose-effect relationships. This differs from the dose-response relationship associated with many synthetic organic contaminants and radionuclides where risk of adverse effects is assumed to be proportional to exposure. Accordingly, it is desirable to minimize such exposures. In contrast, the predominant challenge in the case of heavy metals is one of limiting exposure to levels that do not cause adverse effects.

116. The main anthropogenic sources of heavy metals are various industrial point sources, including present and former mining activities, foundries and smelters, and diffuse sources such as piping, constituents of products, combustion by-products, traffic, etc. Relatively volatile heavy metals and those that become attached to air-borne particles can be widely dispersed on very large scales. Heavy metals conveyed in aqueous and sedimentary transport (e.g., river run-off) enter the normal coastal biogeochemical cycle and are largely retained within near-shore and shelf regions.

2. Objective/proposed target

117. The objective/proposed target is to reduce and/or eliminate anthropogenic emissions and discharges in order to prevent, reduce and eliminate pollution caused by heavy metals.

3. Activities

(a) National actions, policies and measures

118. Actions, policies and measures of States within their national capacities should include:

(a) Development, compilation and maintenance of inventories on significant sources, including natural sources, of priority heavy metals and their compounds and subsequent assessment of inputs and establishment of priority (geographic or subject) areas for action. They should also, where appropriate, take into account input from long-range transport of these pollutants;

(b) Development of comprehensive national programmes of action for reduction and/or elimination of emissions and discharges of heavy metals from anthropogenic sources could include:

- (i) Targets, timetables and sector-specific measures, respecting the precautionary principle, best available techniques (BAT), best environmental practice (BEP) and integrated pollution prevention and control (IPPC);
- (ii) Fiscal and economic incentives and measures, including voluntary agreements to encourage reduction and/or elimination of emissions and discharges of heavy metals;
- (iii) Appropriate regulatory measures and establishment of facilities for environmentally sound collection and disposal of hazardous wastes containing heavy metals taking into account the technical document on landfill agreed upon within the framework of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- (iv) Promotion of technical solutions, such as the use of unleaded petrol and filter systems for smelters;
- (v) Means to ensure effective implementation of the programme of action;
- (vi) The establishment of cleaner production programmes in cooperation with industry;

(c) Establishment of an environmental monitoring programme for heavy metals including the development of assessment criteria and the adoption of internationally accepted quality control and quality assurance procedures;

(d) Formulation and implementation of awareness and education campaigns for the public and industry, to gain general recognition of the need to reduce and eliminate pollution by heavy metals and in particular to further reduce diffuse inputs through waste systems, including sewerage systems;

/...

(e) Establishment of information services for industry on technology and ways and means to prevent, reduce and eliminate pollution by heavy metals, including best environmental practice (BEP), best available techniques (BAT) and integrated pollution prevention and control (IPPC);

(f) Promotion of private initiatives for the establishment and implementation of systems of internal environmental management within industry.

(b) Regional actions

119. Regional actions should include:

(a) Encouraging existing regional agreements and programmes of action dealing with the prevention and elimination of pollution of the marine and coastal environment from land-based activities, to develop or continue to develop and implement programmes and measures to reduce and/or eliminate emissions and discharges of heavy metals and material containing these substances from the appropriate industrial sectors, products and groups of products;

(b) Development and implementation of monitoring programmes and regular assessments of levels, inputs and effects based on regionally agreed quality control and quality assurance procedures and harmonized assessment criteria;

(c) Encouraging States, including land-locked States, that are not already parties to regional seas arrangements regarding the protection of the marine and coastal environment from land-based activities to join such cooperation and to cooperate on bilateral and multilateral basis in the control of pollution from heavy metals;

(d) Promotion of cooperation in the development of cleaner production programmes.

(c) International actions

120. International actions should include:

(a) Strengthening and extending existing international quality assurance, standardization and classification mechanisms for heavy metals and their compounds to ensure that inventories and assessments are both reliable and intercomparable. Such existing mechanisms include those co-sponsored by IOC, UNEP and IAEA under the GIPME programme and the associated activities of the Marine Environmental Studies Laboratory in Monaco;

(b) Participation in a clearing-house for information on best available techniques (BAT), best environmental practice (BEP) and integrated pollution prevention and control (IPPC) to reduce and/or eliminate emissions and discharges of heavy metals;

(c) Cooperation with countries in need of assistance, through financial, scientific and technical support to maximize the best practicable control and reduction of anthropogenic emissions and discharges of heavy metals.

E. Oils (Hydrocarbons)

1. Basis for action

121. Many oils are liquid and gaseous hydrocarbons of geological origin. While some oils are naturally occurring, a significant proportion of those in the marine and coastal environment have been derived from anthropogenic sources. Most oils from land-based sources are refined petroleum products or their derivatives. Some oils are volatile or easily degraded and disappear rapidly from aquatic systems, but some may persist in the water column or in sediments. Oils may be toxic to aquatic life when ingested or absorbed through skin or gills, interfere with respiratory systems, foul fur and feathers, smother aquatic communities, habitats and bathing beaches, taint seafood and contaminate water supplies.

122. Land-based sources of oils include operational and accidental discharges and emissions from oil exploration, exploitation, refining and storage facilities; urban, industrial and agricultural run-off; transport; and the inappropriate disposal of used lubricating oils. The main pathways to the marine environment include atmospheric dispersion of volatile fractions; storm sewers and sewage treatment works; and rivers. Impacts from land-derived oils will be regional for the more volatile fractions, and local (occasionally regional) for more refractory components.

2. Objective/proposed target

123. The objective is to prevent, reduce and/or eliminate anthropogenic emissions and discharges in order to prevent, reduce and eliminate pollution caused by oil.

3. Activities

(a) National actions, policies and measures

124. Actions, policies and measures of States within their national capacities should include:

(a) Development, compilation and maintenance of inventories of significant sources of oils, and subsequent assessment and establishment of areas (geographic or substance) for action. They should also, where appropriate, take into account inputs from long-range transport of these pollutants;

(b) Development of comprehensive national programmes of action for the reduction and/or elimination of priority emissions and discharges from anthropogenic sources could include:

(i) Targets, timetables, and sector-specific measures respecting the precautionary principle and applying best available techniques (BAT), best environmental practice (BEP), and integrated pollution prevention and control (IPPC);

/...

- (ii) Fiscal and economic incentives and measures, including voluntary agreements, to encourage reductions in emissions and discharges of oils, to encourage the recycling of used lubricating oils, and to encourage fuel-use efficiencies;
- (iii) The provision of reception and recycling facilities for oily wastes;
- (iv) Development of plans and measures to prevent accidental releases of oils, particularly from coastal refineries, storage facilities and waste reception facilities and of capacities to respond to such accidents;
- (v) Establishment of cleaner production programmes in cooperation with industry;
- (vi) Means to ensure the effective implementation of the programme of action;
- (c) Establishment of environmental monitoring programmes for oil, including the development of assessment criteria and the adoption of internationally accepted quality control and quality assurance procedures;
- (d) Formulation and implementation of awareness and education campaigns for the public and industry to gain general recognition of the need and ways to reduce emissions and discharges of oil, and, in particular, to further reduce diffuse inputs through waste systems, including sewerage systems;
- (e) Establishment of information services for industry on technology and ways and means to prevent, reduce and eliminate pollution by oil, including best environmental practice (BEP), best available techniques (BAT), and integrated pollution prevention and control (IPPC);
- (f) Promotion of private initiatives for the establishment and implementation of systems of internal environmental management within industry.

(b) Regional actions

125. Regional actions should include:

- (a) Encouraging existing regional agreements and programmes of action on the prevention and elimination of pollution of the marine and coastal environment from land-based activities, to develop or continue to develop and implement programmes and measures to reduce and/or eliminate emissions and discharges of oils from the appropriate industrial sectors, products and groups of products;

(b) Adoption of programmes and measures on the development of harmonized assessment criteria and monitoring programmes based on regionally or internationally agreed quality control and quality assurance procedures;

(c) Encouraging States, including land-locked States, that are not already parties to regional seas arrangements regarding the protection of the marine and coastal environment from land-based activities, to join such cooperation and to cooperate on bilateral and multilateral basis in the control of pollution from oil;

(d) Promoting cooperation on the development of cleaner- production programmes, best available techniques, and best environmental practice;

(e) Development of regional plans and measures to prevent accidental releases of oils, and development of regional capacities to respond to such accidents;

(f) Where appropriate, the provision of regional reception and recycling facilities for oily wastes.

(c) International actions

126. International actions should include:

(a) Strengthening and extending existing international quality assurance, standardization and classification mechanisms for oil, oil products and their constituents to ensure that inventories and assessments are both reliable and intercomparable. Such existing mechanisms include those co-sponsored by IOC, UNEP, and IAEA under the GIPME programme, and the associated activities of the Marine Environmental Studies Laboratory in Monaco;

(b) Participation in a clearing-house for information on best available techniques (BAT), best environmental practice (BEP), and integrated pollution prevention and control (IPPC) to reduce and/or eliminate emissions and discharges of oil;

(c) Cooperation with countries in need of assistance through financial, technical, and scientific support, to maximize the best practicable control and reduction in emissions and discharges of oil.

F. **Nutrients**

1. Basis for action

127. Eutrophication can result from augmentation of nutrient inputs to coastal and marine areas as a consequence of human activities. In general, such eutrophication is usually confined to the vicinity of coastal discharges but, because of both the multiplicity of such discharges and regional atmospheric transport of nutrients, such affected coastal areas can be extensive.

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128. The effects of the enhanced mobilization of nutrients are enhanced productivity but these can also result in changes in species diversity, excessive algal growth, dissolved oxygen reductions and associated fish kills and, it is suspected, the increased prevalence or frequency of toxic algal blooms.

2. Objective/proposed target

129. The objective/proposed target is:

- (a) To identify, in broad terms, marine areas where nutrient inputs are causing or are likely to cause pollution, directly or indirectly;
- (b) To reduce nutrient inputs into the areas identified;
- (c) To reduce the number of marine areas where eutrophication is evident;
- (d) To protect and, where appropriate, to restore areas of natural denitrification.

3. Activities

(a) National actions, policies and measures

130. Actions, policies and measures of States within their capacities should include:

- (a) Identification of areas where nutrient inputs are likely to cause pollution, directly or indirectly;
- (b) Identification of point sources and diffuse sources of nutrient inputs into these areas;
- (c) Identification of areas where changes in anthropogenic nutrient inputs are causing or are likely to cause pollution, either directly or indirectly, and prioritization of these areas for action;
- (d) Adoption of appropriate cost-effective policy instruments, including regulatory measures, economic instruments and voluntary agreements, to control anthropogenic sources of nutrients affecting these areas, including:
 - (i) Activities related to sewage treatment and management mentioned in paragraph 97 (b) above;
 - (ii) Minimization of the release of nutrients by the use of best environmental practice (BEP) in agriculture and aquaculture operations;
 - (iii) Minimization of the release of nutrients by the use of best environmental practice (BEP), best available techniques (BAT) and integrated pollution prevention and control (IPPC) in industrial operations;

- (iv) Formulation and implementation of awareness and information campaigns for the adoption of appropriate agricultural techniques, including balanced fertilization and ecological agriculture, to minimize nutrient losses from agricultural activities;
- (v) Introduction of measures to reduce inputs of nutrients via atmospheric deposition from transportation, industrial plants and agriculture;
- (e) Strengthening the capacities of local authorities to take account of likely impacts of inputs of nutrients from agriculture and urban development in carrying out their functions of planning and controlling land-use and development;
- (f) Establishment or improvement, as appropriate, of monitoring of all aspects of eutrophication;
- (g) Promotion of scientific research on the suspected linkages between eutrophication and toxic algal blooms;
- (h) Development and adoption of programmes to protect and, where appropriate, restore habitats acting as natural sinks for nutrients such as wetlands.

(b) Regional actions

131. Regional actions should include:

- (a) Establishment of common criteria for the identification of existing and potential problem areas including possible solutions with regard to eutrophication;
- (b) Identification of marine areas in the region where nutrient inputs are causing or are likely to cause pollution, directly or indirectly;
- (c) Identification of areas for priority actions;
- (d) Establishment of uniform approaches to the calculation of anthropogenic nutrient inputs to the aquatic environment from agriculture and other sources, as appropriate, with the aim of improving the estimation of these inputs;
- (e) Development and implementation of programmes and measures for reducing nutrient inputs from anthropogenic activities to areas where these inputs are causing or are likely to cause pollution directly or indirectly and, where the agricultural sector is a predominant source, to pay particular attention to that sector and the implementation of measures identified for it;

/...

(f) Establishment of mechanisms for assessing the effectiveness of the measures taken to reduce nutrient inputs to the aquatic environment from both point and diffuse sources;

(g) Development of strategies for reducing eutrophication in areas already affected and those susceptible to being affected.

(c) International actions

132. International actions should include:

(a) Participation in a clearing-house for providing information about best environmental practice and access to best available techniques to reduce and/or eliminate causes of anthropogenic eutrophication;

(b) Strengthening of international programmes for enhancing capacity for:

(i) Identification of areas where inputs of nutrients are causing or are likely to cause pollution, directly or indirectly;

(ii) Nutrient control and removal techniques;

(iii) Application of best environmental practice in aquaculture and agriculture;

(c) Cooperation with countries in need of assistance, through financial, technological and scientific support, in developing and implementing practices which minimize releases of nutrients to the environment, including environmentally sound land-use techniques, planning and practices;

(d) Provision of forums for establishing criteria for determining the circumstances in which nutrients are likely to cause pollution, directly or indirectly;

(e) Maintaining existing international quality assurance and quality control procedures relevant to eutrophication.

G. Sediment mobilization

1. Basis for action

133. Natural sedimentation and siltation are important in the development and maintenance of numerous coastal habitats. Habitats requiring sediment input include coastal wetlands, lagoons, estuaries and mangroves. Reduction in natural rates of sedimentation can compromise the integrity of these habitats, as can excessive sediment loads, which may bury benthic communities and threaten sensitive habitats such as coral reefs, mangroves, seagrass beds, and rocky substrates.

134. Contaminated sediments, whether they are fresh inputs or dredged, may also lead to pollution, the latter through resuspension or improper disposal.

135. Anthropogenic modifications to sediment mobilization and sedimentation are made by, inter alia, construction activities, forestry operations, agricultural practices, mining practices, hydrological modifications, dredging activities, and coastal erosion. Effects are generally local in nature, but transboundary implications may occur in some areas where major river systems form a common border and where littoral currents carry inputs across international boundaries.

2. Objective/proposed target

136. The objective/proposed target is to reduce, control and prevent the degradation of the marine environment due to changes in coastal erosion and siltation caused by human activities.

3. Activities

(a) National actions, policies and measures

137. Actions, policies and measures of States within their capacities should include:

- (a) Development and implementation of environmentally sound land-use practices to control sediment discharges to watercourses and estuaries which cause degradation of the marine environment;
- (b) Establishment of measures to control, reduce and prevent coastal erosion and siltation due to anthropogenic factors such as land-use, including coastal mining and construction practices, while ensuring that natural erosion supplying sedimentary habitats is not impeded;
- (c) Introduction of watershed management and land-use practices to prevent, control and reduce degradation of the marine environment due to anthropogenic changes in sediment loads and contamination of sediments;
- (d) Application of practices developed under existing international regulations to prevent marine pollution/degradation from dumping of dredged material and associated dredging operations;
- (e) Establishment or improvement of monitoring of sediment transport to the marine environment and associated sedimentation patterns and rates;
- (f) Application of environmentally sound management and storage practices for polluted dredged material;
- (g) Adoption of measures to minimize changes to natural erosion, sediment transport and sedimentation resulting from the construction of barriers and barrages.

(b) Regional actions

138. Regional actions should include:

/...

(a) Promotion of regional cooperation, where appropriate, for the establishment of programmes and priority measures to control anthropogenic modifications to sedimentation/siltation;

(b) Development or enhancement, as appropriate, of regional programmes for the exchange of information on technology and techniques and experience regarding sedimentation/siltation.

(c) International actions

139. International actions should include:

(a) Development of methodologies to reduce, control and prevent adverse effects of sedimentation/ siltation, including the formulation of mechanisms for determining changes in sediment mobilization and transport, incorporating relevant quality assurance and standardization procedures;

(b) Participation in a clearing-house for providing information on technologies, measures and experiences regarding sedimentation/siltation;

(c) Cooperation with countries in need of assistance, through financial, scientific and technical support, in the development and implementation of environmentally sound land-use techniques, planning and practices to reduce, control and prevent the negative effects of changes in erosion and siltation rates.

H. Litter

1. Basis for action

140. Litter threatens marine life through entanglement, suffocation and ingestion and is widely recognized to degrade the visual amenities of marine and coastal areas with negative effects on tourism and general aesthetics. Litter is any persistent manufactured or processed solid material which is discarded, disposed of, or abandoned in the marine and coastal environment, sometimes called marine debris. Litter in the marine environment can also destroy coastal habitats and in some situations interfere with biological production in coastal areas.

141. Litter entering the marine and coastal environment has multiple sources. Sources include poorly managed or illegal waste dumps adjacent to rivers and coastal areas, windblown litter from coastal communities, resin pellets used as industrial feedstocks, and litter that is channelled to the marine and coastal environment through municipal stormwater systems and rivers. Marine litter is also caused by dumping of garbage into the marine and coastal environment by municipal authorities as well as recreational and commercial vessels.

142. While international action has been taken to prevent the discharge of plastics and other persistent wastes from vessels, it has been estimated that approximately 80 per cent of persistent wastes originate from land. Floatable litter is known to travel considerable distances with regional and sometimes broader implications. Resin pellets used as industrial feedstock circulate and deposit on oceanic scales.

143. Uncontrolled burning of litter containing plastics may generate significant quantities of POPs, metals and hydrocarbons which can reach the marine and coastal environment.

2. Objective/proposed target

144. The objective/proposed target is:

(a) To establish controlled and environmentally sound facilities for receiving, collecting, handling and disposing of litter from coastal area communities;

(b) To reduce significantly the amount of litter reaching the marine and coastal environment by the prevention or reduction of the generation of solid waste and improvements in its management, including collection and recycling of litter.a. In this context, paragraph 21.39 of Agenda 21 states:

"The overall objective of this programme is to provide health- protecting environmentally safe waste collection and disposal services to all people. Governments, according to their capacities and available resources and with the cooperation of the United Nations and other relevant organizations, as appropriate, should:

"(a) By the year 2000, have the necessary technical, financial and human resource capacity to provide waste collection services commensurate with needs;

"(b) By the year 2025, provide all urban populations with adequate waste services;

"(c) By the year 2025, ensure that full urban waste service coverage is maintained and sanitation coverage achieved in all rural areas."

3. Activities

(a) National actions, policies and measures

146. Actions, policies and measures of States within their capacities should include:

(a) Introduction of appropriate measures -which could include regulatory measures and/or economic instruments and voluntary agreements -to encourage reduction in the generation of solid wastes;

(b) Installation of garbage containers for citizens in public areas for the purposes of appropriate collection and/or recycling;

/...

(c) Establishment and ensuring the proper operation of solid-waste-management facilities on shore for wastes from all sources, including shipping and harbour wastes;

(d) Formulation and implementation of awareness and education campaigns for the general public, industry, and municipal authorities, as well as recreational and commercial vessels, on the need to reduce waste generation and the need for environmentally sound disposal and reuse;

(e) Increasing local planning and management capacity to avoid location of waste-dump sites near coastlines or waterways or to avoid litter escape to the marine and coastal environment;

(f) Formulation and implementation of improved management programmes in small rural communities to prevent litter escape into rivers and the marine and coastal environment;

(g) Establishment of campaigns and/or permanent services for collecting solid wastes that pollute coastal and marine areas.

(b) Regional actions

147. Regional actions should include the promotion of regional cooperation for the exchange of information on practices and experiences regarding waste management, recycling and reuse, and cleaner production, as well as regional arrangements for solid-waste management.

(c) International actions

148. International actions should include:

(a) Participation in a clearing-house on waste management, recycling and reuse, and waste-minimization technologies;

(b) Cooperation with countries in need of assistance, through financial, scientific and technological support, in developing and establishing environmentally sound waste-disposal methods and alternatives to disposal.

I. Physical alterations and destruction of habitats

1. Basis for action

149. The increase of populations and economic activities in coastal areas is leading to an expansion of construction and alterations to coastal areas and waters. Excavation, oil and gas exploration and exploitation, mining, such as sand and aggregate extraction, the building of ports and marinas and building of coastal defences and other activities linked to urban expansion are giving rise to alterations of coral reefs, shorelands, beachfronts and the seafloor. Important habitats are being destroyed. Wetlands are being transformed into agricultural lands and through coastal development. Tourism, unrestricted and uncontrolled aquaculture, clearance of mangroves and destructive fishing practices, such as the use of dynamite and chemicals, are also causing the physical destruction of important habitats. The introduction of alien species can also have serious effects upon marine ecosystem integrity. Spawning grounds, nurseries and feeding grounds of major living marine resources of crucial importance to world food security are being destroyed. This destruction of habitat exacerbates overharvesting of these living marine resources leading to a growing risk that they are being depleted. This is an increasing threat to the food security of coastal populations, in particular in developing countries.

150. The damming of river systems can result in upstream sedimentation, possible changes in estuarine conditions and interference with fish migration. These adversely affect biological diversity and biological productivity. The practice of saltwinning from saltpan construction in coastal areas can also affect salt concentration levels and biological diversity.

2. Objective/proposed target

151. The objective/proposed target is to:

(a) Safeguard the ecosystem function, maintain the integrity and biological diversity of habitats which are of major socio-economic and ecological interest through integrated management of coastal areas;

(b) Where practicable, restore marine and coastal habitats that have been adversely affected by anthropogenic activities.

3. Activities

(a) National actions, policies and measures

152. Actions, policies and measures of States within their capacities should include the formulation, adoption and implementation of programmes for integrated coastal area management, in accordance with Agenda 21, chapter 17, programme area A. These programmes should include, where appropriate:

(a) The identification of habitats of major socio-economic and ecological significance such as spawning grounds, breeding grounds and nurseries of marine living resources which guarantee food security of large coastal populations;

(b) Conducting assessments that involve the use of community-based participatory approaches, to identify land-based activities that threaten physical degradation or destruction of key habitats;

(c) Encouraging economic and social sectors whose activities may lead to physical degradation or destruction of such habitats to adjust those activities so as to reduce or avoid such effects;

(d) The establishment of marine protected areas in coastal areas to maintain the integrity and biological diversity of their habitats;

/...

(e) Restoration of coastal habitats that have suffered decline or loss as a result of human activities.

(b) Regional actions

153. Regional actions should include formulation and adoption of regional-scale approaches to safeguarding critical habitats such as:

(a) Regional systems of marine and coastal protected areas;

(b) Regional programmes of action and protocols on important species and habitats;

(c) Regional approaches to management of important living marine resources, in particular where the spatial scales of their life-stages transcend national boundaries;

(d) Cooperation between regional marine environment programmes and regional fisheries organizations.

(c) International actions

154. International actions include:

(a) The coordination and formulation of guidelines for the preservation of habitat and normal ecosystem functions in coastal areas, particularly in the context of integrated coastal area management. Such activities should take advantage of and be consistent with existing international mechanisms and agreements;

(b) Participation in a clearing-house for providing information on technologies and experiences regarding coastal-zone-management methodology;

(c) Cooperation with countries in need of assistance, through financial, scientific and technical support, in the development and implementation of environmentally sound land-use techniques, planning and practices to prevent and control the negative effects of physical alterations.

Annex

ILLUSTRATIVE LIST OF FUNDING SOURCES AND MECHANISMS

The possible funding sources and mechanisms that may be appropriate and which will need to be considered include:

A. Financing sources internal to the State concerned

1. User charges: User charges ensure that those who benefit immediately and directly from the provision of a service contribute towards the costs of that service;

2. Charging the polluter: Those who impose burdens on the aquatic environment (for example, by discharging waste water) can be required to contribute to the costs of their actions;

3. Local taxes: A municipality, or other organized community, that benefits from improvements in water management, can contribute to the costs of those improvements from local taxes, either by a specific tax for that purpose or by a contribution from general tax revenues;

4. National taxes: Where the costs of some local improvement in water management would bear unreasonably on the local community concerned, or where the improvement benefits the public at large, the national budget can contribute part or all of the cost;

5. Private-sector borrowing: Where a project requires substantial initial investments, the public authority responsible can borrow the capital cost from national private-sector financial institutions, with the resulting loan-charges being serviced from any of the foregoing sources;

6. National revolving funds: A fund can be set up, financed from either any of the foregoing sources, from external financing sources or mechanisms or from a mix of any of these, from which advances can be made to finance project costs. Subsequent repayments from the projects are then used to refill the fund to permit new advances;

7. Private-sector participation: Private-sector firms can take responsibility for all, or parts, of the operation of a project instead of simply providing funds; this may involve:

- (a) Improving and/or operating the assets necessary for a service ("the service assets"), which remain in public ownership;
- (b) Providing and operating the service assets on their own account for a specific period, after which the assets revert to public ownership;
- (c) Taking over ownership of the service assets and then improving and operating them on their own account, either for a specific period or permanently;

/...

B. External financing sources and mechanisms

8. International private-sector institutions: Loans may be taken out from international private-sector financial institutions in the same way as from equivalent national institutions; in the same way, private-sector participation can equally be organized through international companies;

9. Export credit agencies: These are a source of shorter-term project financing, especially for specialized equipment;

10. Grant and concessionary assistance: Part of the costs of creating service assets or the necessary management infrastructure may be met by grants or loans, including loans of concessionary terms, from donor States or multilateral aid agencies, associations and programmes. Separate arrangements often exist to finance the acquisition of the "know-how" needed to plan and organize projects. In particular, GEF supports, by means of limited grant assistance up to the amount of the agreed incremental cost of global environmental benefits, actions consistent with its operational strategy in four focal areas: climate change, biological diversity, international waters and ozone-layer depletion;

11. Multilateral loans: The World Bank and regional development banks can provide loan finance for larger projects and technical assistance directly, and for smaller projects through financial intermediaries in the borrowing country, normally at rates lower than those obtainable on the commercial market;

12. Multilateral equity funds: Certain projects are more appropriately supported by means of equity capital than by interest-bearing loans. Where equity participation from the private-sector market is not available or not appropriate, certain public-sector financing agencies can provide support of this kind;

13. Debt-for-equity swaps and eco-conversion programmes: Creditors agree to convert the debts owed to them into local funds to be applied for environmentally beneficial expenditure;

14. Foundation grants: Many privately or publicly endowed foundations may use their resources to support innovative approaches to environmental management or the development of human resources;

15. Twinning arrangements: Arrangements between authorities, either central or local, in one country and their counterparts in another, or analogous arrangements between regional seas organizations, have proved to be an important mechanism for the effective and sustained transfer of experience between parties with similar interests and concerns.



PRESS RELEASE

MOX Plant Arbitral Tribunal Issues Order No. 6 Terminating Proceedings

On 6 June 2008, the Tribunal established under Annex VII of the United Nations Convention on the Law of the Sea to hear arguments in the MOX Plant arbitration between Ireland and the United Kingdom issued *Order No. 6 – Termination of Proceedings*. Ireland formally notified the Tribunal of the withdrawal of its claim against the United Kingdom on 15 February 2007. Having considered the Parties' submissions on the apportionment of costs, the Tribunal determined that there was no reason to depart from the practice of inter-state litigation regarding the apportionment of costs. *Order No. 6* formalises the withdrawal of Ireland's claim against the United Kingdom, the Tribunal's decision on costs, and the termination of these proceedings.

History of the Proceedings

On 25 October 2001, Ireland instituted arbitral proceedings against the United Kingdom pursuant to Article 287, and Article 1 of Annex VII, of the United Nations Convention on the Law of the Sea for the Dispute Concerning the MOX Plant, International Movements of Radioactive Materials, and the Protection of the Marine Environment of the Irish Sea. The case concerns discharges into the Irish Sea from a mixed oxide fuel ("MOX") plant located at Sellafield nuclear facility in the United Kingdom, and related movements of radioactive material through the Irish Sea. A five member arbitral tribunal was established, consisting of Judge Thomas A. Mensah (President), Professor James Crawford SC, Maître L. Yves Fortier CC QC, Professor Gerhard Hafner, and Sir Arthur Watts KCMG QC.

Hearings in the case took place from 10 June 2003 until 21 June 2003, after which the Tribunal issued, on 24 June 2003, *Order No. 3 – Suspension of Proceedings on Jurisdiction and Merits, and Request for Further Provisional Measures*. On 14 November 2003, the Tribunal issued *Order No. 4 – Further Suspension of Proceedings on Jurisdiction and Merits*, under which the arbitral proceedings were suspended until the European Court of Justice had given judgment in a related case concerning European Community law issues, or until the Tribunal otherwise determines. The European Court of Justice delivered its judgment on 30 May 2006. The arbitral proceedings remained suspended, with the Parties submitting periodic reports to the Tribunal, in accordance with *Orders No. 3 & 4*. The Tribunal issued *Order No. 5 – Suspending Periodic Reports by the Parties* on 21 February 2007. This Order formalised the suspension until further notice of the requirement that the Parties submit periodic reports and information on the provisional measure (prescribed by ITLOS in its Order of 3 December 2001) and the requirement that Ireland submit periodic reports on developments in the proceedings before the European Court of Justice. Following the death of Sir Arthur Watts on 16 November 2007, the United Kingdom appointed, on 31 January 2008, The Rt. Hon. the Lord Mustill as arbitrator.

The International Bureau of the Permanent Court of Arbitration ("PCA") serves as Registry for the case. Copies of previous orders, transcripts of the hearings, and the Parties' written pleadings may be found on the PCA's website www.pca-cpa.org, under the heading "Recent and Pending Cases".

THE HAGUE, 6 JUNE 2008



INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA
TRIBUNAL INTERNATIONAL DU DROIT DE LA MER

Press Release

ORDER IN THE MOX PLANT CASE (IRELAND v. UNITED KINGDOM)

The International Tribunal for the Law of the Sea today delivered its Order in the MOX Plant Case, Provisional Measures (Ireland v. United Kingdom). The Order was read by the President of the Tribunal, Judge P. Chandrasekhara Rao.

THE DISPUTE

The dispute stems from the authorisation of the United Kingdom to open a new MOX facility in Sellafield. The facility is designed to reprocess spent nuclear fuel into a new fuel, known as mixed oxide fuel, or MOX. The Irish Government has pointed out that the operation of the plant will contribute to the pollution of the Irish Sea and underlined the potential risks involved in the transportation of radioactive material to and from the plant.

By notification dated 25 October 2001, addressed to the United Kingdom, Ireland requested that the dispute be submitted to an arbitral tribunal to be established under Annex VII of the United Nations Convention on the Law of the Sea.

On 9 November 2001, Ireland submitted a request for the prescription of provisional measures under article 290, paragraph 5, of the Convention to the International Tribunal for the Law of the Sea pending the constitution of the arbitral tribunal.

According to article 290 of the Convention, the Tribunal may prescribe provisional measures if it considers provisional measures appropriate to "preserve the respective rights of the parties to the dispute or to prevent serious harm to the marine environment" and if it considers that *prima facie* the arbitral tribunal which is to be constituted would have jurisdiction and that the urgency of the situation so requires.

THE ORDER OF 3 DECEMBER 2001

The Tribunal first examined the United Kingdom's argument, based on article 282 of the Convention, that the Tribunal is not competent to prescribe provisional measures since

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the main elements of the dispute are governed by regional agreements, including European Treaties, which provide for binding means of resolving disputes. The Tribunal took the view that the dispute concerns the interpretation and application of the Convention and no other agreement. The United Kingdom also maintained that the requirements of article 283 were not satisfied, since no exchange of views had taken place between the parties before the Case was submitted to the Tribunal. In response to this argument, the Tribunal considered that a State Party is not obliged to continue with an exchange of views when it concludes that the possibilities of reaching agreement have been exhausted. It therefore found that the Annex VII arbitral tribunal would *prima facie* have jurisdiction over the dispute.

The Tribunal then considered whether provisional measures are required pending the constitution of the Annex VII arbitral tribunal (according to the provisions of the Convention this should take place in early February 2002).

The Tribunal noted and placed on record the assurances given by the United Kingdom that there will be no additional marine transports of radioactive material either to or from Sellafield as a result of the commissioning of the MOX plant until summer 2002.

The Tribunal noted that, in accordance with article 290, paragraph 5, of the Convention, it may prescribe provisional measures if it considers that the urgency of the situation so requires. In the circumstances of this case, the Tribunal found that the urgency of the situation did not require the prescription of the provisional measures as requested by Ireland, in the short period before the constitution of the Annex VII arbitral tribunal.

However, the Tribunal considered that the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the Convention and general international law and that rights arise therefrom which the Tribunal may consider appropriate to preserve under article 290 of the Convention. In the view of the Tribunal, prudence and caution require that Ireland and the United Kingdom cooperate in exchanging information concerning risks or effects of the operation of the MOX plant and in devising ways to deal with them, as appropriate.

For these reasons, the Tribunal prescribed the following provisional measure, pending a decision by the Annex VII arbitral tribunal:

“Ireland and the United Kingdom shall cooperate and shall, for this purpose, enter into consultations forthwith in order to:

- (a) exchange further information with regard to possible consequences for the Irish Sea arising out of the commissioning of the MOX plant;
- (b) monitor risks or the effects of the operation of the MOX plant for the Irish Sea;

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- (c) devise, as appropriate, measures to prevent pollution of the marine environment which might result from the operation of the MOX plant.”

The Tribunal further decided that, in accordance with article 95, paragraph 1, of the Rules, Ireland and the United Kingdom shall each submit an initial report on compliance with the provisional measure prescribed not later than 17 December 2001, and authorized the President of the Tribunal to request such further reports and information as he may consider appropriate after that date.

Judges Caminos, Yamamoto, Park, Akl, Marsit, Eiriksson and Jesus appended a joint declaration to the Order.

Vice-President Nelson, Judges Mensah, Anderson, Wolfrum, Treves, Jesus and Judge *ad hoc* Székely appended separate opinions to the Order.

The text of the Order and the opinions appended thereto is available on the website of the Tribunal at www.itlos.org and www.tiddm.org.

The Press Releases of the Tribunal, documents and other information are available on the Tribunal's website at www.itlos.org and www.tiddm.org and from the Registry of the Tribunal. Please contact Mr. Robert van Dijk or Ms. Julia Pope at Am Internationalen Seegerichtshof 1, 22609 Hamburg, Germany, Tel.: (49) (40) 35607-228/227, Fax: (49) (40) 35607-245/275; E-mail: press@itlos.org

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JUDGMENT OF THE COURT (Second Chamber)

7 October 2004*

In Case C-239/03,

ACTION under Article 226 EC for failure to fulfil obligations, brought on 4 June 2003,

Commission of the European Communities, represented by G. Valero Jordana and B. Stromsky, acting as Agents,

applicant,

French Republic, represented by G. de Bergues and E. Puisais, acting as Agents,

defendant,

* Language of the case: French.

THE COURT (Second Chamber),

composed of: C.W.A. Timmermans, President of the Chamber, R. Schintgen (Rapporteur), R. Silva de Lapuerta, P. Küris and G. Arestis, Judges,

Advocate General: D. Ruiz-Jarabo Colomer,
Registrar: R. Grass,

having regard to the written procedure,

having decided, after hearing the Advocate General, to proceed to judgment without an Opinion,

gives the following



Judgment

1 By its application, the Commission of the European Communities requests the Court to declare that:

- by failing to take all appropriate measures to prevent, abate and combat heavy and prolonged pollution of the Étang de Berre, and

- by failing to take due account of the requirements of Annex III to the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources, signed at Athens on 17 May 1980 and approved on behalf of the European Economic Community by Council Decision 83/101/EEC of 28 February 1983 (OJ 1983 L 67, p. 1; ‘the Protocol’), by amending the authorisation for the discharge of substances covered by Annex II to the Protocol following the conclusion of the latter,

the French Republic has failed to fulfil its obligations under Articles 4(1) and 8 of the Convention for the protection of the Mediterranean Sea against pollution, signed at Barcelona on 16 February 1976 and approved on behalf of the European Economic Community by Council Decision 77/585/EEC of 25 July 1977 (OJ 1977 L 240, p. 1; ‘the Convention’), under Article 6(1) and (3) of the Protocol and under Article 300(7) EC.

Legal context

- 2 Article 2(a) of the Convention defines the term ‘pollution’ as follows:

‘... the introduction by man, directly or indirectly, of substances or energy into the marine environment resulting in such deleterious effects as harm to living resources, hazards to human health, hindrance to marine activities including fishing, impairment of quality for use of sea water and reduction of amenities.’

3 Article 4(1) of the Convention states:

‘The Contracting Parties shall individually or jointly take all appropriate measures in accordance with the provisions of this Convention and those Protocols in force to which they are party, to prevent, abate and combat pollution of the Mediterranean Sea area and to protect and enhance the marine environment in that area.’

4 Article 8 of the Convention provides:

‘The Contracting Parties shall take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources within their territories.’

5 Article 1 of the Protocol similarly provides:

‘The Contracting Parties ... shall take all appropriate measures to prevent, abate, combat and control pollution of the Mediterranean Sea area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources within their territories.’

6 Article 3 of the Protocol states:

“The area to which this Protocol applies (hereinafter referred to as the “Protocol area”) shall be:

...

(c) saltwater marshes communicating with the sea.’

7 Article 4(1)(a) of the Protocol provides that the latter is to apply:

‘to polluting discharges reaching the Protocol area from land-based sources within the territories of the Parties, in particular,

directly, from outfalls discharging into the sea or through coastal disposal,

indirectly, through rivers, canals or other watercourses, including underground watercourses, or through run-off’.

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8 Article 6(1) and (3) of the Protocol states:

'1. The Parties shall strictly limit pollution from land-based sources in the Protocol area by substances or sources listed in Annex II to this Protocol.

...

3. Discharges shall be strictly subject to the issue, by the competent national authorities, of an authorisation taking due account of the provisions of Annex III ...'

9 It is clear from paragraphs 11 and 13 of Section A of Annex II to the Protocol that the system laid down in Article 6 of the Protocol covers 'substances which have, directly or indirectly, an adverse effect on the oxygen content of the marine environment, especially those which may cause eutrophication' and 'substances which, though of a non-toxic nature, may become harmful to the marine environment or may interfere with any legitimate use of the sea owing to the quantities in which they are discharged'.

10 Section B of Annex II states:

'The control and strict limitation of the discharge of substances referred to in Section A above must be implemented in accordance with Annex III.'

11 Annex III to the Protocol sets out the factors to be taken into account 'with a view to the issue of an authorisation for the discharge of wastes containing substances referred to in Annex II ...'. The States party to the Protocol must thus take into

account the 'characteristics and composition of the waste', the 'characteristics of waste constituents with respect to their harmfulness', the 'characteristics of [the] discharge site and receiving marine environment', the 'availability of waste technologies' and, finally, the 'potential impairment of marine ecosystems and sea-water uses'.

- 12 Also, Article 300(7) EC provides that agreements concluded by the Community 'shall be binding on the institutions of the Community and on Member States'.

Subject-matter of the action and the pre-litigation procedure

- 13 The Étang de Berre is a saltwater marsh of 15 000 hectares which communicates directly with the Mediterranean Sea through the Caronte Canal. The volume of water in the Étang de Berre is 900 000 000 m³.
- 14 The Commission received a complaint concerning damage to the aquatic environment of the Étang de Berre, principally as a result of fresh water from the Durance being artificially discharged into the Étang de Berre whenever the turbines of the hydroelectric power station at Saint-Chamas run by Electricité de France ('EDF') were in operation.
- 15 EDF developed and operates the Saint-Chamas fall under:

— Law No 55-6 of 5 January 1955 relating to development of the Durance (JORF of 6 January 1955 and corrigendum at JORF of 20 February 1955), Article 1 of

which declared as being in the public interest the construction of works for regulating the flow of the Durance, for use of the waters in irrigation and for the production of electric energy, a diversion being established between the Durance's confluence with the Verdon and the Étang de Berre;

- the Decree of 28 September 1959 granting the EDF (national service) the right to develop and operate the Serre-Ponçon fall and reservoir, on the Durance, and falls to be established on the diversion of the Durance, between its confluence with the Verdon and the Étang de Berre (JORF of 7 October 1959);

- an agreement between EDF and the Minister for Infrastructure dated 19 August 1966, clause 9 of which provides:

'Electricité de France will take all appropriate measures to stop discharges into the marsh once the solids content exceeds 5 grams per litre, except where, in the event of an incident on the electricity network, that step proves exceptionally unacceptable';

- the Decree of 6 April 1972 approving the agreement and the special conditions for the Salon and Saint-Chamas falls, on the Durance (departments of Bouches-du-Rhône, Vaucluse and Gard) (JORF of 18 April 1972; 'the 1972 Decree'). Clause 17 of those conditions imposes the obligation to comply with the requirements of the agreement of 19 August 1966 that relate to discharges into the Étang de Berre;

- the operating instructions relating to the ‘transfer into the Durance of waters from the diversion, in connection with the reduction of liquid and solid inputs into the Étang de Berre’ (‘the operating instructions’), approved on 22 April 1997 by the Regional Department for Industry, Research and the Environment.
- 16 Point 2 of the operating instructions sets the objectives for reducing water and alluvium inputs in the following terms:

‘Water inputs

- limit on inputs per annum: 2 100 hm³
- limit on inputs from 1 May to 30 September: 400 hm³

Alluvium inputs

- limit on inputs per annum: 200 000 tonnes
- limit of 2 g/l for suspended matter

Compliance with the quotas

In the event of difficulty in complying with these quotas, EDF must inform the Étang de Berre Recovery Taskforce which will decide on the action to be taken.’

17 According to the case-file, EDF's Durance facilities not only serve to generate electricity at a regional level but also contribute to the security of electricity generation by providing a maximum output capacity that is immediately available to deal with incidents on the network.

18 After taking the view that the French Republic had failed to take all appropriate measures to prevent, abate and combat heavy and prolonged pollution of the Étang de Berre or had failed to take due account of the provisions of Annex III to the Protocol by amending the authorisation for the discharge of substances covered by Annex II to the Protocol and, as a consequence, had failed to fulfil its obligations under Articles 4(1) and 8 of the Convention, Article 6(1) and (3) of the Protocol and Article 300(7) EC, on 10 May 1999 the Commission served a letter of formal notice on the French Government in order to enable it to submit its observations.

19 Since the Commission was not persuaded by the arguments set out by the French Republic in its letter of 5 October 1999, the Commission sent it a reasoned opinion reiterating the terms of the letter of formal notice and calling on it to take the measures necessary in order to comply with the reasoned opinion within a period of two months from notification thereof.

20 By letter of 31 October 2000 the French Government submitted to the Commission a dossier in response to the reasoned opinion.

21 Since the Commission considered that the dossier did not enable it to abandon its complaints set out in the reasoned opinion, it brought the present action.

The Court's jurisdiction

- 22 The French Government submits that the Court lacks jurisdiction to adjudicate on the action on the ground that the obligations which the French authorities are alleged to have infringed do not fall within the scope of Community law. It states that no Community directive regulates discharges of fresh water and alluvia into a saltwater marsh, so that the provisions of the Convention and the Protocol that cover such discharges do not fall within Community competence.
- 23 Since Treaty infringement proceedings can relate only to a failure to comply with obligations arising from Community law, it must be examined, before deciding if there has been a substantive infringement, whether the obligations owed by France which are the subject-matter of the action fall within the scope of Community law.
- 24 The Convention and the Protocol were concluded by the Community and its Member States under shared competence.
- 25 In accordance with case-law, mixed agreements concluded by the Community, its Member States and non-member countries have the same status in the Community legal order as purely Community agreements in so far as the provisions fall within the scope of Community competence (see, to that effect, Case 12/86 *Demirel* [1987] ECR 3719, paragraph 9, and Case C-13/00 *Commission v Ireland* [2002] ECR I-2943, paragraph 14).

- 26 From this the Court has inferred that, in ensuring compliance with commitments arising from an agreement concluded by the Community institutions, the Member States fulfil, within the Community system, an obligation in relation to the Community, which has assumed responsibility for the due performance of the agreement (*Demirel*, cited above, paragraph 11, and *Commission v Ireland*, cited above, paragraph 15).
- 27 In the present case, the provisions of the Convention and the Protocol without doubt cover a field which falls in large measure within Community competence.
- 28 Environmental protection, which is the subject-matter of the Convention and the Protocol, is in very large measure regulated by Community legislation, including with regard to the protection of waters against pollution (see, in particular, Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment (OJ 1991 L 135, p. 40), Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ 1991 L 375, p. 1) and Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ 2000 L 327, p. 1)).
- 29 Since the Convention and the Protocol thus create rights and obligations in a field covered in large measure by Community legislation, there is a Community interest in compliance by both the Community and its Member States with the commitments entered into under those instruments.
- 30 The fact that discharges of fresh water and alluvia into the marine environment, which are at issue in the present action, have not yet been the subject of Community legislation is not capable of calling that finding into question.

31 It follows from the foregoing that the application of Articles 4(1) and 8 of the Convention and Article 6(1) and (3) of the Protocol to discharges of fresh water and alluvia into a saltwater marsh, those discharges not having been the subject of specific Community legislation, falls within the Community framework since those articles are in mixed agreements concluded by the Community and its Member States and concern a field in large measure covered by Community law. The Court therefore has jurisdiction to assess a Member State's compliance with those articles in proceedings brought before it under Article 226 EC.

Substance

32 In support of its action, the Commission puts forward two complaints, respectively alleging:

- breach of Article 6(1) of the Protocol, in conjunction with Articles 4(1) and 8 of the Convention, on the ground that the French Republic has not taken the measures necessary to limit strictly the introduction into the Étang de Berre of substances having deleterious effects as set out in Article 2(a) of the Convention, in order to combat and abate over a long period the pollution of that marsh;

- breach of Article 6(3) of the Protocol, on the ground that the authorisation for the discharge by the Saint-Chamas power station of waste into the Étang de Berre has not been issued on the basis of the criteria laid down by the Convention and the Protocol.

The first complaint

Arguments of the parties

33 The Commission submits that Article 6(1) of the Protocol contains an obligation as to the result to be achieved.

34 According to the Commission, which relies on several scientific studies, a correlation exists between the volume of fresh water, alluvia and sediment discharged into the Étang de Berre by the Saint-Chamas hydroelectric power station, on the one hand, and the salinity rate, freshening and stratification of the waters of the marsh, the state of eutrophication due to an excessive input of nutrients (nutritive salts), and the harm to the marsh's fauna, flora and amenities, on the other. The Commission does not allege that operation of the Saint-Chamas hydroelectric power station is the sole cause of the pollution of the Étang de Berre, but that a crucial part of the pollution is attributable to its operation.

35 The Commission adds that Article 6(1) of the Protocol must be read in light of Article 6(3) thereof, under which discharges of the substances at issue are strictly subject to obtaining an authorisation taking due account of the provisions of Annex III to the Protocol. It follows that discharge of those substances, unless authorised, is prohibited, which means that the State has precise knowledge of the nature and amount of the substances discharged.

36 The existence of a regional deficit, or fragility in the security of the electricity supply in the Provence-Alpes-Côte d’Azur region (‘the PACA region’) at issue, is not capable of justifying the infringement of Article 6(1) of the Protocol, especially as an alternative solution exists for guaranteeing the security of the network, namely the construction of a 400 000 volt strategic line in the region, between Boutre and Carros.

37 While it is true that pollution of the Étang de Berre has been reduced in recent years under the recovery plan for that marsh, the reduction in discharges has been of a belated, erratic and, above all, very limited nature. In particular, the Commission contends that the total volume of the maximum annual discharges laid down by that plan is incompatible with the sustainable restoration of a marine environment in the Étang de Berre.

38 The French Government contends that Article 6(1) of the Protocol contains an obligation as to the means employed. In the present case, the French Republic is therefore required to prove only that it has in fact created sufficient legal means in order to limit the pollution resulting from discharges of fresh water and alluvia.

39 In this regard, the particular energy situation in the PACA region warrants the strategic interest in the Salon and Saint-Chamas hydroelectric power stations. The future 400 000 volt ‘Boutre-Carros’ line is only one part of a more global programme intended to meet the energy difficulties encountered in the region.

40 The French Government contests, first, the Commission’s statement that from 1983 there was heavy, prolonged and particular pollution of the Étang de Berre from a land-based source, having considerable adverse effects on fauna, flora and amenities. The French Government does not claim that operation of the Saint-Chamas power

station is irrelevant to the pollution of the marsh, but it points out the significance of other polluting factors (the industrialisation of the marsh's shores, a rapid increase in population and agricultural activities), contests on a scientific level the Commission's views on the salinity of the marsh and stresses the effects, underestimated by the Commission, of wind on homogenisation of the water column.

41 Only a global approach that endeavours to reduce the sources of pollution by acting on the most influential factors will lead to restoration of the marsh. An interpretation founded solely on the inputs of fresh water does not enable the phenomena to be explained or appropriate solutions to be found.

42 Nor to this day has any serious study drawn up an inventory of the fish resources of the Étang de Berre, or analysed the underlying causes of the reduction in fishing activity on it in recent years or the factors liable to impede that activity.

43 Finally, the arguments set out by the Commission with regard to eutrophication of the Étang de Berre are not founded. They are based on studies that are old, dating back to before 1993, and incomplete.

44 The French Government contests, second, the Commission's statement that the reduction in discharges has been of a 'belated, erratic and very limited' nature. It relies in this connection on figures showing the results of application of the measures prescribed by the Étang de Berre recovery plan.

- 45 The French Government contests, finally, the allegation that the measures taken by the public authorities to reduce, over a long period, the pollution of the Étang de Berre have had a limited effect. In particular, the Commission's appraisal as to the inadequacy of the reduction in discharges is based on too low an assessment of the improvements recorded since 1997, as the assessment of the Étang de Berre Recovery Taskforce for 1994 to 1999 shows.

Findings of the Court

- 46 It is apparent from Articles 1 and 4 of the Protocol that the latter is designed to prevent, abate, combat and control pollution of the Mediterranean Sea area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources within the Contracting Parties' territories. To this end, Article 1 of the Protocol, reiterating the commitments entered into under Articles 4 and 8 of the Convention, obliges the Contracting Parties to take 'all appropriate measures'.
- 47 More specifically, Article 6(1) of the Protocol obliges the Contracting Parties to 'strictly limit pollution from land-based sources in the Protocol area by substances or sources listed in Annex II' to the Protocol. Section B of that annex also refers to the 'strict limitation' of the discharge of substances listed in Section A thereof.
- 48 It is apparent from Article 3(c) of the Protocol that the area covered by the Protocol includes saltwater marshes communicating with the sea, and therefore the Étang de Berre. Even though the Étang de Berre has in its history truly contained saltwater for a short time only, since the Caronte Canal which links it to the sea was dug in 1863 and made deeper in 1925, it is accepted by the parties that the Étang de Berre, as a marine environment, constitutes the ecological reference condition.

49 The substances referred to in Annex II include, at paragraphs 11 and 13 of Section A, 'substances which have, directly or indirectly, an adverse effect on the oxygen content of the marine environment, especially those which may cause eutrophication' and 'substances which, though of a non-toxic nature, may become harmful to the marine environment or may interfere with any legitimate use of the sea owing to the quantities in which they are discharged'.

50 It is therefore a particularly rigorous obligation that is owed by the Contracting Parties pursuant to Article 6(1) of the Protocol in conjunction with Article 1 thereof, namely an obligation to 'strictly limit' pollution from land-based sources in the area caused by discharges of, inter alia, any substances 'even of a non-toxic nature' which may become harmful to the marine environment, and to do so by 'appropriate measures'. This strictness reflects the nature of the instrument, which is designed in particular to avoid pollution caused by the failure of the public authorities to act.

51 As the Commission has correctly pointed out, the scope of that obligation must be construed in the light of Article 6(3) of the Protocol which, by setting up a regime of prior authorisation by the competent national authorities of the discharge of substances referred to in Annex II, requires the Member States to control pollution from land-based sources in the area to which the Protocol applies.

52 In the present case, the Commission submits:

- that since 1983 the Étang de Berre has suffered heavy, prolonged and particular pollution whose adverse effects on fauna, flora and amenities are considerable;

— that this pollution is principally attributable to the discharge by the Saint-Chamas hydroelectric power station of massive quantities of fresh water, alluvia and sediment;

— that while it is true that those discharges have diminished, in particular in 1997 and 1998, the reduction has proved belated, erratic and very limited, so that the measures taken by the public authorities, particularly under the Étang de Berre recovery plan, have not been appropriate.

53 The French Government does not deny that the Étang de Berre is polluted or that operation of the Saint-Chamas hydroelectric power station contributes to the pollution, but it points out the significance of other sources of pollution, such as industrialisation of the marsh's shores, the rapid increase in the population of the nearby communes, the extension of agricultural activity and the deterioration of the water quality of the rivers which flow into the marsh. Recovery of the marsh requires a global approach which cannot focus on a single cause of disturbance.

54 This last proposition cannot be upheld.

55 The fact that the pollution of the Étang de Berre is caused also by factors, whether or not anthropic, other than the inputs of fresh water from the Saint-Chamas hydroelectric power station cannot affect the very existence of pollution from a land-based source, attributable to turbine operation at the power station.

56 The French Government has not disputed, or even sought to dispute, the Commission's assertion that the inflow at an irregular rate, through EDF's power canal, of an enormous mass of fresh water containing a high sediment load has seriously disturbed the ecological conditions of the biotope of the Étang de Berre. In accordance with the wording of paragraph 13 of Section A of Annex II to the Protocol, such inputs, 'though of a non-toxic nature, may become harmful to the marine environment ... owing to the quantities in which they are discharged'. Moreover, one of the very objectives of the Étang de Berre recovery plan, adopted by the French Government in 1993, was, as the defendant has pointed out in its pleadings, to reduce the annual inputs of fresh water and suspended matter through the canal of the Saint-Chamas power station.

57 It must therefore be determined whether the action of the public authorities, in light of their obligation strictly to limit the pollution from a land-based source that has thus been found to have been caused, has been appropriate.

58 According to the French Government, the Étang de Berre recovery plan has, since 1994/95, enabled the average volume of fresh water discharged by the power station to be reduced by 40%, compared with previous periods. The quantities of inputs of alluvia have been cut by seven-eighths, having been reduced on average from 800 000 to fewer than 100 000 tonnes per annum in the past eight years, with an average daily concentration of suspended matter that is today limited to 1g/l. Nutritive salt inputs from the EDF power canal account for only 10% to 20% of the total for phosphorus. In any event, uncertainties remain as to the share of the inputs from the EDF canal in nitrogen and phosphorus pollution.

59 The French Government further submits that it is incorrect that the reduction in discharges has been of a belated, erratic and limited nature.

60 As to those submissions, the following is apparent from the documents in the case (in particular from the January 1999 progress report on the recovery of the Étang de Berre of the Conseil général des ponts et chaussées (General Civil Engineering Council) ('the progress report'), at p. 11, the report of the groupement d'intérêt public pour la réhabilitation de l'étang de Berre (public interest group for the recovery of the Étang de Berre), entitled 'Le Bilan des connaissances, "État de santé du milieu"', of November 2002 ('the GIPREB report'), at pp. 36 and 37, and GIPREB's updated assessment of 2002, at pp. 16 and 17):

- the average annual volume of fresh water discharged by the Saint-Chamas power station between 1966 and 2000, a period covering that of the Protocol's approval by the Community and its Member States, was 3 090 000 000 m³;
- after the recovery plan and the restrictions imposed on EDF were put in place, the average volume of water discharged was substantially reduced, annual inputs between 1 November 1995 and 31 October 2001 having averaged 2 085 000 000 m³, thus representing a reduction of 30%;
- however, the annual inputs of fresh water from the power station vary according to the season and from year to year, given the fluctuations in operation of the power station's turbines. Thus, in 1999/2000, the period in the course of which the reasoned opinion was delivered in the present procedure, discharges from the power station were particularly high, a fact which, according to the GIPREB report, is due to an energy deficit in the PACA region;
- the massive input of fresh water thus contributes to the anoxia of the central and deep part of the marsh, where the difference in the salinity of the surface water and the deepest water is significant. In this part, a density barrier is present which limits replenishment of the deep water and gives rise to tight stratification and to an oxygen deficit, with rare and brief periods of reoxygenation when gusts of wind are strong enough to allow homogenisation of the water.

- 61 As to the quantities of alluvia washed along by the waters of the Durance, it is basically common ground that the inputs of those substances 'adversely affect the environment and in particular animal and plant species, increasing the turbidity of the water. Light penetration is diminished, which limits the growth of aquatic plants. Deposited on the bed in large quantities, the alluvia are also restricting for benthic fauna' (GIPREB's updated assessment, p. 17).
- 62 It is apparent from the GIPREB report (p. 41) that the entry into operation of the Cadarache sediment basin in 1980 and the adoption of the Étang de Berre recovery plan have enabled the power station's inputs of alluvia to be reduced, with a quantity discharged in the order of 200 000 tonnes per annum and a concentration of suspended matter limited to 2 g/l. Inputs were as low as 143 000 tonnes in 1999/2000 and 92 000 tonnes in 2000/2001, with a daily average concentration of 1 g/l, whereas the average over the period from 1966 to 2000 was 450 000 tonnes per annum.
- 63 However, according to GIPREB's updated report (p. 17), between 1997 and 2000 the power station discharged between 50% and 80% of all the inputs of alluvia into the Étang de Berre. Furthermore, the progress report (p. 13) notes that discharges at the power station's maximum rate of flow (250 m³/s) and at the maximum concentration (2 g/l) over a single day would be sufficient to carry more than 40 000 tonnes of alluvia into the marsh. This level is very high if compared with the limit values fixed for sewage treatment plants, as the Commission has pointed out.
- 64 As regards the hydroelectric power station's inputs of nutritive salts, it is not in dispute that an excessive input of nutrients into the marine environment causes eutrophication as a result of the proliferation of plants and thus the accumulation of organic matter and oxygen depletion, which is responsible for an increased death rate for fish species, in particular benthic species.

65 The French Government itself acknowledges that since 1995, and since 1998 especially, a spectacular development of ulvae ('green tides') has been witnessed and, to a lesser extent, of enteromorpha, nitrophilous species which are adapted to a low rate of salinity and whose development is favoured in a eutrophicated environment. In its updated report (p. 31), GIPREB similarly concludes that 'the Étang de Berre is in a state of eutrophication marked by production of phytoplanktonic biomass that is still very significant in the surface waters and by the proliferation of macroalgae, essentially ulvae'.

66 In this connection, the GIPREB report reveals great uncertainties, in the absence of precise and homogeneous methods of analysis, which makes comparisons difficult when determining the hydroelectric power station's share of eutrophivating inputs (nitrogen and phosphorus).

67 That being so, the high level of eutrophication from which the shallow Étang de Berre suffers seems linked to an excessive input of nutrients, to whose presence the discharge of significant volumes of fresh water, even with a low concentration of nutritive salts, has in any event made an appreciable contribution, as is apparent from the GIPREB report (p. 92), given in particular the phenomenon of release of the phosphorus present in the sediment, to which the Commission has referred in its pleadings.

68 In light of the foregoing, even though it has been possible to witness their reduction over the years as a result of successive measures taken under the recovery plan, large quantities of fresh water, the seasonal variation in which remains very substantial, were discharged by the Saint-Chamas power station into the Étang de Berre in the period corresponding to the end of the pre-litigation procedure. In particular, it must be stated that even a limited average annual volume of discharged water of 2 085 000 000 m³ to 2 300 000 000 m³ constitutes a considerable quantity, especially if compared with the volume of the Étang de Berre (900 000 000 m³), which is half the size.

69 The harmful effect of such discharges on the ecological balance of the Étang de Berre, in light both of their excessive quantities, compared with the capacity of the marsh, and their fluctuations was well known, as is apparent in particular from the GIPREB report which was lodged one year after the Commission delivered its reasoned opinion. This circumstance in itself attests the inadequacy of the measures taken by the French public authorities in light of the obligation set out in Article 6(1) of the Protocol.

70 As regards inputs of alluvia, the figures adduced before the Court reveal a significant reduction in discharges since the entry into operation of the Cadarache settling basin and the adoption of the Étang de Berre recovery plan. However, the quantities that may be swept along by the waters from the power station's turbines, particularly when the discharge is at the maximum rate of flow, remain very high.

71 In conclusion, given the strict nature of the obligation set out in Article 6(1) of the Protocol, the first complaint must be considered well founded.

The second complaint

Arguments of the parties

72 In the Commission's submission, while the 1972 Decree, read in conjunction with the agreement of 19 August 1966 concluded by the Minister for Infrastructure and EDF, does appear to be an authorisation for the discharge by the Saint-Chamas

power station of waste into the Étang de Berre, this authorisation, which predates the Convention and the Protocol, cannot have been issued on the basis of the criteria laid down by those instruments, in particular the criteria set out in Section E of Annex III to the Protocol. Nor can it have set qualitative and quantitative limits for each of the substances discharged by EDF's power canal capable of harming the ecosystems and sea-water uses.

73 The operating instructions fall outside any legislative framework and their breach cannot give rise to a legal penalty. However, Article 6(3) of the Protocol specifies that the authorisation must be issued by the competent national authorities, that is to say acting within the framework of the competence which the internal legal order of the State concerned confers upon them.

74 In any event, those instructions do not comply with the criteria laid down in Annex III to the Protocol. An authorisation taking account of all the factors set out in that annex should have regard to the composition of the discharges, so that an authorisation should have been issued for a quantity of fresh water, of suspended matter, of nitrogen and of phosphorus, element by element.

75 The French Government contends that the operating instructions have legally binding force having been approved by the prescribed authority, and penalties may be imposed if they are not complied with. They were adopted, pursuant to clause 15 of the conditions annexed to the 1972 Decree, after consultation between the main State services concerned, and approved by the Regional Director for Industry, Research and the Environment on behalf of the prefect. In addition, if the operating instructions are not complied with, under the legislation in force the holder of the concession may be fined up to EUR 12 200 and, in the case of repeated infringements, the concession may be forfeited.

76 As to the content of the operating instructions, the nature of the measures prescribed with regard both to reduction of the turbidity of the waters discharged, from 5 g/l to 2 g/l, and to the reduction of inputs of fresh water and of alluvia corresponds to the provisions contained in Annex III to the Protocol.

77 Consequently, the French authorities have issued to EDF an administrative authorisation to exploit and divert the waters of the Durance and discharge them into the Étang de Berre that is in accordance with Annex III to the Protocol.

Findings of the Court

78 As the Court held in Case C-213/03 *Pêcheurs de l'étang de Berre* [2004] ECR I-7357, at paragraph 41, Article 6(3) of the Protocol clearly, precisely and unconditionally lays down the obligation for Member States to subject discharges of substances listed in Annex II to the Protocol to the issue by the competent national authorities of an authorisation taking due account of the provisions of Annex III to the Protocol.

79 In the French Government's submission, the operating instructions, which amend the provisions in the conditions annexed to the 1972 Decree relating to discharges into the Étang de Berre of the diverted waters of the Durance, specifically take account of the Étang de Berre recovery plan which falls within the framework of the requirements of the Convention and the Protocol. These operating instructions, whose requirements are based on the criteria of Annex III to the Protocol, constitute the authorisation issued under Article 6(3) of the Protocol.

80 As to those submissions, suffice it to state that the operating instructions were approved by the Regional Department for Industry, Research and the Environment, while the agreement and the conditions for the Salon and Saint-Chamas falls on the Durance were the subject of the 1972 Decree.

81 In those circumstances, it is not clear from the French Government's observations how the operating instructions could have legally amended the relevant provisions of the conditions annexed to the 1972 Decree in order to take account of the Protocol's requirements concerning issue of authorisations under Article 6(3) of the Protocol.

82 The French Government states that the operating instructions were adopted pursuant to Article 15 of the 1972 Decree, as is moreover apparent from the legal basis cited in the instructions.

83 Article 15 of the 1972 Decree states:

'Before the barrage of the Mallemort auxiliary inlet enters into operation, operating instructions shall be drawn up by the administrative authorities, after giving the holder of the concession the opportunity to be heard, in order to determine the conditions for opening the floodgates. These operating instructions shall be drawn up in agreement with the chief engineer in the civil engineering department at Avignon who has responsibility for the flood service in the Durance basin.'

84 It is clear, as the Commission has pointed out, that that provision concerns exclusively 'the conditions for opening the floodgates' before 'the barrage of the Mallemort auxiliary inlet enters into operation'. No mention is made of the conditions in which substances such as those listed in Annex II to the Protocol may be discharged into the Étang de Berre in accordance with criteria designed to avoid harm to its ecosystem.

85 Accordingly, whatever the content of the operating instructions, in light of the provisions of Annex III to the Protocol the French Government has not established that an authorisation for the discharge into the Étang de Berre of the substances listed in Annex II to the Protocol has been issued under Article 6(3) of the Protocol by the competent national authorities.

86 The Commission's second complaint must consequently also be upheld.

87 In conclusion, the application must be granted.

Costs

88 Under Article 69(2) of the Rules of Procedure, the unsuccessful party is to be ordered to pay the costs if they have been applied for in the successful party's pleadings. Since the Commission has applied for costs and the French Republic has been unsuccessful, the latter must be ordered to pay the costs.

On those grounds, the Court (Second Chamber) hereby:

1. Declares that:

- **by failing to take all appropriate measures to prevent, abate and combat heavy and prolonged pollution of the Étang de Berre, and**

- **by failing to take due account of the requirements of Annex III to the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources, signed at Athens on 17 May 1980 and approved on behalf of the European Economic Community by Council Decision 83/101/EEC of 28 February 1983, by amending the authorisation for the discharge of substances covered by Annex II to the Protocol following the conclusion of the latter,**

the French Republic has failed to fulfil its obligations under Articles 4(1) and 8 of the Convention for the protection of the Mediterranean Sea against pollution, signed at Barcelona on 16 February 1976 and approved on behalf of the European Economic Community by Council Decision 77/585/EEC of 25 July 1977, under Article 6(1) and (3) of the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources, signed at Athens on 17 May 1980 and approved on behalf of the European Economic Community by Council Decision 83/101/EEC of 28 February 1983, and under Article 300(7) EC;

2. Orders the French Republic to pay the costs.

Signatures.

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