List of abbreviation

BAT	Best Available Techniques
BEP	Best Environmental Practice
EEC	European Economic Community
GEF	Global Environment Facility
GESAMP	United Nations Joint Group of Experts of Scientific Aspects of Marine Pollution
GPA	Global Program of Action
HELCOM	The Convention on the Protection of the Marine Environment of the Baltic Sea Area
IMM	Intermediate Ministerial Meeting
IMO	International Maritime Organization
INSCs	International Conferences on the Protection of the North Sea
LOSC	1982 United Nations Convention on the Law of the Sea
NEAFC	The North East Atlantic Fisheries Convention
NGOs	Nongovernmental Organisations
OSPAR	Convention for the Protection of the Marine Environment of the North East Atlantic
OSPARCOM	Paris Commission
PLC	Pollution Load Compilation
PP	Precautionary principle
PPP	Polluter Pays Principle
UNEP	United Nations Environmental Programme

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1. Introduction

1.1 Environmental issues of the land-based marine pollution

Land-based sources of contamination according to available information are the source of approximately eighty per cent of all marine pollution. Attention is given to the extensive problem of untreated treated sewage and the biggest contaminants—plastic litter, nutrients, heavy metals, sediments, oil, and radioactive wastes. There are several causes of ocean pollution including oil pollution, marine debris, toxic materials, and ocean dumping and mining. Oil pollution is not only caused by large devastating tanker spills, it is also caused through runoff from land and industrial wastes which find their way to the ocean through drains. Other causes include intensive farming, septic tank, pesticide, animal dung, household waste, water table, waste water, nuclear waste.[1] (Figure 4). The economic costs of pollution management measures, mainly in developing states and economies in transition, are showed as undermining international collaboration in addressing land-based sources. There are several major legal problems like the varying approaches used to define the threshold of acceptable harm, and the on-going debate over how far national sovereignty should be restricted in light of ecological considerations.

1.2 Necessity to take problem to the international level

Although pollution from land is the most significant source of marine pollution, only a limited amount of international legislative action has so far been taken to tackle this form of pollution. This is not perhaps surprising. Land-based pollution is the most 'national' source of marine pollution. It emanates from an area that is under the sovereignty of a State and in

[1] http://www.worldculturepictorial.com/blog/content/ocean-pollution-climate-change-man-made-disaster-or-

which other States enjoy no rights (unlike the position in relation to other forms of marine pollution).[2]

Due to the trans-boundary nature of land-based sea contamination, the protection of the sea environment from the land-based sources and activities cannot be realised by only one State. Therefore, the worldwide collaboration between States becomes a condition for prevention of the land-based sea contamination. Moreover, the establishment of international rules in this field is of particular importance with a view to ensuring fair economic competition at the international level. Thus, it is arguable that there is a strong need to develop an international legal framework regulating the land-based marine pollution. Nonetheless, to date, there is no global agreement on this issue, and primarily a limited number of regional agreements regulate marine pollution from land-based sources. Considering that States are usually unwilling to take strong measures to regulate land-based activities, legal techniques to limit the margin of discretion of States is at the heart in the protection of the marine environment from land-based pollution.

In this respect, it is important to note that legal techniques and approaches to enhance the regulation of land-based marine pollution are developing particularly in regional conventions. It would seem that those regional treaties might provide a useful insight to consider legal techniques and institutions reconciling the protection of the marine environment from land-based sources and the economic development. The question is whether and to what extent those approaches enshrined in regional treaties may serve for enhancing the regulation of marine pollution from land-based activities in international law.

1.3 Objectives of the thesis

In this thesis I will describe and assess how effective is the present international legal basis for land-based sea pollution directives. I will analyse the customary legal law considering the solution of land-based sea pollution problems and review the treaty law and the correlation between the international legal basis and international management rules. The legal structure will be analysed and the reflection as well as the application of criteria in practice will be

[2] Churchill, R.R and Lowe, A.V.: *The law of the Sea. Third edition*. Manchester, 1990, p 379

evaluated. According to the given above situation, this study is aimed to meet the following objectives:

1. To analyze the legal response towards the problems affecing the regulation of land-based marine polluion.
2. To highlight the importantance of more stingten approach towards the management of land-based marine pollution.
3. To address the prospects of the OSPAR Convention and LOSC in resolving the current crises in land-based sea plollution.

1.4 Methode of achieving the objectives

This thesis focuses on the analyses of existing current approaches towards the land-based sea pollution management on the international and regional levels. First, it reviews the role of international law towards the governance on international level with emphasis on the 1982 Law of the Sea Convention, and follows to the analyses of land-based sea pollution management on regional scale with emphasis on OSPAR Convention.[3] It underlines weak sides and the virtue of existing legal instruments and approaches towards land-based marine pollution management.

1.5 Structure of the thsesis

The first chapter is the introduction. It explains the reason of the chosen topic. It discusses the necessity to take the problem at the international level and the regional defining the main reason of land-based sea pollution management crisis.

The second chapter focuses on the historical background and gives general overview of the land-based pollution legal instruments starting since the end of the World War II and till the end of 70 ties.

[3] The OSPAR Convention is the current legal instrument guiding international cooperation on the protection of the marine environment of the North-East Atlantic.

In the third chapter I have described the basic meanings and implementation challenges for the principles and techniques of sustainable development, integrated coastal zone management, environmental impact assessment, polluter pays, and cleaner production. I summarized the customary international law principles of good neighborliness and reasonable use. There is a brief review of key international principles suitable to land-based pollution management.

In the forth chapter I have outlined the expectations and shortcomings of soft law documents suitable to land-based sea pollution and as well, I have given an analysis of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), Agenda 21, Rio Declaration and other relevant legal non-binding frameworks.

In the fifth chapter I highlight the requirements of the 1982 Law of the Sea Convention on protection and preservation of the marine environment. In particular, I have criticized Article 207 for only setting out a general requirement to collaborate in trying to set up global and regional rules or standards to control land-based marine pollution and not requiring adherence to any least international standards established by international organizations.

The sixth chapter will then analyze the development of approaches and legal techniques to this issue at the regional level. It analyses regional approaches and comments on developments to control of the land-based marine pollution. In this context the paper explores the legal and institutional developments in the North-East Atlantic region and the Baltic Sea region. All these arrangements are examined with a view to assess what progress has been made to achieve the goal of land-based marine pollution control under the legal frameworks of these regions. This chapter commences with a discussion on 'regional approach for land-based pollution control'. In this context, the paper analyses the contents of these regional instruments and evaluates their implementation programs and measures on land-based pollution control, to identify best practice.

The seventh chapter will outline the limits of the International Legal Frameworks and as well will summarise the thesis.

The eight chapters will give conclusions of the thesis.

1.6 Main argument

Unlike the other sources of pollution, these have proved to be the most difficult to regulate, in large part because this would require significant restrictions on industrial and other activities within the territory of all states, and coastal states in particular. Although land-based and atmospheric pollution is undoubtedly contributing significantly to declining health of ocean environments, the sources of this pollution, and the effects of it, are highly diffuse. Moreover, in the case of point-source land-based pollution such as sewage pollution from coastal or ocean outfalls, many coastal states have neither the capacity nor the inclination to implement strengthen pollution control standards. Land based pollution of the oceans is therefore an obvious ´tragedy of the commons 'problem.[4]

1.6.1 Introduction of the LOSC [5]on land-based sea pollution

The six articles of Part XII, section five (articles 207 to 213), complement and supplement article 194. Article 194 establishes the framework for the development and adoption of national legislative measures to prevent, reduce and control pollution of the marine environment. Section 5 defines the relations of the international "rules, standards and recommended practices and procedures," with the national legislative measures (laws and regulations) to give effect to or to be adopted in conformity with the international measures. It is primarily concerned with establishing the manner in which the international and national measures for the protection and preservation of the marine environment are to be correlated in the different maritime zones, from internal waters seawards. The articles in this section thus not only are a counterpart to the policy-setting provisions of article 194; they also indicate the relationship that is to be maintained between international rules and national legislation in

[4] Rothwell R.D and Stephens, T.: *The International Law of the Sea*, Oregon, 2010, p.378.

[5] The United Nations Convention on the Law of the Sea (UNCLOS), also called the Law of the Sea Convention or the Law of the Sea treaty, is the international agreement that resulted from the third United Nations Conference on the Law of the Sea (UNCLOS III), which took place from 1973 through 1982

respect of the various sources of marine pollution. The articles of section 5 have their parallels in section 6 (articles 213 to 222) on enforcement, in this way giving effect to the harmonization of policies as required by article 194, paragraph 1.

Article 207 in particular completes the obligation of States under article 194, paragraph 3(a), to take measures designed to minimize to the fullest extent possible "the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources" of marine pollution.

1.6.2 General issues on Regional Marine Conservation in the North-East Atlantic

The lack of success of measures for pollution control from land-based sources, even in developed regions of the world, has been attributed to a variety of factors. One of the reasons is the inability to control compliance at the local level. As many treatment plants are under the juridiction of local authorities and central governemnts do not have the authority to directly regulate them. [6]

The coastal States of a region share a common ocean space. Together they need to manage human activities and limit human impact on the marine ecosystems in a precautionary way. As a consequence, conserving the marine environment requires a large amount of multi-lateral negotiation, diplomacy and consensus building. The international community of stakeholders in the North-East Atlantic cooperates in regional conventions, agreements and the European framework. All of these are supported by scientific advice, in order to implement an ecosystem approach to the management of human activities in the North-East Atlantic.

There are many different players involved in working towards marine conservation in the North-East Atlantic (Figure nr.1). Regionally, the most important are the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention, since 1992) and the conservation legislation agreed on by the European Union member states for the full range of their national jurisdiction. The North East Atlantic Fisheries Convention

[6] Louka, E.: *International Environmental Law. Fairness, Effectiveness, and World Order,* New York, 2006, p.154.

(NEAFC) has also aimed for the conservation of the wider environment as part of their ecosystem approach to management.

1.6.3 The land-based marine pollution on the regional level

1.6.3.1 The North-East Atlantic region and the Baltic Sea region

In this context, the paper explores the legal and institutional developments in the North-East Atlantic region[7] and the Baltic Sea region. All these arrangements are examined with a view to assess what progress has been made to achieve the goal of land-based sea pollution control under the legal frameworks of these regions.

There are problems and interests arising in regional areas, which are larger than national interests, and in which national actors can participate, but which are not global in scope. These are typically special to a particular locality, and not amenable to effective treatment through global rule making. In this context, the management of problems in enclosed or semi-enclosed seas, the management of regional pelagic fisheries and certain regional efforts pertaining to scientific inquiry and information gathering, are important. In relation to joint regional efforts to combat land-based sources of marine pollution, the term 'regional' is defined as, 'efforts by three or more states to manage the oceans and their resources'. [8]

Although land-based marine pollution can be transported globally, they are most intensely felt at regional levels. Schumacher notes that, 'most land-based pollutants are not transported far from their sources of discharge'.

As a rule, there is a natural tendency toward regionalism based on the homogeneity of interests, traditions, and values within small groups of neighbouring states. Political, economic, social and cultural integration and cooperation are more easily attained within a

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[7] The OSPAR Convention.The Convention for the Protection of the marine Environment of the North-East Atlantic was open for signature at the Ministerial Meeting of the Oslo and Paris Commissions in Paris on 22 September 1992

[8] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p.103.

given region to establish mechanisms for environmental development and control. This suggests that, to facilitate environmental protection, 'environmental standards must be tailored to reflect local conditions and varying public preferences'.

1.6.3.2 The OSPAR Convention

The OSPAR Convention facilitates the regional action of its 16 Contracting Parties.[9] These include the governments of Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and Finland, as well as the European Commission itself. OSPAR's mission is to prevent and eliminate pollution, and to take the necessary measures to protect the maritime area against the adverse effects of human activities. Additional goals include safeguarding human health, conservation of marine ecosystems, and, when practicable, restoration of marine areas which have been adversely affected.

The work of the OSPAR Commission is guided by an ecosystem approach to an integrated management of human activities in the marine environment. This is supported by a general obligation of Contracting Parties to apply the Precautionary Principle (PP), the Polluter Pays Principle (PPP), the Best Available Techniques (BAT) and Best Environmental Practice (BEP) that includes the use of clean technology.

2. Historical development of the land-based marina pollution

2.1 The World War II – 1970

During UNCLOS I, pollution of the ocean was an issue, although with limited source oil pollution, ocean dumping and land-based pollutive sources were hardly dealt with. In the 1970s, renewed attention was drawn to the issue of sea pollution, partly because of severe

[9] The 15 countries and the European Union that are Contracting Parties to the OSPAR Convention took groundbreaking actions for the protection of the marine environment and also celebrated important achievements towards securing the sustainable future of the North-East Atlantic

accidents with oil tankers such Torrey Canyon creating 'black tides' in 1967, and the Amoco Cadiz disaster (1978). Attempts to prevent further incidents have been mainly, regional. [10]

Several decades ago the international community started to pay more attention to the problem of sea contamination. In the history of the progress of the international legislation concerning land-based sea pollution management there was a silent period – since the end of the World War II and till 1970, when only few agreements were ratified all concerning the sea contamination by oil as a result of ships movement. In the year, 1958 there was held the first Sea Conference, as a result, four conventions were ratified:

1. concerning the Territorial Sea and the Contiguous Zone;

2. concerning the Continental Shelf;

3. concerning the High Seas; and

4. concerning Fishing and Conservation of Living Resources of the High Seas.

The mentioned conventions find their reflection in later agreements concerning sea contamination occurred in result of trans-boundary contamination and contamination generation, the influence of which was limited by the territory of a coastal state. This originates from customary international law comprehensibly viewed trans-boundary contamination in the perspective of the conflict caused between states. Though the agreements regard both trans-boundary and inner-state situations, the do not impose any concrete legal regime for land-based pollution management. However, in one case they were very close to impose such regime. That concerned the offshore installation and land-based pollution in Article 24 of the 1958 Convention on the High Seas.[11] The competent international organizations should be invited by any State in order to cooperate, when taking measures against the marine and surrounding atmosphere contamination, caused by any activities with radio-active materials or other harmful agents. The requirements mentioned above were the only international law demand before the year 1972. Though these provisions are related to

[10] Larson, M.: *The Law of Environmental Damage. Liability and Reparation*, Stockholm, 1999, p. 129.

[11] *Article 24:*Every State shall draw up regulations to prevent pollution of the seas by the discharge of oil from ships or pipelines or resulting from the exploitation and exploration of the seabed and its subsoil, taking account of existing treaty provisions on the subject.

the high seas, they are potentially connected land-based sea pollution as land-based sources also contaminate the high seas. Nevertheless, if there are no more requirements, it is not sufficient to form an effective regime for land-based pollution management. For instance, in these demands harmful substances are not named or defined, these provisions relate only to the high seas and exclude coastal waters under national jurisdiction where most land-based marine pollution is happening.

2.2 Developments after 1970

In the 1970s the attention paid to the environment and the protection of sea environment in particular was growing rapidly. At that time many conventions were ratified, several of them related to land-based marine pollution management.

2.2.1 1972 London Convention

In general, one of the main sea contamination sources is dumping; though, the greatest part of sea dumping is originated from the land-generated industrial waste or land dredged silt. Therefore, the Article 1 of the London Convention[12] implies that all involved parties ensure the control over all kinds of sea contamination. Taking into consideration these rules, we can assert that the Convention has provided for states a common duty on land-based sea pollution supervision. A legal basis is very significant for the purpose of land-based marine pollution control as it gets to coastal waters mainly through pipelines and coastal outfalls. However, the London Convention does not concentrate on the definite consideration of sources and pathways of the sea contamination and its connection to internal waters of the states. For instance, in the Article 3(3) there is provided a definition for “sea” that makes a differentiation of all marine waters from the internal waters of state and the Article 7 that concerns control procedure concentrates on vessels, aircraft and platforms. Since the day of the Convention ratification there were made important alterations to the latter. For instance, in

[12] The "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972", the "London Convention" for short, is one of the first global conventions to protect the marine environment from human activities and has been in force since 1975. Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter. Currently, 87 States are Parties to this Convention.

1996 the Protocol[13] was adopted establishing such principles as the "polluter pays principle" and the "precautionary principle" in Article 3(1)-(2). Moreover, the Article 3 has introduced the broader definition of dumping in Article 459 to include the storage of waste or other matter in the seabed and the subsoil from vessels, aircraft, platforms or other human-made constructions on the sea territory, by the abandonment or toppling at site of platforms or other human-made constructions on the sea territory, only with intent of dumping. Notwithstanding, the Protocol still does not manage to redefine clearly the concept of "sea" to include internal waters, outfalls and pipelines. The 1996 Protocol also regards such issues as the duties of states to:

(a) remove contamination happened in the result of disposal and burning of wastes or other matter on the sea territory as fully as it is possible;

(b) reinforce technical collaboration and assistance; and

(c) enhance responsibility for sea contamination control.

It also envisages:

(a) a more extensive list for the giving out authorizations for dumping (such as a waste prevention audit);

(b) the analysis of waste handling alternatives;

(c) an evaluation of the possible consequences of dumping;

(d) a monitoring system to attest the authorization conditions; and

(e) an arbitral procedure to solve conflicts regarding the compliance with authorisation conditions. The latter signifies that the states parties to the Protocol may utilize arbitration to decide their conflicts.

[13] In 1996, the "London Protocol" was agreed to further modernize the Convention and, eventually, replace it. Under the Protocol all dumping is prohibited, except for possibly acceptable wastes on the so-called "reverse list". The Protocol entered into force on 24 March 2006 and there are currently 42 Parties to the Protocol

2.3 Conclusion

As we see the early treaties were not directed specifically at land-based marine pollution and did not formulate any legal regime for its control. International management principles were also absent in the early treaties. The 1982 Convention, the only global treaty that addresses land-base marine pollution control, did so in broad terms only, and its requirements were consequently too general to establish specific international standards for control. Neither did the convention address the polluter pays principle, the precautionary principle, and the principle on cleaner production, nor did it provide adequate guidance for the control of land-based pollution in an integrated and sustainable way.

2.4 Regional development

The first regional convention to tackle land-based marine pollution in detail was the Convention for the Prevention of Marine Pollution from Land-based Sources, 1974, which applies to the North-East Atlantic and North Sea and covers all pollution emanating from land.

Later on the Paris Convention, together with the Oslo Convention 1972, was replaced by a single new convention, the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic upon its entry into force in 1998.[14]

3. The reflection of the land-based marine pollution in the international principles

3.1 First attempts to set international principles for the land-based marine pollution

In the beginning it was the standard proclaimed in *Trail Smelter case* [15] that lied in the basis of more precise and comprehensive treaty rules and principles on environment security. At the present moment, the principal tools pertinent to land-based marine pollution supervision are

[14] Churchill, R.R and Lowe, A.V.: *The law of the Sea. Third edition*. Manchester, 1990, p.383.
[15] Trail Smelter Arbitration (United States v Canada) 1941, 35 at 648 et sq

the 1972 Convention on the Prevention of Maritime Pollution by Dumping of Wastes and Other Matters (London Convention) and the 1982 United Nations Convention on the Law of the Sea (1982 Convention).

According to the rule of rational usage, states may use the oceans but such use must be rational. They cannot misapply the right or intervene irrationally with the freedom of other states on the high seas. This rule means a positive obligation when using the high seas to consider the interest of other states. In sea contamination situations, it may be presumed that the rule means for a state to have a duty not to irrationally contaminate the sea and coastal waters.

General international law is a set of standards controlling the live of the international community. The law consists of two mutually connected components:

(a) constant and common practice of states;

(b) *opinio juris*.

Under this rule, the ground for international command of land-based marine pollution is formed by two extensive and generally accepted principles that are mutually connected. These are the following principles:

(a) a disposition to be friendly and helpful to neighbours;

(b) reasonableness.

3.2 *Sic utere tuo ut alienum non laedas*

In December 2001, the International Tribunal for the Law of the Sea decided to relate to land based marine pollution control in *MOX Plant* [16] as an impartial requirement. Before this case, this problem was not closely considered by any international tribunal. The Article 74 [17] of the

[16] Mox Plant Case (Ireland v United Kingdom), Disputes Concerning International Movements of Radioactive Materials, International Tribunal for the Law of the Sea, November, 2001.

[17] Article 74 of UN Charter: Members of the United Nations also agree that their policy in respect of the territories to which this Chapter applies, no less than in respect of their metropolitan areas, must be based on the general principle

UN Charter [18] explicitly pronounces this principle citing the treaty practice and judgments of the General Assembly concerning the progress and reinforcement of good neighbouring relationships between nations. Sic utere tuo ut alienum non laedas serves as the ground for this principle. According to that the nation is required to govern its territory in a way that does not result in causing harm to the territory or right of another country. The community acknowledged this principle to be the prevailing one in the international law approving this view by such judgments as *Trail Smelter*.

3.3.1 The development of the land-based sea pollution in the case law

3.3.1.1 Trail Smelter

Trail Smelter is a name for an arbitral process concerning trans-boundary damage to crops and vegetation that occurred in United States in the result of the emission of sulphur dioxide into the atmosphere done by a copper founder from Canada. Though this case concerns the air pollution, it can be also applied to other kinds of extraterritorial damage (land-based sea pollution damage) as it is related to:

- extraterritorial harm caused by the contamination of the common green resources (borderland atmosphere);
- contamination arising from the release of deleterious chemicals from a fixed installation on land, the activity of which was legal per se; and
- nation's liability grounded on the exclusive control of the state over its industrial activities.

Though, except for sic utere tuo there were also other arguments for the judgment. The Arbitral Tribunal was also basing on the principle of reasonable utilization. Therefore, the process was widely applied later on in such cases as *Lake Lanoux* [19] and others.

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of good-neighbourliness, due account being taken of the interests and well-being of the rest of the world, in social, economic, and commercial matters.

[18] The Charter of the United Nations was signed on 26 June 1945, in San Francisco, at the conclusion of the United Nations Conference on International Organization, and came into force on 24 October 1945.

[19] Lake Lanoux , (France v Spain), (1957) RIAA 281

3.3.1.2 Lake Lanoux

In the *Lake Linoux* case France was accused of causing potential damage to Spain. In the result of hydroelectric project waters were redirected from the lake. Specially for solving this case there was formed the Arbitral Tribunal,[20] which declared that if the state disregards the rights of another state it is not acceptable for this state to fully exercise its rights. In brief, this dispute concerned the usage of internal waters that significantly influenced either the quality of water or the volume of flow to another state; therefore, the state activity was recognized as irrational. Though, if the similar project of the state had no influence on the water systems of other territories, it would not be necessary to discuss the matter beforehand or get the approval. The mentioned rule is widely used in the practice of Western states and of the Third World, being acknowledged also by many authors. Though the essence of sic *utere tuo* is closely connected with the obligation not to contaminate as it is settled in *Trail Smelter*, as a consequence it means that state is liable for environmental damage. Therefore, if state violates this rule it means that state infringes an international obligation incurring state responsibility.

3.3.1.3 Corfu Channel

Corfu Channel[21] proceeding considered claims resulting from the lethal wound to British seamen when two British destroyers (*Saumarez and Volage*) struck mines in waters of the Albanian territory in the Corfu Strait. The International Court of Justice stated that in this case responsibility lies on Albania as it did not manage to obey the main international duty considering its territorial waters, i.e. the safety of the Corfu Strait as an international waterway. The court stated that the rule of sovereignty included "the obligation of every state not to allow its territory to be used for acts contrary to the rights of other states". Albania was responsible for cautioning "the vessels of the danger into which they were running... [and the]

[20] This arbitration concerned the use of the waters of Lake Lanoux, in the Pyrenees. The French Government proposed to carry out certain works for the utilization of the waters of the lake and the Spanish Government feared that these works would adversely affect Spanish rights and interests, contrary to the Treaty of Bayonne of May 26, 1866, between France and Spain and the Additional Act of the same date. In any event, it was claimed that, under the Treaty, such works could not be undertaken without the previous agreement of both parties.

[21] Corfu Channel Case (United Kingdom v Albenia) 1949, ICJ Report – 4.

grave omissions involve...international responsibility". As a consequence, Albania had to pay reimbursement to the United Kingdom. The basic rules are the same even in the case of Corfu Channel where land-based pollution control is not explicit. This implies that a state has to take any measures whenever it is in the power of a state in order to avert harm to another state.

3.3.1.4 Gabcikovo-Nagymaros

Gabcikovo-Nagymaros[22] is explicitly related to state responsibility for internationally illegal actions in the circumstances when a state failed to keep an international watercourse from damage because it was not enough alert and did not take any sufficient prophylactic measures. Although the subject of this case is not contamination of sea waters, as a matter of fact, it is connected with land-based marine pollution control because the problem concerns sea environmental security. The problem of this situation was related to the building and use of the *Gabcikovo-Nagymaros* System of Locks on the River Danube, a "joint investment" project realized by Hungary and Slovakia according to a treaty concluded between them on 16 September 1977 that came into effect on 30 June 1978. First, in October 1989, Hungary made a decision to resign the works at Nagymaros. However, in November 1991 Slovakia began execution of the Gabcikovo Project and in October 1992 started the procedure of closing the river. It was followed by consideration of the International Court of Justice in order to solve the problem. As a result the court discovered that energy production was not the only target of the treaty concluded by countries in 1977, which also was aimed at the protection of the natural environment. Setting the goal to protect the environment, both states had engaged in taking duties of management, execution and results under Article 5 of the treaty. These conditions implied an obligation to find an acceptable solution for the volume of water to be released into the old riverbed and side arms for both riverbanks, and keep the river's water quality inter alia. As the court discovered that both states had not managed to observe their obligations, they had jointly committed internationally illegal acts causing damage. Therefore, they were equally obliged to pay imbursement and get it from each other.

[22] Gabcikovo-Nagymaros Project (Hungary v Slovakia) 1994, ICJ Judement 25 September 1997; 37 ILM (1998) 162

3.3.1.5 Mox Plant

MOX Plant [23] regarded the protection of the Irish Sea from radioactive contamination, which succeeded an offer to build the plant on England's coast. Ireland started arbitral proceedings against the United Kingdom according to the 1982 Convention when the latter would not delay the sanction of or stop the proposed plant. Ireland claimed that disposal from the plant contradicted with the United Kingdom's responsibility in accordance with the 1982 Convention to:

> (a) collaborate and protect the sea environment;
>
> (b) take all measures necessary to avert, decrease and control contamination from all sources; and
>
> (c) reduce as much as possible the discharge of toxic, harmful and noxious substances, particularly those that were immovable, from land-based sources.

In the International Tribunal for the Law of the Sea, Ireland claimed about the seriousness of the situation and demanded to indicate tentative measures in accordance with the Article 290(5) of the 1982 Convention to cease the construction of the plant. The United Kingdom maintained that the Tribunal should refuse the claim because the plant was not yet active. The tribunal finally declined Ireland's claim in its decision of 3 December 2001. Although the Tribunal considered that the situation is not serious enough to validate tentative measures, it stated that the United Kingdom had a duty to cooperate according to the fundamental principles on sea contamination control provided in Part XII of the 1982 Convention and according to general international law. In other words, although Article 32(1) of the OSPAR Convention did not prescribe tentative measures, the tribunal was not restrained from providing tentative measures in accordance with the Article 290(5) of the 1982 Convention. The parties also need to consult at once to share the further information considering the possible influence on the Irish Sea that can result from the operation of the *Max Plant*; keep

[23] Mox Plant Case (Ireland v United Kingdom), Disputes Concerning International Movements of Radioactive Materials, International Tribunal for the Law of the Sea, November, 2001.

track of risks, or the consequences, of the exploitation of the *MOX Plant* for the Irish Sea; and prepare, if necessary, activities to avert contamination of the sea environment, which can be caused by the exploitation of *MOX Plant*. *MOX Plant* has made an important input into the advance of the international law on land-based marine pollution management when commented on the sphere of Part XV of the 1982 Convention and discovered that it is non-exclusive when concerning the solution of conflicts. The tribunal noticed that even if rights or duties provided in the OSPAR Convention, the EC Treaty and the Euratom Treaty are similar to or identical with the rights and duties established in the Convention, the rights and duties provided by those agreements exist separately from those established by the 1982 Convention on the Law of the Sea.

3.3 State Responsibility

When we speak about the state responsibility, we mean the liability a state undertakes for exercising an illegal deed against another state or against the national of another state in certain circumstances. It is related with the infringement of an international duty obliging the state to pay the compensation in the order set by international law. Only international law can feature an action of a state to be internationally illegal. It should not be obligatory to correspond to the definition of legal and illegal acts stated in internal law.

As to responsibility for the state´s direct participation in the supply of operation of the injury-producing activity, the general rules as to the conduct of state organs and agents apply. If fault or negligence is established, by reference to many of the same questions as to the knowledge and care of the state addressing in the private actor due diligence inquiry, responsibility will lie. If conduct of guilty state may be categorized as ultrahazardous or produces extreme injury, responsibility will arise strictly, even in the absence of fault. The apportionment of the burden of compensation thus would rest on factors such as each state´s degree of participation, capacity to prevent (in terms of theoretical legal authority and actual opportunity and skill), receipt of the benefits of the conduct, knowledge of the risk, and diligence exercised to prevent the injury.[24]

[24] Smith, B.D.: *State Responsibility and the Marine Environmnet*, Oxford, 1988, p. 184.

In legal practice there exist two theories on state liability: (a) the risk or objective theory; and (b) the fault or subjective theory. In the case of the first theory (a), states undertake responsibility when they commit an internationally illegal act. But in the case of the second theory (b), states undertake responsibility for an international wrong subject if their evil intent or carelessness has been proved. Being obliged to avert environmental damage to other states, states cannot trespass their supreme rights acting within their borders in a way that results in damage to other states. In the case the state has not observed this obligation it undertakes the international liability if there is a proof of harm and casual connection.

3.3.2 *Southern Bluefin Tuna*

The consequences of other requirements of the 1982 Convention may be the same. For instance, the parties may select other ways for settling the conflicts as they are not obliged to submit to the Convention's mandatory arbitration procedure or they may accept agreements altering or supplementing the Convention's requirements. Nevertheless, in the result of such cross-referencing and interaction there originate both alternatives and overlapping. *Southern Bluefin Tuna*[25] can serve as an example for the Convention's mandatory arbitration procedure being weakened by the procedure established by three-party regional agreement, the 1993 Convention for the Conservation of *Southern Bluefin Tuna* (Bluefin Tuna Convention).[26] The Arbitral Tribunal in this case had: (a) discovered that the 1982 Convention fell "significantly short of establishing a truly comprehensive regime of compulsory jurisdiction entailing binding decisions"; (b) chosen to approve consent-based agreements; and (c) questioned the viability of the obligatory nature of the conflict settlement regime of the 1982 Convention. The ultimate decision in *MOX* Plant case would be determined by the further judgment of another arbitral tribunal formed according to Annex VII of the 1982 Convention considering the next phase of Ireland's claim. Not depending of the result, it is obvious that the obligatory nature of the Convention's arbitrary system needs be clarified. In order to operate in a more efficient way, the structure of the Convention should be broader being obligatory in its

[25] Southern Bluefin Tuna Case (Australia and New Zealand v Japan) 39 ILM 1359 2000

[26] The Convention for the Conservation of Southern Bluefin Tuna (CCSBT) was signed on May 10, 1993 and entered into force on May 20, 1994. Its objective is to monitor and manage the global southern bluefin tuna fishery.

essence. States will be able to cooperate in the sphere of land-based marine pollution control with a greater success only when these conditions are observed.

3.4 Conclusion

Legal responsibility is closely connected with the ratification of regulatory standards. Nevertheless, specific regulatory standards for land-based pollution supervision are rare in present regimes. If such standards are adopted at regional and international levels, the task of identifying threshold compensable damage from land-based pollution would become easier. Conversely, the development and harmonisation of the present laws and policies relating to liability and compensation would stimulate, as a risk avoidance strategy, the elaboration of specific and enforceable standards for land-based pollution control.

In this way the LOSC´s CDS procedures, as an instrument meant to establish legal responsibility, could similarly promote, although to a lesser extent land-based pollution supervision. Therefore, it is desirable to reduce, if not resolve, the LOSC´s jurisdictional woes and to clarify the application of the compulsory procedures. Strong compulsory procedures that are more explicit, so that less interpretation is required and that stimulate more a harmonious approach between the LOSC and regional treaties are needed. The development of a firm jurisprudence, building on the foundations set in the *MOX case* and the adoption of dispute resolution procedures that relate directly to the LOSC CDS system, such as are set out in the 1995 United nations Straddling and Highly Migratory Fish Stocks Agreement would satisfy this need for strong mandatory procedures.

4. Management of land-based marine pollution in Non-binding international instruments

4.1 General characteristics

Soft law has been widely criticized and even dismissed as a factor in international affairs.[27]Realists, of course, focus on the absence of an independent judiciary with supporting enforcement powers to conclude that all international law is soft—and is therefore only window dressing. But some international lawyers dismiss soft international law from a more normative perspective.[28]

In relation to non-binding instruments I will focus on the Stockholm Declaration, Montreal Guidelines, Agenda 21 and the Global Program of Action for the Protection of the Marine Environment from Land-based Sources.

In our case the international attention towards the environment issues reached its highest point during the United Nations Conference on the Human Environment organized in Stockholm in June 1972. In the result of the Conference there was adopted the 1972 Stockholm Declaration and Action Plan. Beginning with that, numerous other enterprises have developed good plans and "soft law". For instance, in 1985 the Governing Council of UNEP accepted the Montreal Guidelines on the Protection of the Marine Environment from Land-based Sources in order to help governments to work out relevant two-party, regional and multilateral agreements. In June 1992, on the 20th anniversary of the Stockholm Conference Rio de Janeiro has organized the Earth Summit that provided a great possibility for the international public to set new preferences in the sphere of environment protection. As well, there were ratified two main worldwide conventions on climate change and bio-diversity; they contained the following soft law tools: Agenda 21, the Forests Principles, and the Rio Declaration. If we compare both of them, Agenda 21 is most appropriate to land-based marine pollution control. In 1995, UNEP assembled the Conference on the Protection of the Marine Environment from land-based sea pollution in Washington (Washington Conference) following the recommendations provided in the Chapter 17 of Agenda 21. This step is considered to be very important for the goal of the protection of the sea environment from land-based sea pollution. During the conference by

[27] Abbott, K.W. and Snidal, D.: *Hard and Soft Law in International Governance*, International Organization, 2000, p.422.

[28] Abbott, K.W. and Snidal, D.: *Hard and Soft Law in International Governance*, International Organization, 2000, p.422.

This perspective is so deeply held among neorealists that they rarely discuss international law at all. Classical realists such as Hans Morgenthau recognized that states generally obeyed international law but took the lack of enforcement to mean that law did not cover the signi. cant issues of international affairs. A modern reprise of this theme is offered by Downs and his colleagues, who critique much international cooperation for consisting of agreements that reject what states would have done on their own and so do not change behavior. Downs, Rocke, and Barsoom 1996.

common consent there were also ratified the Washington Declaration on Protecting the Marine Environment from Land-based Sources and a Global Program of Action for the Protection of the Marine Environment from Land-based Activities (1995 GPA).

4.2 1972 Stockholm Declaration and Action Plan

Both the Stockholm Declaration and Action Plan considered to embody soft law; however, they consider different angles of environmental decline and are the first documents to specify rules the purpose of which is to prevent and control the sea contamination including the important control of land-based sea pollution.

The Stockholm Declaration contains an introduction with a usual obligation of the states-parties to protect the human environment. There are 26 principles that are meant for inspiration and guidance of the international society to keep untouched and improve its physical environment, which already implies the protection from trans-boundary and internal land-based sea pollution. Principle 1[29] acknowledges that every person has definite basic rights, among which there is an environment of quality that does not prevent leading a valuable life for which they take "a solemn responsibility" to protect and enhance for current and coming generations. The Stockholm Declaration does not clearly mentions the very term land-based sea pollution, but the rules provided by the Declaration in closely connected with the management of the problem. For instance, Principle 6 speaks about the emission of contamination on land, at sea and in the air. Principle 7 [30] is specific application of Principle 6 [31] making a particular reference to sea contamination from all sources and putting a duty on

[29] Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated.

[30] States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

[31] The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of ill countries against pollution should be supported.

states to avert sea contamination. Principle 21[32] also makes the state liability broader including affected areas under national jurisdiction and beyond.

The Action Plan gives 109 suggestions about administration, environmental estimation and other supporting activities, some of them correspond to land-based sea pollution management. For instance, Recommendation 71 suggests using best possible means so that the emission of toxic substances (such as heavy metals and organochlorin compounds) into the environment may be maximally reduced. Recommendation 86(f) admits that LBMSP may be potentially dangerous to ecosystems of the sea and demands to enforce supervision of these sources of contamination. Recommendation 92(b) suggests that states act early to supervise all important internal sources of sea contamination as well as land-based sources. Nevertheless, the Stockholm Declaration is mainly a non-mandatory and passive legal tool that does not have any control mechanisms. The rules on land-based sea pollution control are also too flexible and ambiguous. However, the Declaration is significant as it announces the beginning of international environmental law on land-based sea pollution management and reflects the international public's sense of commitment to the provision of fundamental principles on international environmental law. In this case the international concern is focused on the more legislating standards and creates favourable circumstances for coming enterprises in the sphere, such as the 1985 Montreal Guidelines and Agenda 21. Later, in 1995 the Washington Conference developed the Global Program of Action for the Protection of the Marine Environment from Land-based Sources (GPA) particularly focusing on land-based sea pollution management.

4.3 1985 Montreal Guidelines

The Montreal Guidelines[33] includes national legislation for the protection of the marine environment from land-based sea pollution. They provide a checklist of requirements that governments may select, adopt or elaborate, as appropriate, to meet the needs of specific

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

[33] In 1995 the global community represented by 108 Governments and the European Union adopted the GPA through the Washington Declaration.

regions to control land-based sea pollution. They identify the responsibilities needed to protect and preserve the marine environment, provide requirements that prevent trans-boundary pollution, and adopt measures against land-based sea pollution and so forth. There are the usual requirements on definitions, general duties, special measures, and specific strategies. More specifically, the Guidelines draws upon regional treaties appropriate to land-based sea pollution control and incorporate the elements and principles found in the 1974 Paris Convention,[34] the 1974 Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention),[35] the 1980 Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources (Athens Protocol), and the 1982 Convention (particularly Part XII). The significance of the Guidelines lies in the consolidation and globalization of the duties. They elaborate on and advance the land-based sea pollution control regime particularly by defining "marine pollution" and "land based sources". For example, the words "marine ecosystems" instead of "marine life" are used to indicate that both living and non-living factors may affect and pollute the marine environment. Offshore facilities have been included for the first time in the definition of "land based sources". Further, a management plan may be used to set aside certain important ecologically or biologically sensitive areas, and to especially protect them. Guideline 7 provides that states should, "consistent with international law, take all appropriate measures...to protect certain areas to the fullest possible extent from pollution, including from land-based sources." The specific strategies are found in three Annexes that deal with:

(a) the protection, preservation and enhancement of the quality of the marine environment;

(b) the classification of substances;

(c) the monitoring and management of data.

These strategies provide a reference point for marine environmental quality standards, emission standards and environmental planning. However, the Montreal Guidelines to a large extent repeats the existing international legal duties for land-based sea pollution control in a non-binding instrument. It does not explain the concepts governing the meaning of the

[34] Paris, 4 June 1974, in force 5 October.

[35] Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974, 13 ILM (1974) 546

precautionary principle, the polluter pays principle, and the principle on cleaner production. More detailed content is therefore required including a more comprehensive checklist of appropriate factors. There is also no logical scientific framework for the protection and management of the marine environment and the requirements are only recommendations. Nevertheless, the Guidelines are still the first instrument to apply to land-based sea pollution control exclusively and in this sense provide a sound basis for the negotiation of a binding global treaty.

4.4 Agenda 21

At the United Nations Conference on Environment and Development in Rio during June 1992, a general consensus emerged on action at the international level to address critical issues that constrain the potential for sustainable development of the world´s renewable natural resources.[36]The UNCED Agenda 21 sets out a program of action that requires new approaches to marine and costal area management and development, at the national, subregional, regional, and global levels. The major concepts in Chapter 17 of Agenda 21 are the following:

1) that the marine environment (ocean and adjacent coastal areas) "forms an integral whole that is an essential component of the global life a support system,"
2) that the ocean adjacent coastal areas are "a positive asset presenting opportunities for sustainable development;"
3) that, given increasing problems of environmental loss and degradation, "new approaches to marine and costal area management and development are needed (at the national, sub-regional, regional, and global levels), approaches that are integrated in content, and precautionary and anticipatory in ambit," and
4) that the United nations Convention on Law of the Sea (1982) sets forth right and obligations of states and "provides the international basis upon which to

[36] Seoung-Yong Hong; Miles, L.E; Choon-ho Park: *The role of the Oceans in the 21st Centuray,* Honolulu, 1995, p.56.

pursue the protection and sustainable development of the marine and coastal environment and its resources."

In Agenda 21 text dealing with oceans and coasts, coastal nations commit themselves to integrated management and sustainable development of coastal areas and marine environmental under their national jurisdiction. The text calls for integrated policy and decision-making processes and provides a series of suggested actions that can assist coastal states in strengthening their efforts at integrates management of coastal and ocean areas.

Agenda 21 also calls for coastal nations to increase their efforts to deal with land-based sources of marine pollution. While land-based sources account for up to 80 percent (Figure 3) of the pollution currently found in the oceans, international efforts to deal with the problem have lagged. The Agenda 21 program calls upon nations to employ coastal planning and management efforts, including the control of non-point sources of pollution, as a step in strengthening existing activities.

Agenda 21 identifies integrated coastal management as a top priority. Coastal areas are viewed as watersheds which drain into estuarine ecosystems. This approach comes about owing to an increased understanding of the connections between land uses in larges watersheds and the impact of these on estuaries, coasts, and near shore waters and habitat. This approach, in turn, inevitably leads to directing attention to the overall impact of integrated coastal management on living marine resources – a resources normally not included in such "integrated" approaches. In this sense, Agenda 21 has encouraged the conceptual transition from coastal zone management to coastal ecosystem management. [37]

4.5 1995 GPA

The deliberations of the participants at the Washington Conference resulted in the development of a global program of action for land-based sea pollution control known as the GPA. Generally, the GPA provides valuable insights into what is needed in order to deal more effectively with the land-based sea pollution problem and with how states may be persuaded, encouraged or helped in this regard. It lists the criteria for the successful implementation of

[37] Seoung-Yong Hong; Miles, L.E; Choon-ho Park: *The role of the Oceans in the 21st Centuray,* Honolulu, 1995, p.57.

programs to establish and strengthen regional and global networks, and encourage and facilitate interregional cooperation, among others.

Chapter II of the GPA aims to develop comprehensive, continuing and adaptive programs of action at the national level to identify and assess the nature of the problem, the types of contaminants, the sources of degradation and so forth. It establishes priorities for each area affected (including the management objectives for such areas) and the source categories of pollution.

Chapter III emphasizes regional cooperation while the next chapter deals with international cooperation. Regional cooperation is noted as a crucial issue particularly when states have coasts in the same marine area in enclosed or semi-enclosed seas. As a result, the GPA calls upon states to participate actively in strengthening their existing regional and sub-regional relationships and to negotiate new regional conventions and programs.

The GPA also recommends that states should invite multilateral financing agencies and other development bodies to cooperate in their programs including the implementation of regional agreements.

To implement the GPA program successfully, Chapter IV stresses the role of international cooperation in enhancing capacity building, technology transfer, and financial support. At the global level, the GPA program recommends regular reviews of the world's marine environment. In terms of international cooperation, it has provision for capacity building, mobilization of resources, information, experience and scientific and technical expertise.[38] The GPA has called on states to take specific global measures to develop a global, legally binding instrument on POPS and to develop plans to deal with the inadequate treatment of wastewater or sewage. It also has proposals on the global nature of problems caused by the inadequate management and treatment of wastewater through pipelines. To implement the projects on land-based sea pollution control, the GPA has adopted instructive policies and strategies earmarked especially for funding purposes. It has called upon UNEP, the World Bank, the United Nations Development Program, regional development banks, and other

[38] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p. 96.

agencies within the United Nations system to support and strengthen measures and activities for the protection of the marine environment from land-based sea pollution.[39]

It has been suggested that it is preferable that this effort be addressed in regional workshops to develop pragmatic and integrated coastal area management plans. In practice, assistance from the Global Environment Facility (GEF) is becoming significant under the GPA. As part of its Operational Strategy, the GEF has undertaken a catalytic role to protect international waters from degradation caused mainly by pollution from land-based activities. By mid-2000, the GEF works program had funded 753 projects totalling US$2,974 million, 13% of which was spent on international waters projects including land-based sea pollution control, while more than 60 regional and global NGOs have also been involved in the design and implementation of these projects. The GPA is well structured for identifying land-based sea pollution problems and for establishing the criteria for their effective control. It has proposed and initiated a coherent strategy and methodology to develop programs of action at national, regional and international levels. It has established links between various GPA activities and integrated legal, economic and technological policies. It has promoted civic participation in marine environmental policies to control land-based sea pollution. Since 1999, a UNEP coordinating office for the GPA has been operational at The Hague. In spite of the above intentions and initiatives, the GPA has not yet been implemented fully.

Being recommendatory in nature, it has no binding force. Although some progress has been made, this has been slow and unsatisfactory. Participation in the meetings of the expert group on the implementation of GPA has also been IOW. As a result, development has been achieved in some regions only, instead of in most of the world's oceans. Nevertheless, the GPA has enhanced the global system of ocean governance and has progressed land-based sea pollution control. In this sense, the GPA may be deemed a preliminary and positive step towards a global convention on land-based sea pollution control.

5. The UN Convention on the Law of the Sea (1982)

[39] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p. 96.

5.1 General characteristics

Concerning pollution from land-based sources, however, States are required only to "take into account" internationally agreed rules etc. when adopting relevant laws and regulations. Thus, States may adopt measures which are either more or less stringent than those embodied in international law. In this sense, control by internationally agreed criteria upon national standards remains modest. Moreover, it is also a matter for the judgement of each State what measures shall be taken. In conclusion, it may be said that the territorial sovereignty of a State is dominant in the regulation of land-based pollution under the 1982 LOSC, and the balance between national and international laws is clearly in favour of national laws.

5.2 The Evolution of article 207

5.2.1 The first session (1971-197)

In the early references to the development of national and international rules to control pollution of the marine environment arising from sources within the jurisdiction of States, which would include pollution originating on land, were contained in draft resolution submitted to the sea-Bed Committee in 1971 and 1972. At the first part of the 1973 session of the Sea-Bed Committee, Working Group 2 of Sub-Committee III produced a paper dealing specifically with the subject of land-based sources of pollution. This text contained several provisions corresponding to the subject matter of article 207, as follows:[40]

1. States shall take all necessary measures to prevent pollution of the marine environment from any sources, using for this purpose the best practicable means in accordance with their capabilities, individually or jointly, as appropriate. In particular, States shall take measures to ensure that activities under their jurisdiction or control do not cause damage to other States, including their environment, by pollution of the marine environment.
2. The measures taken pursuant to these articles shall with all sources of pollution of marine environment, whether land, marine, or any other sources, including rivers, estuaries, the atmosphere, pipelines, outfall structures, vessels aircraft and sea-bed installations or devices. They shall include inter alia:

[40] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.128.

(a) In respect of land-based sources of pollution of the marine environment, measures designed to minimize the release of toxic and harmful substances, especially persistent substances, into the marine environment, to the fullest possible extent[.]

3. The measures taken pursuant to these articles shall:

(a) In respect of land-based sources of pollution of the marine environment, take into account such international standards as may be elaborated[.]

5.2.2 The second session (1973)

At the second part of the session, Norway introduced a series of draft articles on the protection of the marine environment against pollution . Article VIII of that draft read, in part:

> 1. All States are under an obligation to control, prevent and reduce such activities within their territory, which directly or indirectly may lead to or contribute to pollution of the marine environment.
>
> 4. States shall exercise due diligence in the control of the types and quantities of waste water or into the sea, in order to prevent unjustified damage to person, property or natural resources in the territory of another State or on the high seas.

A second paper by Working Group 2 proposed a number of provisions dealing with standards. Section I of this text contained two alternative formulations under the heading "Standards for land-based sources of marine pollution":

> A. States shall individually established national standards and, acting through the appropriate international and regional organizations, endeavor to establish and adopt international standards for prevention of pollution of the marine environment from land-based sources, taking into account available scientific evidence, other relevant factors and the work of competent international bodies.
>
> OR
>
> B. States shall take appropriate measures to prevent land-based marine pollution.

In relation to alternative A, it was noted that "[t]he view was expressed that States may individually adopt international standards without acting through the appropriate international and regional organizations". Although some delegations felt that a separate article on

standards for land-based (and seabed) sources of marine pollution would merely repeat the agreed text subsequent work of the Third Committee of the Conference.[41]

5.2.3 The Second session (1974)

At the second session of the Conference, the drafting and negotiating group of the informal meetings on item 12 considered numerous amendments to alternative A of the Working Group 2 text. These proposals were presented by the Chairmen of the informal meetings to the Conference as having been "formally introduced but not considered" by his group.

Several proposals also were introduced in formal meetings of the Third Committee. Kenya proposed that the measures taken by States should include, inter alia:

> (a) With respect to land-based sources of pollution of the marine environment, measures designed to minimize the release of toxic, harmful and persistent substances into the marine environment.

A separate article dealt with enforcement of those measures, as did a proposal submitted by Greece. The draft articles on a zonal approach to the preservation of the marine environment, submitted by ten States, proposed that the measures taken should include:

> (a) In respect of land-based sources of pollution of the marine environment, including rivers, estuaries, pipelines and outfall structures, measures designed to minimize the release of noxious and harmful substances, especially persistent substances, into the marine environment, to the fullest extent possible.

5.2.4 The third session (1975)

These proposed texts added some specifics to the general wording of the earlier proposals.
At the third session, further informal proposals, and a formal proposal by eight European States on which there was much discussion, were introduced. These amendments and

[41] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.129.

proposals regarding alternative A were developed into a draft article on standards for land-based sources of marine pollution. That article read:[42]

1. States shall established national laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures.

   States shall also take such other measures as may be necessary to prevent, reduce and control pollution of the marine environment from land-based sources.

2. States shall endeavor to harmonize their national policies at the appropriate regional level.
3. States, acting in particular through the appropriate intergovernmental organizations or by diplomatic conference, shall endeavor to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources.

OR

3. States, acting in particular through the appropriate intergovernmental organizations or by diplomatic conference, shall endeavor to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing countries and their need for economic development.

4. laws, regulations and measures, and rules, standards and recommended practices and procedures referred to in paragraphs 1 and 3 respectively shall include those designed to minimize to the fullest possible extent the release of toxic and harmful substances, especially persistent substances, into the marine environment.

This draft is similar to the formulation of article 207, except that it contained alternative formulations for paragraph 3 relating to the establishment of international rules and standards. One included the additional wording "taking into account characteristic regional features, the economic capacity of developing countries and their need for economic development."

[42] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.130.

Paragraphs 1 and 4 reflected the wording of the earlier proposals by Kenya and the group of ten States.

That version was adopted in the ISNT/Part III, and in substance was retained in all subsequent texts.[43]

5.2.5 The fourth session (1976)

At the fourth session, following informal discussion, the text was reorganized in the RSNT/Part III, as follows:[44]

1. States shall establish national laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures.
2. States shall also take other measures as may be necessary to prevent, reduce and control pollution of the marine environment from land-based sources.
3. States shall endeavor to harmonize their national policies at the appropriate regional level.
4. States, acting in particular through competent international organizations or diplomatic conferences, shall endeavor to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing countries and their need for economic development. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary.
5. Laws, regulations, measures, rules, standards and recommended practices and procedures referred to in paragraphs 1,2, and 4 respectively shall include those designed to minimize to the fullest possible extent the release of toxic, harmful and noxious substances, especially persistent substances, into the marine environment.

[43] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.131.
[44] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.131.

Apart from stylistic changes, the major addition in this text was in the last phrase of paragraph 4, bringing in the concept of "re-examination" of the adopted rules, standards, etc., from time to time. This idea, which may imply an obligation of periodic review, was originally suggested in a proposal by the Informal group of Juridical Experts.[45]

5.2.6 The fifth and the sixth session (1976-1977)

Following informal negotiations at the fifth (1976) and sixth (1977) sessions, the RSNT wording was incorporated in the ICNT as article 208. Renumbered 207 in the ICNT/Rev.1, subsequent versions merely incorporated changes recommended by the Drafting Committee, including the rewording of paragraph 3 to read: [46]

> States shall endeavor to harmonize their policies in this connection at the appropriate regional level". It was at this stage also that "or" was substituted for "and" in paragraph 5, in reference to harmful or toxic substances.

Paragraph 1 restates and amplifies the obligation enunciated in article 194, paragraph 3(a). it establishes that, with regard to land-based sources of pollution, national laws and regulations shall take into account "internationally agreed rules, standards and recommended practices and procedures." Without formally defining "land-based sources," paragraph 1 amplifies the term by a description *ratione loci* as including "rivers, estuaries, pipelines and outfall structures." Being land-based, the sovereignty of the territorial State is dominant, but this only serves to lead into the approach of Part XII. Clearly, the balance drawn in paragraph 1 is one that favors national measures, and thus enables States to adopt measures which are either more or less stringent than those developed internationally. The phrase "taking into account internationally agreed" rules, etc., is the weakest of the qualifications used to indicate the obligations of States in respect of internationally agreed measures, and it gives expression to the sovereignty of the States concerned over all land-based sources of marine pollution.

Paragraph 2 restates the general obligation of article 194, but against the background of territorial sovereignty it also entails the establishment of a framework within which national measures may diverge from corresponding international measures.

[45] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.132.
[46] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.132.

Paragraph 3, on the other hand, is a special application of the obligation of harmonization initially set forth in article 194, paragraph 1. The expression "at the appropriate regional level" also accommodates the territorial sovereignty of States.

Paragraph 4 requires States to endeavor to establish relevant global and regional rules, standards and recommended practices and procedures for dealing with pollution of the marine environment from land-based sources. The cautious language used here also reflects the impact of territorial sovereignty. Here, as elsewhere, the obligation to endeavor must be implemented in good faith.

There may be some awkwardness in the English text, "diplomatic conference" standing without an adjacent article, which leaves open the question whether the adjective "competent" applies to the conference also. Comparison with the other languages, however, reveals that is meant here is any "competent international organization" or "a diplomatic conference" (the former term is not defined in the Convention). The word "diplomatic" implies that it must be a plenipotentiary conference of the representatives of States (and not a conference composed exclusively of the independent experts), regardless of the type of instrument it adopts. [47]

The combination of competent international organization and diplomatic conference allows the necessary flexibility in the machinery (which may be global or regional) through which States can establish widely acceptable and harmonized rules. Furthermore, land-based pollution is particularly susceptible to regional and local regulations, and the diplomatic conference may be a more appropriate forum for this.

The expression "taking into account… the economic capacity of developing States and their need for economic development" reflects article 194, which provides that States take measures "in accordance with their capabilities".

Paragraph 5 restates in greater detail the principle of article 194, paragraph 3(a), regarding "toxic, harmful or noxious substances". The change from "harmful and noxious" to "harmful or noxious," corresponding to article 194, was proposed by the Chairmen of the Third Committee and made on the recommendation of the Drafting Committee. It makes the

[47] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.132.

provision applicable to substances which are either toxic, harmful or noxious, and does not restrict its application to substances meeting all three criteria.[48]

5.3 The Evolution of article 213

5.3.1 General characteristics

Article 213 is the first of the series of articles in section 6 dealing with enforcement of the international rules and standards through national laws and regulations established by virtue of the articles of section 5. ´Enforcement' means enforcement by national authorities applying their national laws and regulations; the extent to which such laws and regulations are to conform to applicable international rules and standards is set out in the different provisions of the Convention. The enforcement articles in section 6 are to be read together with the parallel standards-setting articles of section 5 and the safeguards articles in section 7.

Following the structure of section 5, section 6 deals in turn with pollution of the marine environment from land-based sources, from sea-bed activities under national jurisdiction, from activities in the Area, by dumping, from vessels, and from or through the atmosphere. With regard to vessel-source pollution, separate articles set out the enforcement competence of flag States, port States and costal states (note, however, that a single State may at a given time come out within two or all three of these classes). Section 6 is not exhaustive on the issue of enforcement. Article 290, on provisional measures in dispute settlement proceedings, and article 292, on the prompt release of vessels and crews, are also relevant to this issue. Section 6 in an essential complement to article 194, however, in terms of giving practical effect to that article. As such, the language used in section 6 is always the language of obligation and not that of policy. In combination with the articles of section 5, section 6 gives effect to the harmonization of policies as required by article 194, paragraph 1.

All the enforcement provisions of section 6 are subject to the safeguards provisions in section 7 (articles 223 to 233). Section 10 (article 236), however, exempts vessels entitled to

[48] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.132.

sovereign immunity from direct application of the enforcement provisions, but subject their flag States to certain obligations in that regard.[49]

Section 6 regularly (except in articles 215 and 221) refers to 'applicable' international rules and standards established through competent international organizations or diplomatic conference. No attempt is made to explain what is meant by 'applicable', and subject to the constituent instrument of the different international organizations the word is deliberately ambiguous. It would seem to imply more than mere non-binding recommendations, and would include well-ratified treaties or widespread acceptance in the practice of States – a State being bound only by treaty – law duly accepted by it or by rules of customary international law.

The question of the relation between customary law and conventional law is a difficult and disputed issue in the general science of public international law. That controversy is left untouched by the issue of the word ´applicable' in this context. In that connection (as elsewhere in this Part), the eight paragraph of the Preamble to the Convention will be relevant. That paragraph reads:

> Affirming that matters not regulates by this Convention continue to be governed by the rules and principles of general international law [.]

The Drafting Committee once recommended the deletion of 'applicable' when reference is made to rules or principles of international law.

5.3.2 The first session (1972-1973)

The concept of regulating land-based sources of pollution was raised in the Sea-Bed Committee. Some trace of this concept is to be found in paragraph 1 of a draft resolution submitted by nine States at the 1972 session, on preliminary measures to prevent and control marine pollution, which called on States:[50]

> pending the elaboration and implementation of international instruments to take appropriate preliminary steps to prevent and control to the extent possible,

[49] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p. 215.
[50] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.216.

> marine pollution from whatever source it may arise within their jurisdiction, including especially the indiscriminate discharge into the ocean of toxic or hazardous substances or materials from the various means of transportation and from rivers, lakes or estuaries leading into the sea [.]

At the 1973 summer session of the Committee, the Working Group on marine pollution held several meetings to discuss proposals submitted on the subject of, inter alia, standards and enforcement. The proposals on standards were developed into working papers which formed the basis of articles 194 and the articles of section 5. Due to lack of time and procedural disagreements, however, no text on enforcement were drafted at that session. Nonetheless, Norway did include two articles on enforcement in a series of draft articles submitted towards the close of the 1973 session. Article XVI of that draft, addressing the obligation of States to exercise effective jurisdiction, provides that:

> States shall, in accordance with the principles of international law, exercise effective control over areas, persons and ships under their jurisdiction in order to prevent pollution of the marine environment.

Article XVII contained more specific provisions with regard to enforcement obligations, as follows:

1. States shall ensure that their national legislation provides adequate sanction against infringements of existing regulations on marine pollution.
2. States shall take all appropriate steps to prevent and punish infringements of existing regulations on marine pollution.
3. Flag States shall, when receiving a report that an alleged infringement of rules or regulations to prevent pollution has been committed by a ship under its registry, take all appropriate steps to investigate the matter, to secure the necessary evidence and to prosecute the violation.

The same shall apply in relation to complains and reports received by a State in respect of marine pollution alleged to have been caused by other activities within its jurisdiction, and which is alleged to have harmful effects or which in time may affect interests of other States or those of the international community.

With the exception of article XVII, paragraph 3 , which applies solely to flag States, these provisions are clearly relevant to section 6 as a whole. The concept of jurisdiction here is a double one, jurisdiction *ratione loci* and jurisdiction *ratione personae*.[51]

5.3.3 The second session (1974)

At the second session of the Conference, draft proposals touching on the subject of the enforcement of regulations to control land-based pollution ewer submitted by Kenya, Greece, and a group of ten States. Kenya´s draft article 25, under the heading 'Enforcement' read:

> States shall take appropriate measures to give effect to these articles in respect of land-based and atmospheric sources of marine pollution.

The Greek proposal, also headed 'Enforcement,' was more precise:

> Regulations adopted in accordance with the provisions of this Convention for the protection and preservation of the marine environment from land-based sources of pollution shall be enforced by the State within the territory which is the source of pollution.

Article 7 of the draft on a zonal approach to preserving the marine environment also specifically provide that in regard to, inter alia, the regulation of activities of all persons,…installations and other entities' within the economic zone:[52]

> 1. The coastal State shall have the right to enforce in the [economic] zone laws and regulations enacted in accordance with paragraph 1 of this article.
> 2. (a) In respect of pollution of the marine environment from land-based sources…the laws and regulations of the coastal State shall take into account internationally agreed rules, standards and recommended practices and procedures.

5.3.4 The third session (1975)

[51] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.216.
[52] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.217.

At the third session, the question of enforcement again proved to be intractable.[53]

Certain indirect allusions to the matter appear both in a series of draft articles on the prevention, reduction and control of marine pollution, submitted by nine European States, and in the additional draft articles proposed by the USSR. The former proposal suggested adding a paragraph to the article dealing with standards for 'Lands-based sources' to the effect that 'States shall ensure compliance with the regulations established pursuant to this article.' The connection with enforcement was more attenuated in the Soviet proposal which only addressed the obligation to prevent the spread of pollution outside the territorial sea:

> States shall take all necessary measures to ensure that pollution of the marine environment arising from activities under their jurisdiction or control does not spread to the marine environment outside their territorial sea and does not cause damage to other States and their environment.

The European States 'proposal on enforcement of land-based sources of pollution was the subject of some discussion at the 19th meeting of the Third Committee. The Chairman of the Informal Meetings on Item 12 subsequently prepared a draft text which reflected the European States 'proposal, stating that ´States shall ensure compliance with their laws and regulations established pursuant to this article´8on standards for land-based sources of marine pollution).

On the basis of this discussion and negotiations in informal meetings, a separate chapter on 'Enforcement' was included in the ISNT/Part III. That text contained a general provision on the right of States to take enforcement measures regarding land-based sources of marine pollution, which read:[54]

> States shall have the right to enforce laws and regulations adopted in accordance with the provisions of this Convention for the protection and preservation of the marine environment from land-based sources of marine pollution.

Following the third session, the Informal Group of Juridical Experts, which had been examining the subject, suggested a slight revision of the ISNT article, changing the

[53] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.218.
[54] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.218.

opening phrase ´States shall have the right to enforce laws…' to the more definitive 'States shall enforce their laws… .´

5.3.5 The fourth session (1976)

At the fourth session, following informal negotiations, the article in the RSNT/Part III, reflecting the change proposed by the Informal Group of Juridical Experts, was revised and expanded to read:

> States shall enforce their laws and regulations established in accordance with the provisions of this Convention and shall adopt the necessary legislative, administrative and other measures to implement applicable international rules and standards established through competent international organizations or diplomatic conference for the protection and preservation of the marine environment from land-based sources of marine pollution.

That text transformed the right of enforcement into a duty to enforce measures to prevent pollution of the marine environment from land-based sources. It also expended the obligation of States by requiring them to adopt ´the necessary legislative and other measures' to implement international rules and standards establishing ´through competent international organizations or diplomatic conference.' [55]

5.3.6 The sixth session (1977)

At the sixth session, this was left substantially unchanged, and the ICNT included the following:

> States shall enforce their laws and regulations establishing in accordance with article 208 (old numbering).

Of the present Convention and shall adopt the necessary legislative, administrative and other measures to implement applicable international rules and standards established through

[55] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.219.

competent international organizations or diplomatic conference for the protection and preservation of the marine environment from land-based sources of pollution.

The article was renumbered 213 in the ICNT/Rev.1 but was otherwise unchanged.[56]

5.3.7 The ninth session (1980)

At the resuming ninth session, the Third Committee accepted a recommendation from the Drafting Committee to replace in article 213 (and in article 214) the phrase 'adopt the necessary legislative, administrative and other measures' by 'adopt laws and regulations and take other measures necessary.' This amendment was made as part of the harmonization process and did not affect the substance of the text. The article was put into its final form, including the change of the title and the rephrasing of the last few words, on the recommendations of the Drafting Committee, thus bringing article 213 into line with article 207.

Article reflects the balance between the applicable international rules, standards, and recommended practices and procedures, and the national laws and regulations, required by article 207. The impact of national sovereignty is reflected in the expression 'shall adopt laws and regulations and other measures necessary to implement' as establishing the relationship between the international rules and standards and the national laws and regulations. The article obligates States to enforce their national laws and regulations adopted in accordance with article 207; the States are also obliged to adopt the necessary legislative, administrative and other measures to implement applicable international rules and standards. Even if national laws and regulations grant some measures of discretion to the national authorities in the matter of law enforcement, article 213 limits that discretion in the circumstances contemplated by that article, as a matter of international obligation.

The reference to 'their' laws in article 213 and throughout section 6 is clearly intended to refer to national measures, as opposed to applicable international rules and standards. In addressing the problem of inconsistent terminology to u-indicate a reference to internal laws, the Drafting Committee recommended that the term 'national' should be used simply where

[56] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.219.

added precision was required to distinguish from other types of law. In section 6 the distinction is clear enough.[57]

The qualification 'applicable' before 'international rules and standards' first appeared in the RSNT. The origin of this qualification is not evident in the various published reports of the Chairman of the Third Committee or the Chairman of the Informal meetings. The matter seems to have been discussed in the informal meetings of the Third Committee, and in the ICNT it appears throughout the section on enforcement. In the memorandum by the President of the Conference attached to the ICNT, reference is made to the introduction of the word in two places where it did not appear in the RSNT. The Chairman of the Third Committee had explained that the incorporation of this change in the ICNT left intact the structure of the compromise on the question of vessel-source pollution. Nonetheless, this does little to clarify the intention behind the introduction of the qualification, although the general understanding in the Third Committee was that the qualification referred to international rules binding on the State concerned, whether as conventional or as customary rules.

The difference in the language used in article 207 (internationally agreed rules') and article 213 ('applicable international rules') is obvious and justified by the context. Article 207 deals with the 'adoption' of national laws and regulations, and provides that a State should take into account internationally agreed rules, standards and recommended practices and procedures in adopting such measures. On the other hand, article 213 refers to the 'enforcement' of national laws and regulations and the taking of 'other measures necessary to implement applicable international rules and standards.'

Although there is a large quantity of national legislation for the general protection of the environment of different States, global international rules and regulations regarding land-based pollution of the marine environment are sparse and not widely accepted. However, the regional arrangements concluded under the auspices of UNEP contain provisions designed to prevent, reduce and control land-based pollution of the marine environment in their respective regions.

The plural expression 'competent international organizations' in this article follows from the use of the same expression in the corresponding standards-setting provision of article 207.[58]

[57] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.220.

5.4 Conclusion

At present, the 1982 LOSC is the only treaty which provides general duties to prevent land-based pollution at the international level. Article 194 (1) obliges States to take all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from anysource, using for this purpose the best practicable means at their disposal and in accordance with their capabilities. It is apparent that land-based pollution is covered by this provision. Article 194 (2) further imposes a duty upon States to take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment; and that pollution arising from incidents or activities under their jurisdiction or control does not go beyond the areas where they exercise sovereign rights in accordance with the 1982 LOSC. In addition, Article 194 (3) (a) stipulates that measures taken pursuant to Part XII shall include, *inter alia*, those designed to minimise to the fullest possible extent "the release of toxic, harmful or noxious substances, especially those which are persistent, *from land-based sources*, from or through the atmosphere or by dumping". In so providing, it is argued that the 1982 LOSC marks an important advance over the earlier Geneva Conventions, which covered only limited sources of marine pollution. More specifically, the 1982 LOSC provides prescriptive and enforcement jurisdiction relating to the regulation of land-based pollution.

With respect to prescriptive jurisdiction, Article 207 (1) calls upon States to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, "taking into account internationally agreed rules, standards and recommended practices and procedures". In relation with this, Article 207 (3) places an explicit obligation upon States to endeavour to harmonise their policies in this connection at the appropriate regional level. Furthermore, Article 207 (4) obliges States to endeavour to establish global and regional rules preventing pollution from land-based sources, and to harmonise their policies in this connection at the appropriate regional level.

Concerning the enforcement jurisdiction, Article 213 ensures that States shall enforce their laws and regulations adopted under Article 207 and take other measures necessary to implement applicable international rules and regulations. States are also under the duty to take other

[58] Nordquist, M.: *United Nations Convention on The Law of the Sea 1982. A commentary IV*, 2002, p.221.

measures as may be necessary to prevent, reduce and control such pollution in accordance with Article 207 (2).

Some argue that these provisions constitute a rule of customary international law. Even if this is the case, these provisions are so general that further specification would be required. In particular, there is a need to establish a specific criterion to identify harmful substances from land-based sources. Furthermore, it should be noted that the obligation preventing pollution from land-based sources in the 1982 LOSC is weaker than that concerning pollution from other sources. With respect to pollution from sea-bed activities subject to national jurisdiction, pollution from dumping as well as pollution from vessels, States are under the obligation to adopt laws and regulations which shall be no less effective than international rules and standards.[59]

6. Regional legal instruments for governing the land-based sea pollution

6.1 General characteristics

In a world of nations, most of the actual work of environmental protection is done at the local level with the involvement or cooperation of national government. Nearly every nation has a stated policy for the environment, and by treaty or statute, some national policies extend to international commitments. In addition, because many environmental policies transcend national boundaries but fall short of being global, governments have developed bilateral or regional arrangements to deal cooperatively with matters that they cannot effectively manage separately.

Although there are some arguments against land-based pollution control at the regional level, at present they have lost their retentive power. The regional approach has proven to be enormously attractive and, to a certain extent, successful for land-based pollution since the late 1960s. This is because the nature and scope of land-based pollutants differ from one region to another according to 'their special hydrographical and ecological characteristics, as well as the predominant patterns of industrial and economic development'.

[59] Article 207(1) LOSC 1982

The land-based pollutions are highly specific for different regions. They can cause real disasters in regions with specific geo-ecological features. Predominantly, these include, shallow, enclosed or semi enclosed seas, as they are especially sensitive and receive substantial contamination from land and the coasts. In this context, the Baltic Sea, the North Sea, the Mediterranean, the Gulf of Mexico, and the Gulf of Thailand are all examples. [60]

Unlike vessel source pollution, land-based pollution usually affects local coastal interests, and therefore the global community shares a smaller part of the environmental cost. Because of this, the trend in legal thinking is that regional approaches are suitable for land-based pollution control. As all seas are connected, land-based pollution also have some impacts on oceanic water. From this point of view, although some global standards are necessary, regulations should be concluded primarily at regional levels on this issue. Alheritiere's statement can be quoted in this context: 'Pollution from land-based sources calls for regional action; while other forms, such as pollution from dumping by ships, could be conveniently tackled at the global level'.

Different regional land-based pollution supervision agreements have been ratified in different parts of the world's oceans. They contain general requirements concerning, inter alia, the obligation to take appropriate measures to prevent marine pollution (including from land-based sources), cooperation in dealing with pollution, monitoring of pollution, environmental assessment, exchange of information, technological and financial assistance and settlement of disputes. They also provide a basis to establish financial and administrative frameworks and to implement the broad-based regional Action Plan.

6.2 The Paris Convention 1974

6.2.1 General characteristics

[60] In some cases the living resources have been locally contaminated to such a degree that fishing has been stopped in limited areas, sometimes leading to suspicion among consumers that fish caught elsewhere in adjacent areas may be contaminated and thus causing problems for the marketing of the fish from whole regions. In a number of 'hot spots', the ecosystem balance has been disturbed. In one area of the North Sea (the Waddensea), and the Baltic Sea, pollution has been implicated in reducing the population of some marine animals.

The Paris Convention on the Prevention of Marine Pollution from Land-based Sources 1974, and the Convention on the Protection of the Marine Environment of the Baltic Sea Area 1974 are the first legal instruments for regional management.

In 1974 in Paris the world community trying to solve the problem ratified the Convention on the Prevention of Marine Pollution from Land-Based Sources. The Paris Convention defined marine pollution from land-based sources as pollution of the marine area:

1. through watercourses;
2. from the coast, including introduction through underwater or other pipelines;
3. and from man-made structures placed under the jurisdiction of a contracting party within the limits of the area to which the Convention applies.[61]

6.2.2 Administration of Paris Convention

The Paris Convention was administrated by PARCOM, comprising representatives of each party, which met annually to supervise implementation; examine the feasibility of, and draw up, programmes and measures under Article 4; and make recommendations to amend the substances listed in Annex A.[62] PARCOM was competent to adopt certain binding programmes, measures and decisions by unanimity. Where unanimity was unattainable, any decision had to be adopted by three-quarters majority vote of its members, in which case the programme, measure or decision was only binding for those members voting for it or subsequently deciding expressly to accept the programme or measure, which they were free to do at any time. PARCOM´s recommendations for amendments to Annex A, adopted by a three-quarters majority vote of its members, entered into force for all parties unless one of them notified the depositary government in writing within 200 days of its adoption that it could not approve an amendment.[63]

6.2.3 The Legal development of Paris Convention

[61] Art. 3(c), The Paris Convention covered the Notrh-East Atlantic exluding the Boltic Sea and Mediterranean Sea.
[62] Arts. 15 and 16

[63] Sands, P.: *Principles of International Environmental Law. Second edition*, Cambridge, 2003, p.432.

The 1986 amendment added to this definition a fourth source: emissions 'into the atmosphere from land or from man-made structures. Parties were required to adopt programmes and measures to eliminate pollution of the maritime area from land-based sources by substances listed in Part I of Annex A. Part I substances were included because they are not readily degradable or naturally rendered harmless, and are dangerous to the food chain, the marine ecosystem or legitimate uses of the sea, and necessitate urgent action.[64] Listed substances included organohalogen compounds and substances, mercury and mercury compounds, cadmium and cadmium compounds, certain persistent synthetic materials, and persistent oils and hydrocarbons. And to limit strictly pollution by substances listed in Part II of Annex A, which were to be discharged only after approval by national authorities. These programmes and measures were to 'take into account the latest technical developments´, within time limits, and to allow for measures to reduce unlisted substances if scientific evidence 'established that a serious hazard may be created in the maritime area by that substance and if urgent action is necessary. Substances listed in Part II were those which had similar characteristics to those listed in Part I but which were less noxious or more readily rendered harmless by natural process, and included certain organic compounds of phosphorus, silicon and tin, elemental phosphorus, non-persistent oils and hydrocarbons, arsenic, chromium, copper, lead, nickel and zinc, and other substances agreed by PARCOM to have deleterious effect on the taste or smell of marine products for human consumption.

The parties were also required to 'adopt measures to forestall, as appropriate, eliminate pollution of the maritime area' by radioactive substances listed in Part III of Annex A, taking into account the recommendations of international organizations and agencies and their monitoring procedures. These relatively specific commitments were supplemented by general obligations: to reduce existing pollution from land-based sources and forestall new pollution from such sources: to avoid increasing pollution elsewhere through implementation of the Convention; to allow parties to take more stringent measures; to consult, establish scientific researcher programmes and exchange information; to establish a permanent monitoring system; and to co-operate to prevent incident leading to pollution from land-based sources.[65]

[64] Sands, P.: *Principles of International Environmental Law. Second edition*, Cambridge, 2003, p.431.

[65] Sands, P.: *Principles of International Environmental Law. Second edition*, Cambridge, 2003,p. 431.

Between 1978 and 1998, PARCOM met annually and adopted a large number of recommendations and decisions, some of which were very detailed and specific. In 1988, the parties agreed not to construct new nuclear reprocessing installations, or substantially to increase the capacity of existing installations, unless they could ascertain, following an environmental impact assessment, that such facilities did not cause radioactive pollution. The parties also agreed to respect the recommendations of international organizations and apply 'best available technology' to minimize and eliminate pollution from radioactive discharges into the marine environment. Other PARCOM recommendations addressed: the principle of precautionary action; the use of best available technology; and the phasing-out destruction of all identifiable polychlorinated biphenyls (PCBs) by 1995 and the end of 1999 at the latest for Iceland and for North Sea parties, and by 2005 and the end of 2010 at the latest for the other parties. In 1991, PARCOM agreed that the disposal of radioactive wastes in repositories constructed in bedrock under the seabed and accessed from land 'constituted a potential land-based source of marine pollution' and that PARCOM had competence to consider such developments. PARCOM Recommendation 91/5 (1991) rejected the idea that such disposal constituted 'dumping'.

In 1987, PARCOM decided that the Convention did not need to be amended to provide expressly for environmental impact assessment, and that PARCOM had the authority to agree to measures on environmental impact assessment regarding projects involving the discharge of substances, but that the legal basis for agreeing on legally binding decisions regarding assessments for projects with impact of a physical nature was unclear. PARCOM concluded that it should consider the implementation of the 1985 EU Directive on Environmental Impact Assessment, but that there was no need at the present time to formally include environmental impact assessments in the framework of the Paris Convention Nevertheless, the subject of environmental impact assessment, and related issues, continued to be controversial. PARCOM Recommendation 93/5, adopted at the fifteen joint meeting of the Oslo and Paris Commissions in June 1993, illustrated the extent to which international organizations now address specific issues such as the authorization of individual plants. PARCOM Recommendation 93/5 was adopted in the context of the proposed authorization by the United Kingdom of a spent nuclear fuel reprocessing facility (THORP) on the north-west coast of

England at Sellafield. No environmental impact assessment had been carried out because the plan had been subject to a planning enquiry in 1977 and subsequent authorization before the adoption of the EU.[66]

Environmental Impact Assessment Directive concerned about the appearent unwillingness of the United Kingdom to require an environmental assessment, certain countries, including neighbouring Ireland and non-neighbouring Denmark, raised the matter at PARCOM. Recommendation 93/5 was adopted with the support of nine parties, representing the necessary three-quarters majority, since only three parties (Belgium, France and the Unir-ted Kingdom) entered reservations against it. The parties to PARCOM agreed:

1. To adopt further measures, including the application of the best availabe techniques for the reduction or elimination of inputs of radioactive substances to the maritime area;
2. That a new or revised discharge authorisation for radioactive dascharges from nuclear reprocessing installations should only be issued by national authorities if special consideration is given to:
   (a) information on the need for spent fuel reprocessing and on other options;
   (b) a full environmental impact assessment;
   (c) the demonstartion that the planned discharges are based upon the use of the best available techniques and observe the precautionary principle; and
   (d) a consultation with the Paris Commission on the basis of (a), (b) and (c) above.

Recommendation 93/5 is not binding, although this does not preclude the possibility that it migh reflect existing obligations under the Paris Convention. The United Kingdom gave precise reasons for not supporting the recommendation:

> the United Kingdom reservation made was because the first limb of the recommendation made no progress beyond the commitment in the 1992 action plan, while the second limb both was too vague to provide a proper basis for a

[66] Sands, P.: *Principles of International Environmental Law. Second edition*, Cambridge, 2003, p.433.

> PARCOM recommendation and, insofar as it provided for a role for the Paris Commission in the process, was inappropriate.[67]

These reasons themselves raised further questions, both of a substantive nature (was PARCOM precluded from adopting recommendations on a matters previously dealt with in a similar manner?) and of an institutional nature (was PARCOM precluded from participating in decision-making process of this type?).[68]

6.3 The 1992 OSPAR Convention.

6.3.1 General characteristics of OSPAR Convention

The first treaty to establish detailed rules on land-based sources of marine pollution, agreed on to protect the marine environment of the North East Atlantic by supplementing the 1972 Oslo Convention was replaced by the 1992 OSPAR Convention.

This Convention marks a significant improvement in efforts towards land-based pollution control by including more recent concepts in land-based pollution control, such as the 'precautionary principle' and 'polluter pays principle'.

To implement these requirements, the Convention emphasizes adoption of programs and measures making full use of the latest technological developments and practices. These include best available technology, best environmental practice, and clean technology and the establishment of complementary or joint programs of scientific research. Thus it employs the principle of cleaner production.

This Convention contains a specific provision on the assessment of the quality of the marine environment taken for its protection.

In this way the Convention provides a mechanism to make the parties' application transparent and publicly accountable.

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[67] Minister for Environment and Contryside, Hansard, 30 June 1993, written answer,col. 524. On the 1992 Action Plan.

[68] Sands, P.: *Principles of International Environmental Law. Second edition*, Cambridge, 2003, p.434.

Other important aspects of the *OSPAR* Convention 1992 are the inclusion of requirements relating to reporting and compliance to ensure the effectiveness of the measures taken by the parties; access to information for the general public; the possibility of permitting non-governmental organizations to participate in subsidiary bodies; and the competence of the Commission ('OSPARCOM') to adopt legally binding decisions. These requirements are created to involve the public in marine environmental decision-making and to enhance and facilitate effective control measures.

6.3.2 The governance of the land-based marine pollution through The *OSPAR* Convention

The *OSPAR* Convention lays down some other new approaches to land-based pollution control. It does not provide specific duties with respect to specific categories of dangerous substances rather it subsumes those duties under the general obligation of Contracting Parties to prevent and eliminate land-based pollution, to require the use of best available technology and best environmental practice. [69]

Whereas OSPAR has the competence to establish marine protected areas in the region within and beyond national jurisdiction, it cannot regulate fisheries or maritime transport. It can only raise any problems with the respective competent management bodies. Within national jurisdiction, EU member states have to address the European Commission on fisheries questions. Beyond national jurisdiction, OSPAR has to communicate with NEAFC, the International Maritime Organization (IMO) and/or other multilateral organizations.

In 2010, OSPAR (OSPAR Ministerial Meeting 2010) set up a North-East Atlantic Environment Strategy to guide their work towards 2020. Within the 433,000 km^2 (Figure 1) covered by OSPAR marine protected areas in 2010, 285,000 km^2 are in areas beyond the national 200 nautical mile zones. By 2012, OSPAR aims to have accomplished the designation of an ecologically coherent network of marine protected areas, and by 2016 to have them effectively managed.

[69] The OSPAR Convention currently operates through a series of five Annexes and thematic strategies addressing the main threats to biodiversity and ecosystems from eutrophication, hazardous substances, offshore industry, and radioactive substances. The impacts of climate change are addressed as a crosscutting issue (OSPAR strategies for protection of marine environment of NE-Atlantic).

Under the terms of the 1992 OSPAR Convention, the parties are required to prevent and eliminate pollution from land-based sources, including accidents. The definition of ´land-based sources' include point and diffuse sources on land from which substances or energy reach the maritime area by water, through the air or from the coast; moreover, it specifically 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 places, in the maritime area under the jurisdiction of a contracting party, other than for the purpose of offshore activities.

The parties to the OSPAR Convention subsequently agreed to more stringent commitments, particularly in relation to the disposal of radioactive wastes. By a 1998 Ministerial Declaration, the parties agreed:[70]

> to prevent pollution of the maritime area from ionizing radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances.[71]

They further agreed to ensure that:

> discharges, emissions and losses of radioactive substances are reduced by the year 2020 to levels where the additional concentrations in the maritime environment above historic levels, resulting from such discharges, emissions and losses, are close to zero.

At the same meeting, the contracting parties adopted a strategy for the purposes of directing the future work of the OSPAR Commission with regard to radioactive substances, to put into effect the requirements of the 1998 OSPAR Ministerial Declaration. Strategies were also

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[70] Sands, P.: *Principles of International Environmental Law. Second edition*, Cambridge, 2003, p.435.

[71] In achieving this objective, the following issues would, inter alia, be taken into account: legitimate uses of the sea; technical feasibility; and radiological impact on man and biota.

adopted on hazardous substances, to combat eutrophication, on the protection and conservation of the ecosystems and biological diversity of the maritime area, and on environmental goals and management mechanisms for offshore activities. In 2000, the OSPAR Commission adopted a Decision requiring parties to review (as a matter of priority) current authorizations for discharges or releases of radioactive substances from nuclear reprocessing facilities, with a view to implementing the non-reprocessing option (for example, dry storage) for spent nuclear fuel management at appropriate facilities, and taking preventive measures to minimize the risk of pollution by accidents.[72] These commitments are the subject of litigation in the *MOX case* between Ireland and the United Kingdom.[73]

6.3.3 The OSPARCOM Recommendations, Decisions and Action Plans

The OSPARCOM is the representative body of the *OSPAR* Convention's Contracting Parties. It works on the basis of the Convention and adopts strategies and mechanisms for the implementation of the Convention and protection of the North-East Atlantic Sea from pollution. As far as implementation mechanisms are concerned, Action Plans, and a substantial number of decisions and recommendations have been adopted by OSPARCOM. The OSPARCOM Working Group on Industrial Sectors was established on an ad hoc basis in 1988 and on a permanent basis in 1989, as the main forum intended for the elaboration of programs and measures to address pollution from industrial point sources in an integrated manner. Since the establishment of the Working Group on Industrial Sectors, OSPARCOM has adopted many recommendations. Examples are OSPARCOM Recommendations on the best available techniques and best environmental practice to enhance land-based pollution control measures. A binding decision on the reduction and elimination of radioactive discharges, emissions and losses, especially from nuclear reprocessing, was adopted. Under the strategy to combat eutrophication, the OSPARCOM has adopted guidelines for evaluating

[72] Decision 2000/1 on Substantial Reduction and Elimination of Discharges, Emissions and Losses of Radioactive Substances, with Special Emphasis on Nuclear Reprocessing, in force 16 January 2001 (France and United Kingdom abstained from the vote); see OSPAR Decision 200/1 on the Review of Authorizations for Discharges or Releases of Radioactive Substances from Nuclear Reprocessing Activities.

[73] Sands, P.: *Principles of International Environmental Law. Second edition*, Cambridge, 2003, p.436.

nutrient inputs to the North-East Atlantic Sea, and put in hand work on comprehensive assessments of the areas where there are, or may be, eutrophication problems. It also adopted and launched the Quality Status Report 2000 on the whole of the North-East Atlantic.

In 1992 OSPARCOM adopted an Action Plan outlining specific actions for a substantial reduction of toxic, persistent and bio-accumulative substances and mandated the OSPARCOM to determine the specific priorities for control of substances and take action to control the inputs of such substances.[74] The 1996-1997 Action Plan was for the development of: a strategy ... for the further reduction of discharges, emissions and losses of hazardous substances in order to implement the Commissions' objective in this respect and consequently protect the regional marine environment from land-based pollution.[75]

Although OSPARCOM decisions are binding its recommendations are not. OSPARCOM recommendations became binding on those Contracting Parties who voted for them since March 1998 when the *OSPAR* Convention entered into force and made a significant contribution towards the prevention and elimination of land-based pollution in the North Sea Region. The Action Plans adopted by the Commission do not have a binding force, but they do create political commitment for the implementation of the *OSPAR* Convention, and eventually, the eradication of land-based pollution in the region.[76]

6.3.4 OSPAR Ministerial Declarations

The OSPAR Ministerial Declarations are the outcome of the ministerial meetings of the OSPAR 1992 Parties. The OSPAR Ministerial Declarations 1992 and 1998 are particularly important as they laid down a number of priorities and objectives. In their 1992 Esbjerg Declaration, the Ministers agreed that:

As a matter of principle, for the whole convention area, discharges and emissions of substances which are toxic, persistent and liable to bioaccumulation, in particular organohalogen substances, and which could reach the marine environment should, regardless

[74] Action Plan of the Oslo and Paris Commission, 1992 in Paris Ministerial Meeting Proceedings, at 123.
[75] Summary Record of the 19th Joint Meeting of the Oslo and Paris Commission, OSPAR Doc,96/17/1-E, June 1996, para A. 1.
[76] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p. 111.

of their anthropogenic source, be reduced, by the year 2000, to levels that are not harmful to man or nature with the aim of their elimination. [77]

Progress regarding goals set out in the 1992 Paris Declaration was not satisfactory. To improve the situation another ministerial meeting was held in Sintra on 22-23 July 1998. This declaration adopted further measures for the phasing out of marine pollution by hazardous substances within one generation (by the year 2020). By introducing a system for prioritization and risk assessment, it adopted new strategies on specific land-based pollution problems including hazardous substances and eutrophication. Facing the fact that pollution from LBS remained an extremely serious problem in the North Sea Area, and that much more work needed to be done, at the Sintra Meeting Ministers took a more firm stand than that of the 1992 Paris Declaration. They expanded the scope of the OSPAR regime of land-based pollution control, recognizing that harm from unintentional releases is significant and must be controlled. [78]

The Sintra declaration also adopted an Action Plan for 1998-2003 to implement strategies. To make this plan effective, the agreement allowed the Commission to assess reports from Contracting Parties on the implementation of programs and measures and to assess the effectiveness of these programs and measures. To carry out this program the agreement also included the aim to establish a compliance mechanism, along with a revised standard of implementation reporting and a performance assessment procedure. This is significant with regard to improving the land-based pollution control measures in the region. These declarations are the commitments at political levels of the Contracting Parties to control land-based pollution, although they are not binding upon them.

Complementary to *OSPAR* Convention 1992, different bodies in the North Sea and the North East Atlantic regions have undertaken land-based pollution control measures. These initiatives have significantly contributed to land-based pollution control in the North Sea region. In this respect, the International North Sea Conferences and European Economic Community (EEC) Directives are notable.

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[77] Final Declaration of the Ministeral Meeting of the Oslo and Paris Commission, Paris 22 September 1992, part III, 4th indent.

[78] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p.112.

6.4 North East Atlantic Sea: International North Sea Conferences

A set of International Conferences on the Protection of the North Sea ('INSCs') have been held through the participation of Ministers responsible for the protection of the North Sea and the EEC Commissioner responsible for environmental protection. These conference activities are linked with the OSPAR system. The declarations of these Conferences are complementary to OSPARCOM recommendations and are significant in achieving the purpose of the *OSPAR* Convention. [79]

The first INSC was held in Bremen in 1984, the second in London in 1987; the third INSC in the Hague in 1990; an Intermediate Ministerial Meeting (IMM) was held in Denmark in 1993; the fourth INSC was in Esbjerg in 1995; another IMM was held in Norway in 1997; and the fifth INSC was held in Bergen in 2002. The next Conference is expected to be held in Sweden by 2006.

The 1984 Bremen Declaration, inter alia, laid groundwork for the adoption of binding regulations for black and grey list substances by the EEC, Paris Commission, and Rhine and Elbe Joint River Commissions and for the intensification of the phasing out of the use and discharge of PCBs. The 1987 London Declaration adopted comprehensive protective measures to improve the marine environment and thereby accepted the 'principle of precautionary action'.

In line with the 1987 Brundtland Report, the Hague Declaration put emphasis on sustainable development and an integrated ecosystem approach and adopted more specific measures to reduce inputs into the North Sea via rivers, estuaries and the atmosphere.

An IMM was held in Denmark in December 1993, preparatory to the Esbjerg Conference in 1995. The objective was to promote the reduction of nutrient and pesticide input into the North Sea. This meeting concluded with a commendation of the Quality Status Report 1993 prepared by the North Sea Task Force, in which the OSPARCOM participated.[80] Apart from the Hague Declaration List of Pesticides, this meeting invited the OSPARCOM to identify

[79] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p.113.

[80] Statement of Conclusions from the Intermediate Ministerial Meeting, Copenhagen, 8 December 199,para 45.

other pesticides, 'which are not covered by the Hague Declaration but which pose a threat to the marine environment'.[81] The next INSC was held in Esbjerg on 8-9 June 1995 with a new long-term objective to stop rather than reduce marine pollution: by continuously reducing discharges, emissions and losses of hazardous substances thereby moving towards the target of their cessation within one generation with the ultimate aim of concentrations in the environment near background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances.

To fulfil this long-term goal, the Esbjerg Declaration agreed to promote best available technology, best environmental practice, and clean technology in a more sophisticated and stringent way. The Declaration's significant advance lies in the call for a cessation of discharges rather than their reduction and in its references to the need for priority setting in toxic reduction measures.

At the IMM held in Oslo, Norway in 1997, the concept 'Ecosystem Approach' was discussed as part of the integration of fisheries and environmental policies.[82] At its meeting a workshop was held where present conservation and management measures for the protection of the North Sea Ecosystem received specific attention. The promotion of integrated monitoring and assessments and sustainable utilization of marine resources were advocated in this workshop for further development of this approach in the management and protection of the North Sea.

The fifth North Sea Conference took place in Bergen, Norway on 20-21 March 2002. This Conference covered a wide range of issues such as ecosystem approach to management, sustainable fisheries, hazardous substances and eutrophication. In terms of ecosystem approach this Conference emphasizes the coherent, integrated and sustainable management and includes the use of ecological quality objectives as a tool for setting clear operational environmental objectives and as indicators for ecosystem health. It was stressed that increased efforts are necessary in order to meet the target of the cessation of emissions, discharges and losses of hazardous substances to the North Sea by 2020 (one generation target set out in Esbjerg Declaration 1995) and also to achieve the target of the OSPAR strategy to combat eutrophication by 2010, and urged for strengthened cooperation of the North Sea Sates.

[81] Copenhagen statement, para 47.
[82] International Conference on the Protection of the North Sea, Workshop on the Ecosystem Approach to the management and Protection of the North Sea.

It is to be noted that these INSC declarations are not binding upon states in international law. However, they create a commitment at political levels to protect the regional marine environment from pollution. [83]

6.5 North East Atlantic Sea: EEC Directives

States participants of North Sea Watershade are Belgium, France, Norway, Denmark, Germany, Luxembourg, Netherlands, Sweden, Switzerland and United Kingdom. These states take part in INSCs. From the countries surrounding the North Sea catchment area, eight States (Belgium, France, Denmark, Germany, Luxembourg, Netherlands, Sweden and United Kingdom) are members of the European Union. Only Norway is not a member of the EEC. And, with the exceptions of Austria, Italy and Greece, all member states of EEC fall under the North-East Atlantic Sea. [84]

A number of EEC directives have been adopted, which contain environment protection measures appropriate to land-based pollution. These directives apply to all industrial installations and substances that may be harmful for the environment. Although 'directives' are not treaties, they legally bind the members of the European Economic Community. Directives with direct effects require the EEC member states to perform certain acts and prescribe some values, which are precise, unconditional and not dependent on any further action by the member states. When a directive has a high degree of precision there is no room for discretion for Member States. This means that the directive has direct domestic effect and achieves the same result, or the equivalent effect as a 'regulation'.

The 'Directive on Pollution Caused by Certain Dangerous Substances Discharged into the Aquatic Environment of the Community' adopted by the EC Council in 1976 is explicitly applicable to the territorial sea of the Member States. The text of this directive contains a system of discharge prohibition and authorization for a list of harmful substances. The directive mainly focuses on land-based pollution as it excludes from its scope 'discharge of

[83] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p.115.
[84] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p.115.

dredging', 'operational discharges from ships in territorial waters', and dumping from ships in territorial waters'. [85]

6.6 Baltic Sea: Helsinki Convention (1972 and 1992)

The Convention on the Protection of the Marine Environment of the Baltic Sea Area ('*Helsinki* Convention 1974'), ratified on 22 March 1974 was the first regional international treaty to institute comprehensive measures to supervise all sources of regional sea contamination (Figure 2).

According to this Convention, the Contracting Parties agreed to 'take all appropriate legislative, administrative or other appropriate measures in order to prevent and abate pollution and to protect and enhance the marine environment of the Baltic Sea Area'.

This Convention also imposes specific on the Contracting Parties to counteract the introduction of hazardous substances. It emphasizes technological cooperation between Contracting States and establishes a commission (HELCOM) to administer and coordinate the cooperative tasks of State Parties. As a permanent body, HELCOM is composed of all Contracting Parties of the Convention. HELCOM's duties are, inter alia, to monitor the implementation of the Convention, make recommendations on related matters, and to define criteria and objectives for the control and reduction of land-based pollution. This Convention also provides requirements regarding responsibility for damage and settlement of disputes.

Although these requirements are significant, a significant omission in terms of land-based pollution control was that the Convention did not include internal waters of the Contracting Parties. It is to be noted that Article 4(3)[86] of the Convention obliged the Contracting Parties not to pollute their internal waters.

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[85] In line with the above directive (directive 76/464) other directives were adopted on cadmium (Cd) discharges, mercury (Hg) discharges and on batteries and accumulators containing certain dangerous substances. These directives laid down limit values and quality objectives for cadmium, mercury and lead discharges into the marine environment.

[86] Article does not apply to any warship, naval auxiliary, military aircraft or other ship and aircraft owned or operated by a state and used, for the time being, only on government non-commercial service. Each Contracting Party shall ensure, by the adoption of appropriate measures not impairing the operations or operational capabilities of such ships

Because of this imperfection the Convention does not impose a legal obligation on States to supervise land-based pollution in their internal waters. The estuarine waters, through which much, if not most, of land-based pollution enters the sea, are not covered by the convention and their protection will depend entirely upon the readiness to the act of the Baltic governments.

Though the *Helsinki* Convention 1974 provided requirements considering all forms of sea contamination, it did not succeed in stopping the pollution of the Baltic Sea environment, specifically problems arising in result of euthrophication which is one of the main sources of land-based pollution, and contamination from shipping. Consequently, following a meeting of the heads of states in Sweden in November 1990, the *Helsinki* Convention 1974 was extensively revised and replaced by the Convention on the Protection of the Marine Environment of the Baltic Sea Area ('*Helsinki* Convention 1992'), which was adopted on 9 April 1992 and came into force on 17 January 2000. The intention of the revision was to extend, strengthen and modernise the 1974 Convention. The *Helsinki* Convention 1992 introduces more legally binding technical requirements, more specific rules and further action in the field of prevention and control of land-based pollution.

What concerns the supervision of land-based pollution this Convention clearly encompasses internal waters. It also encompasses a more comprehensive definition of land-based pollution that particularly involves internal waters contamination.

This inclusion is significant for creation of the scope that is vital for taking measures in the whole of the catchment area. Moreover, the 1992 Convention includes some international management principles for land-based pollution control. They are the precautionary principle; the polluter pays principle; and environmental impact evaluation.

In order to apply these requirements, the Convention imposes on States the obligation to undertake various measures and programs such as best environmental practice and best available technology. It establishes criteria and measures concerning the prevention of pollution from LBS. It also requires permits in terms of discharging harmful substances.

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and aircraft owned or operated by it, that such ships and aircraft act in a manner consistent, so far as is reasonable and practicable, with this Convention.

The 1992 Convention also provides requirements on notification and consultation, reporting and exchange of information and circulation of information to the public on marine pollution issues. All these requirements entail specific legal duties for the protection of the Baltic Sea from land-based pollution. [87]

6.7 Recommendations, Action Plans and Declarations

Continuous attempts to supervise land-based pollution in the Baltic Sea region are carried on through HELCOM recommendations, action programs, and Ministerial Declarations.

In order to decrease contamination from land based sources HELCOM develops recommendations. The most significant are as follows: Recommendation 7/4 concerning measures for the reduction of waste discharges from urban areas by the preliminary treatment of waste from industrial plants; Recommendation 9/8 concerning measures for the reduction of industrial pollution; Recommendation 11/5 concerning restrictions on discharges from the iron and steel industry; Recommendation 12/4 concerning the principles of industrial release into municipal sewage systems; Recommendation 21/3 concerning sustainable and environmentally friendly tourism in the coastal zones of the Baltic Sea Area; and Recommendation 23/10 concerning reduction of discharges and emissions from production and formulation of pesticides. These recommendations are non-binding. They are useful to serve the purpose of the *Helsinki* Convention 1992 in relation to land-based pollution control. Apart from these recommendations, various Ministerial Declarations have been adopted to protect the Baltic Sea from land-based pollution.

The 1988 Declaration demanded from Parties a 'substantive reduction of the load of pollutants' and set forth a quantitative target (50 per cent of total land-based sources discharges) and timetable (as soon as possible but not later than 1995). The commitments made to reduce land-based pollution in the 1988 Declaration were affirmed in the 1990 Declaration. The Ministerial Declaration of 1988 and the Baltic Sea Declaration of 1990,

[87] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p.121.

Baltic Sea Environmental Declaration of 1992 and Declaration on Resource Mobilisation for the Baltic Sea (Gdansk Declaration) of 1993 are also appropriate. They advocated awareness about sea pollution problems, best practice and opportunities for developing stringent environmental standards. In compliance with these declarations in 1993, HELCOM adopted the Baltic Sea Joint Comprehensive Environmental Action Program and set up a special Task Force 1993-2012, the Program Implementation Task Force to carry out the program and to improve the status of the Baltic Sea environment. These recommendations and declarations are non-binding in international law. However, they are useful to intensify land-based pollution control measures in the Baltic region. For example, following these recommendations and declarations, a series of pollution load compilation ('PLC') exercises were conducted. These included monitoring and evaluation of the pollution load entering the Baltic Sea from land-based sources, and generation of information on land-based sources. Other initiatives included identification of 'hot spots' in the region (mainly municipalities and industrial sites) and a Global Environment Facility ('GEF') proposal for a Baltic Sea Regional Project which addresses reduction of non-point source pollution from agriculture. [88]

These proposals, plans and declarations are important steps in the implementation of the *Helsinki* Convention 1992. Adoption of these measures is the positive indications towards the protection of the coastal environment from pollution. They are also the signs of willingness from political levels for the protection of the Baltic Sea from land-based pollution. As a process of implementation, these measures are contributing to the development of behavioural change and compliance culture in the Baltic Sea region.

As a result, the 1992 *Helsinki* Convention Contracting Parties decided in 1999 to reorganise HELCOM to promote the accomplishment of the overall goal of marine environmental protection. The following subsidiary bodies were established in the new HELCOM: a strategy group for following developments within environmental policy; a monitoring and assessment group for focusing on input load and the environmental status; a land-based pollution group for designing measures to reduce pollution from land-based sources; and a nature conservation and coastal zone management group for protecting nature and biodiversity. These bodies prioritise eutrophication (especially the contribution of agriculture); hazardous

[88] Hassan, D.: *Protecting the Marine Environment from Land-Based Sources of Pollution, Sydney*. Towards Effective International Cooperation, 2007, p.122.

substances; land transport issues; harmonisation of HELCOM recommendations with EU directives; and implementation of the Joint Comprehensive Environmental Action Program and HELCOM Recommendations. [89]

Regardless the current achievements in restructuration, further environmental efforts to build up substantial implementation capacity are needed. Political and economic complexities need to be reduced and funding and commitment increased to improve domestic legislative and administrative infrastructure for greater land-based pollution control.[90]

6.8 Conclusion

The term 'OSPAR' refers to both the OSPAR Commission and the former Oslo and Paris Commissions. The 1972 Oslo Convention and the 1974 Paris Conventon were replaced by the 1992 OSPAR Convention when it entered into force on 25 March 1998.

In 1998, OSPAR Ministers signed Annex V, to the Convention, on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area, in conjunction with the first OSPAR Biodiversity Strategy. Annex V entered into force in 2000. In subsequent years, instruments and programmes were adopted based on its provisions, including on threatened and declining species and marine protected areas. The OSPAR Biodiversity Committee is charged with this work area.

Programmes and measures require the use of the best available techniques for point sources and best environmental practice for point and diffuse sources, using the criteria in Appendix 2 to the Convention. The criteria listed in Appendix 2 include persistency, toxicity, bioaccumulation, radioactivity, the effect of concentrations, the risk of eutrophication, transboundary significance, the risk of undesirable change in the marine ecosystem and irreversibility or durability of effects, interference with legitimate uses of the sea, effects on the taste and/or smell of products for human consumption from the sea, or effects on smell, color, transparency or other characteristics of the water in the marine environment, distribution patterns, and non-fulfillment of environmental quality objectives. The adoption of

[89] Helsinki Commission Informs, Baltic Marine Environment Protection Commission, Press Relese, A Strenghened HELCOM, 7 September 1999.
[90] UNEP, GPA News Forum, Information Note to the Delegates of the 1999 SIDS/UNGASS, 1999 at 4.

such programmes and measures is mandatory for certain substances, and measures for radioactive substances, including waste, must take account of the recommendations of other international organizations. Substances which shall be the subject of programmes include heavy metals, organohalogen compounds, organic compounds of phosphorus and silicon, biocides, oils, nitrogen and phosphorus compounds, radioactive substances including wastes, and persistent synthetic materials. Under Annex I, all discharges into the maritime area, and releases into water or air which reach and may affect the maritime area, must be authorized or regulated and be subject to a system of regular monitoring to assess compliance. The OSPAR Commission was required to draw up plans to reduce and phase out certain hazardous substances and to reduce inputs of nutrients from urban, municipal, industrial, agricultural and other sources.

If we view it from the point of legislation, the *Helsinki* Convention 1992 made substantial progress over the *Helsinki* Convention 1974. Like *OSPAR* Convention the *Helsinki* Convention 1992 includes some of the international management principles. Providing criteria and measures for land-based pollution control, this regime has become dynamic and more effective for land-based pollution control. Openness has increased, together with a willingness to admit land-based pollution problems and to cooperate to control or eliminate them. However from the enforcement point of view this Convention's mechanism is still lacking. Uncertainties, non-compliance or inadequacies exist in implementation in several areas. Its institutional organ for implementation, HELCOM, has no independent authority to oversee implementation of the Convention's requirements, HELCOM's recommendations or Ministerial declarations. Implementation of these issues still depends on the goodwill of the Contracting Parties. Like the superseded *Paris* Convention, this Convention's requirements are often indeterminate and the legally binding norms are considerably less explicit here. Substantial amounts of nutrients and hazardous substances are still entering the coastal zones of the Baltic Sea. It indicates that a major task remains for HELCOM and requires a further surge of cooperation between the countries of the region.

This review has found that regional legal and institutional frameworks for land-based pollution supervision in the North East Atlantic and Baltic Sea regions play an important role. These instruments initially led the way forward to control land-based pollution. Although the degree of strictness varies, these regional agreements have obliged Contracting Parties to take

preventive measures to reduce accidents, and ensure monitoring and inspection by competent authorities to control land-based pollution. International management principles are duly undertaken these legal instruments.

If we take into consideration appropriate measures and techniques, greater emphasis has been placed on the control and elimination of all categories of land-based pollution. Various recommendations, plans and declarations have been adopted to protect the marine and coastal environment of these regions from land-based pollution. In undertaking Action Plans, organising conferences, adopting recommendations and using best available technology and the best environmental practice these regions have achieved notable development to control land-based pollution.

Even if we recognize this progress of land-based pollution in North East Atlantic Sea and Baltic Sea regions, there are still some deficiencies in these regional arrangements from implementations point of view which require further development of cooperative arrangements and measures, including more efforts for the reduction of political and economic complexities and significant capital expenditure for land-based pollution control.

7. Obstacles governing the land-based marine pollution

The regulation of land-based pollution is more complex than that of pollution from other sources. In the case of the vessel-source pollution, for example, sources and substances to be regulated – which are mainly oil and oily mixtures – can be clearly identified. Yet the regulation of land-based pollution involves more substances than oil and oily mixtures.[91] Furthermore, land-based sources are variable in their nature over time. Some may be chronic sources causing a low-level but steady pressure on the marine environment, while others may be periodic, such as the pound of pollutants flushed into the ocean after heavy rain. Each source requires different measures to prevent environmental damage, and this requirement makes regulatory measures complex. Moreover, in the case of vessel-source pollution, ships are the only actor, and the shipping industry is the major economic sector to be regulated. By contrast, many actors and activities, such as pollution-generating industrial, agricultural and

[91] Tanaka, Y.: *The International Law of the Sea*, Cambridge, 2012, p.268.

municipal activities, are involved in pollution from land-based activities. It follows that the regulation of land-based pollution concerns various economic sectors in the State. Thus, arguably the regulation of land-based marine pollution at the global level is more problematic than in the case of vessel-source pollution because, in the former case, it is more difficult to balance the regulation of such pollution with various national economic policies than vessel-source pollution.

The movement of ocean currents and winds are complex and different; the degree of marine pollution varies in each coastal region. It is observed that usually land-based pollutants are not transported far from their sources of discharge, and, thus, the land-based marine pollution is regionalized. Furthermore, it is conceivable that results of land-based pollution are more serious in shallow enclosed or semi-enclosed coastal sea areas than open oceanic areas. In such areas, more stringent regulation of land-based pollution than in other marine areas will be needed. In fact, almost all regional agreements governing this issue are essentially concerned with enclosed or semi-enclosed seas.

7.1 The limits of the International Legal Instruments

There is a big difference in capacities to apply environmental treaty and policy commitments between developed countries, countries in economic transition and developing countries. Generally, national compliance with environmental treaty commitments has always been uncertain. State practice in relation to land-based pollution control is extremely uncertain and far from adequate in many regions of the world´s oceans. Most of the countries of the world are unable to effectively deal with the wide variety of land-based pollutants. National implementations are extraordinary complex and there is no single template according to which international commitments can be put into national practice. Implementation of commitments can affect a wide range of socio-economic interests on the national plane. In regards to land-based pollution states do not wish to commit themselves to the same level of strong international control imposed on pollution from ships. The social and economic costs of such measures are unacceptably high.

If society relies only on national controls it will not be able to successfully protect the sea environment from land-based sources. International involvement might reinforce effort for

land-based pollution control, particularly in regions where countries are all developing. Financial and other international assistance can facilitate national control there. In other words, effective solutions to this problem require bridges between international and national levels of effort. This entails coordination and integration of complex political and economic elements, balancing State interests, capabilities and commitments at national, regional and international levels. It would be useful to apply and coordinate activities of non-State actors such as scientists, environmental groups and international institutions.

It has been observed earlier that collaboration is commonly beneficial exchange meant to attain a mutual objective to supervise land-based pollution. A cooperative approach has been recommended at different levels in many Declarations and resolutions for the protection and preservation of marine environment from land-based pollution.

In spite of the fact that collaboration is extremely important for the comprehensive supervision of land-based pollution, there is debate about the varying opportunities for international cooperation. It is suggested here that joint arrangements can be established at both global and regional levels. In fact, the best approach suggested is to build up an interlinking arrangement of regional and global agreements based on pro-active cooperation among States.

7.2 The 1982 LOSC

The 1982 LOSC explicitly obliges States to prevent marine pollution from land-based activities. Nevertheless, the appropriate requirements in the LOSC are so general that States have a large discretion in this field. After the adoption of the 1982 LOSC, the need to manage marine pollution from land-based activities is repeatedly highlighted in several global instruments. It is of particular interest to note that new elements – such as a comprehensive environment management approach as well as the precautionary approach – are being reflected in those documents. It must be admitted, however, that overall attempts to deal with land-based marine pollution at the international level have been made only in the form of less formal instruments. It is unavoidable to conclude that the regulation at the international level remains a fragile. A problem arising here is why the regulation of the land-based marine

pollution remains inadequate at the international level. Several reasons explain the weak point of the international legal framework in this field. First, it must be noted that the actions which may cause land-based pollution are in essence within the territorial sovereignty of each State; and such actions are directly bound up with fundamental national programmes for economic, industrial and social development of those countries. The economic costs of measures to regulate land-based pollution are seen as high, and unavoidably affect economic development. Hence, States are often unwilling to take any attempts at limiting their economic developments by legally binding instruments. States will accept legal regulation only if a international legal instrument will adequately reflect their need for the development and if it will benefit their national interests. It would seem that at the international level, these conditions are not yet fulfilled with respect to the land-based marine pollution.

In reality, developing States do not have adequate technical and financial facilities in order to prevent marine pollution. Furthermore, it is important to note that the protection of the marine environment from land-based pollution is closely linked to the widespread poverty in developing countries. In this respect, the 1995 Washington Declaration clearly recognises that the alleviation of poverty is an essential factor in addressing the impacts of land-based activities on coastal and marine areas. Similarly, the 2001 Montreal Declaration on the Protection of the Marine Environment from Land-Based Activities makes it clear that the poverty, particularly in coastal communities of developing countries, contributes to marine pollution through lack even of basic sanitation. At the same time, marine degradation generates poverty by depleting the very basis for social and economic development. This is a vicious circle. Hence, the regulation of land-based pollution should be considered in the global context of the combat against poverty in developing countries. In light of such countries' economic and technological difficulties, it is difficult to place the same duties upon them to regulate land-based pollution. In summary, owing to the economic, technological and geographical divergence in the world, it appears difficult, if not impossible, to establish uniform and detailed rules regulating land-based pollution at the global level. Accordingly, it becomes necessary to tailor any rules preventing marine pollution from land-based sources to the particular needs and circumstances of the States and regions. It would seem to follow that regional agreement which contains more specific rules will assume considerable importance to combat against land-based pollution. This view is supported by the fact that marine pollution from land-based sources has been regulated primarily by regional treaties. Thus, the

next Part will address the question how regional agreements regulate the land-based sea contamination.

7.3 The limits of the Regional Legal Instruments

The first regional agreement on control of land-based pollution was the Paris Convention for the Prevention of the Marine Environment from Land-based Sources, which concluded on 4 June 1974, by 14 West-European countries. Parties to this Convention were Austria, Belgium, Denmark, France, Germany (FRG), Iceland, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. Finland and Italy were observers. Particularly, it covered the North Sea and parts of the North-East Atlantic and Arctic Oceans.

The Convention imposes specific duties on State Parties to eliminate the land-based marine pollution by 'black list' substances listed in Part I of Annex A and to strictly limit 'grey list' substances listed in Part II of Annex A, making provision for a permanent monitoring system and for the earliest possible assessment of reduction of land-based marine pollution, and establishing a commission (PARCOM) to supervise implementation of the Convention. This Convention also makes provision for settlement of disagreements.

The OSPAR Convention currently operates through a series of five Annexes and thematic strategies addressing the main threats to biodiversity and ecosystems from eutrophication, hazardous substances, offshore industry, and radioactive substances. The impacts of climate change are addressed as a crosscutting issue (OSPAR strategies for protection of marine environment of NE-Atlantic). Whereas OSPAR has the competence to establish marine protected areas in the region within and beyond national jurisdiction, it cannot regulate fisheries or maritime transport. It can only raise any problems with the respective competent management bodies. Within national jurisdiction, EU member states have to address the European Commission on fisheries questions. Beyond national jurisdiction, OSPAR has to communicate with NEAFC, the International Maritime Organization (IMO) and/or other multilateral organizations.

7.4 Summary

By far the greatest source of pollution to the ocean is the waste material introduced in to oceans from land. Even greater in volume than municipal wastes are industrial wastes. Industrial wastes are either introduced directly into the ocean through outfalls or indirectly through river systems that eventually run into ocean, or through the atmosphere, entering the ocean in rainfall. Liquid wastes from factories increasingly are becoming more chemically sophisticated as newer forms of synthetic products are invented. These chemicals wastes may interact synergistically in the ocean (just as smog is a synergistic interaction of chemicals in the atmosphere), sometimes creating unprecedented problems for human and animal health. A less intentional but nevertheless important source of pollution is agriculture runoff; the use of chemical pesticides and artificial fertilizers in farming results in river contamination and eventually oceanic contamination. [92]

Pollution from aircraft maybe categorized as land-based. Airplanes eject a vast amount of smoke and other pollutants as they fly over land or waters directly through rainfall or via runoff from land. Far less significant today, but can be mention, is pollution from vehicles that are sent above the earth´s atmosphere.

The Paris Convention was replaced by the Convention for the Protection of the Marine Environment of the North East Atlantic 1992 (entered into force 24 March 1998) (‘*OSPAR* Convention 1992’). The *OSPAR* Convention 1992 reflects in part recommendations of the Stockholm Conference 1972, the Agenda 21 of United Nations Conference on Environment and Development 1992, and the appropriate requirements of customary international law as reflected in part XII of the United Nations Convention on the Law of the Sea. The reasons for the replacement of the Paris Convention were that its predecessors, the Oslo Convention on Dumping and the Paris Convention 1974, were not adequately controlling some of the many sources of pollution. It was therefore considered justifiable to replace them with the OSPAR 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.

[92] Meredith, O. Clement: *Who protects the Ocean?* St.Paul, 1975, p. 14.

As well the importance of land-based sources is emphasized in Agenda 21. Rules are to be found in the 1982 UNLOS (establishing one of the causes of action for Ireland's claim against the United Kingdom in respect of the MOX plant), the 1974 Paris Convention and the 1992 OSPAR Convention; UNEP Regional Seas Protocols; the 1974 and 1992 Baltic Conventions; numerous non-binding international instruments; and EU Directives. The 1995 Global Programme of Action for the Protection of the Marine Environment from Land-based activities (GPA) also provides for the development of national measures, and facilitates a comprehensive, multi-sectoral approaches to the issue of pollution from land-based sources.

On international level the Article 207 of UNCLOS requires states to 'prevent, reduce and control pollution of marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures'. States must take into account: internationally agreed rules, standards and recommended practices and procedures; characteristic regional features; the economic capacity of developing countries and their need for economic development; and the need 'to minimize, to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment´. In the context of the wide support for these principles in regional and global agreements and instruments, as set out below, the principles of Article 207 now reflect rules of customary international law. It should be recalled that these provisions are general in character, their detailed obligations being informed by the content of applicable and relevant international rules, whether global or regional.[93]

The GPA , and an accompanying Declaration were adopted by 108 states and the EC at a conference held in Washington from 23 October to 3 November 1995. In the Declaration, participating states declared their commitment to protect and preserve the marine environment from the impacts of land-based activities – specifically those resulting from sewage, persistent organic pollutants, radioactive substances, heavy metals, oils, nutrients, sediment mobilization, litter, and physical alteration and destruction of habitat. The states pledged or review of national action programmes; taking forward action to implement national programmes; co-operating to build capacities and mobilize resources for the development and

[93]Sands, P.: *Principles of International Environmental Law. Second edition*, Cambridge, 2003, p.429.

implementation of such programmes; taking immediate preventive and remedial action, wherever possible; promoting access to cleaner technologies, knowledge and expertise; co-operating on a regional basis to co-ordinate efforts for maximum efficiency and to facilitate action at the national level; encouraging and/or making available external financing; giving priority to the treatment and management of waste water and industrial effluents; and acting to develop a global, legally binding instrument dealing with persistent organic pollutants.

The GPA drew upon relevant provisions of Chapter 17, 33 and 34 of Agenda 21 and the Rio Declaration on Environment and Development, as well as the 1985 Montreal Guidelines on the Protection of the Environment Against Pollution from Land-based Sources (1985 Montreal LBS Guidelines).[94]

The Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol) to the Cartagena Convention was adopted in Oranjestad, Aruba, on 6 October 1999. 16 Contracting Parties to the Cartagena Convention signed the Final Act of the LBS Protocol. The Protocol entered into force on August 13, 2010.

The Protocol, as adopted, is perhaps the most significant agreement of its kind with the inclusion of regional effluent limitations for domestic wastewater (sewage) and requiring specific plans to address agricultural non-point sources. Specific schedules for implementation have also been included in the Protocol. In addition, the LBS Protocol sets the stage for the development and adoption of future annexes to address other priority sources and activities of pollution.

The main text of the Protocol sets forward general obligations and a legal framework for regional co-operation. The operative Annexes, however, describe the work that each Contracting Party must comply with, as well as to give direction to the development of regional actions.

OSPARCOM also adopted legally binding decisions that became a significant step in the application of the Convention. Various recommendations, Action Plans and ministerial declarations have been adopted as to the mechanisms of the Convention's implementation. INSCs and EEC directives also have been complemented with this implementation process.

[94] 25 May 1985, UNEP/GC/DEC/13/181

Nevertheless, ‘progress of implementation’ in all aspects has been slow because of economic infeasibility and social and political implications. Implementation of all of these plans and declarations requires further development of cooperative programs and measures including a supreme effort and significant capital expenditure for the preparation and review of marine environmental practices.

8. CONCLUSION

We realize that much of the world´s population lives in coastal areas and the fact that the economic advancement of many coastal residents is linked to the sustain productivity of coastal resources. Coastal areas contain a diverse collection of natural resources within their interrelated ecosystems, and close linkages exist between these ecosystems and the socioeconomic systems in these areas. Fish and other aquatic resources are routinely captured and cultured in coastal areas, providing food, valuable chemicals and materials, employment, and income for many coastal residents. The coastal region´s unique environments also provide many other economic opportunities, including oil, mineral and timber extraction, agriculture, shipping and tourism.

Many coastal environments have become seriously degraded, resources-used conflicts are escalating, and valuable coastal resources are being overexploited. The result is that the productivity of these coastal areas has diminished, putting prospects for continued economic prosperity in many regions jeopardy.

To maintain and enhance the live hood of coastal communities, coastal areas must be managed for sustainable development. But as population and economic pressures on the coastal resources increase, it becomes more difficult and challenging to achieve sustainable development in coastal areas in the absence of proper management . Effective management of coastal areas requires that the ecological and socioeconomic interdependencies that characterize these areas be taken seriously.

States have to act through competent international organizations or diplomatic conference in dealing with land-based sources of pollution of the marine environment no particular universal or regional international organization has exclusive competence. As knowledge and

technology progress, it is becoming increasingly understood that different types of land-based pollution require different functional and legal approaches. In the nature of things, this can implicate different international organizations, both global and regional.

The most important factor in determining whether to adopt a regional or global approach is the specific nature of a particular land-based pollution problem. But it is sometimes difficult to conclude which problems need to be addressed exclusively at global or regional levels respectively because even those problems that are predominantly regional often invite global involvement due to their extra-regional impact, or simply because they require extra-regional resources for their solution.

The material above implies that the general rules of customary international law do not specifically concern the land-based pollution control but only the issues of trans-boundary or international environmental influence. This has many consequences:

(a) the internal aspects of sea contamination management have been left to the will of sovereign states;

(b) the general duty under customary international law may be spread to the land-based pollution control;

(c) states are obliged not to cause unreasonable damage to the legitimate interests of other states in relation to the sea environment;

(d) if damage has been done a state has a duty to help in fixing the problem by paying compensation;

(e) for the protection of environment in urgent situations states may inquire some temporary measures, like it was done in the case of protecting the Irish Sea from contamination in MOX Plant;

(f) treaties are necessary in order to solve the problems in this area and remove drawbacks.

The *OSPAR* Convention defines international administration rules for land-based pollution supervision and has made an impact into the development of the land-based pollution supervision measures as well as gradual advancement of the legal regimes of land-based pollution supervision. The inclusion of these management principles in the Convention has

created positive opportunities for the protection of the marine environment from land-based pollution in a sustainable way as they are suitable for rational management and thus useful for the minimization of marine and coastal pollution.

All these indicate the signs of commitment at political levels for the protection of the North Sea and North-East Atlantic Sea from land-based pollution.

The elaborate objectives set by the OSPAR, INSC and EEC systems as they aim had substantial behavioural alteration at the domestic and regional level to supervise land-based pollution in the North and North East Atlantic Sea region. With the adoption of these mechanisms and policies by the states, commitments have been developed and greater compliance has been achieved in the North Sea region. Dumping has stopped and the discharge of major pollutants has been cut roughly in half in only a decade.

All these proposals, plans and directives have been playing a key role to solve the problem of coastal degradation from land-based pollution. They have created sufficient institutional frameworks to combat of the land-based pollution in the region. As a positive step to implement the objectives of the *OSPAR* Convention these complementary measures have provided greater opportunities to study the problems of land-based pollution and to extend and strengthen administrative, scientific, political and financial capacities in the region.

Nevertheless, 'progress of implementation' in all aspects has been slow because of economic infeasibility and social and political implications. Implementation of all of these plans and declarations requires further development of cooperative programs and measures including a supreme effort and significant capital expenditure for the preparation and review of marine environmental practices.

Gouilloud has suggested about Article 207 of LOSC having at least three significant functions:

> a) provision of a stimulus for national legislatures to advance or improve their laws in this sphere of contamination management;
>
> b) encouragement for collaboration with this purpose with neighbouring states;
>
> c) giving a legal ground for the integration of contamination control policy and proper institutional preparations and plans particularly in coastal areas.

Nevertheless, the requirements of Article 207 have become an object for critics as they do not reflect any advancement in the development of customary international law and obviously are the most deficient in the sphere of environment protection. The nature of responsibilities is not very demanding, they are mostly precautionary, especially comparing to later regional agreements and protocols. The terms are also not precise enough to serve as a useful guide for land-based pollution management. For instance, Article 207 demands states to only take into account internationally accepted principles, standards, and recommended practices and procedures. Moreover, it depends on national capabilities of states whether they take any measures or mot. Article 207 does not provide the definition of these internationally accepted principles and standards and "other measures", and it does not succeed in provision of the criteria for determination how relevant are the standards and measures. It does not oblige to stick to any minimum international standards accepted by international bodies and does not consider the underlying obligation of due diligence found in customary international law. It is written in unclear and ill-defined language, for example the link to the duty of states to "endeavour" to coordinate their national policies at the proper regional level and "to establish global and regional rules and standards" for land-based pollution management. All mentioned above is inclined to reduce liability or obligation, providing more freedom for states to claim rights than accept duties. In general, the formulation of duties is so vague that Article 207 practically has no real influence on the land-based pollution control. It is essential to shape an effective system for solution of conflicts on the sea environment between coastal states, and it should promote the progress of regional marine and coastal environmental standards.

The regional approach is well suited to give effect to environmental duties. According to that, the regional approach: increases the number of common environmental interests; implements global agreements through increased regional actions; facilitates a collective regional approach to donors about funding and success in securing funding; and may be more successful in increasing participation from a broader national constituency than global agreements.

In order to deal with the immediate consequences of a particular land-based pollution problem and appropriate solutions to that particular problem, cooperation is more likely to be useful at the regional level than at the global level. This is because the global responses encompass a wider variety of ideologies and political objectives, inequalities in economic growth and

social development of states, as well as great differences in cultural background. All of these global factors create a complex context, unfavourable to efficient law making and implementation is achieved in regional were developed or jointly developed and developing countries are the Parties to an arrangement. Where only developing countries are the Parties, their lack of financial and technical resources obstructs improvements in land-based pollution control.

Strengthening capacity building is a critical need for effective control of land-based pollution. What concerns efficient capacity building, the current trends in cooperation fall far short of optimal willingness. A global framework for enhanced international cooperation with continuing economic and political development that increases the ability of states to translate international duties into coherent and effective domestic legal and policy reforms is therefore essential.

The governance of land-based sea pollution at the global level remains a weak one in the sense that attempts to address land-based marine pollution have been made only in the form of non-binding documents. It is argued that the development of global legal framework governing land-based marine pollution may be limited by at least four factors: strong need for economic development, complexity of substances, sources and actors to be regulated, geographical and ecological differences in each region, economic and technological difference between developed and developing countries. Therefore, sea contamination from land-based sources has been managed principally by regional agreements. In this respect, it is important to note that new approaches and legal techniques are increasingly included in regional treaties with a view to enhancing the regulation of land-based marine pollution. Although only State practice can show how efficient are those approaches and techniques must be verified through, it may at least be said that those legal techniques commonly seek to strengthen the regulation of the land-based marine pollution. The uniform approach seeks to regulate marine pollution from land-based sources in a more comprehensive manner.

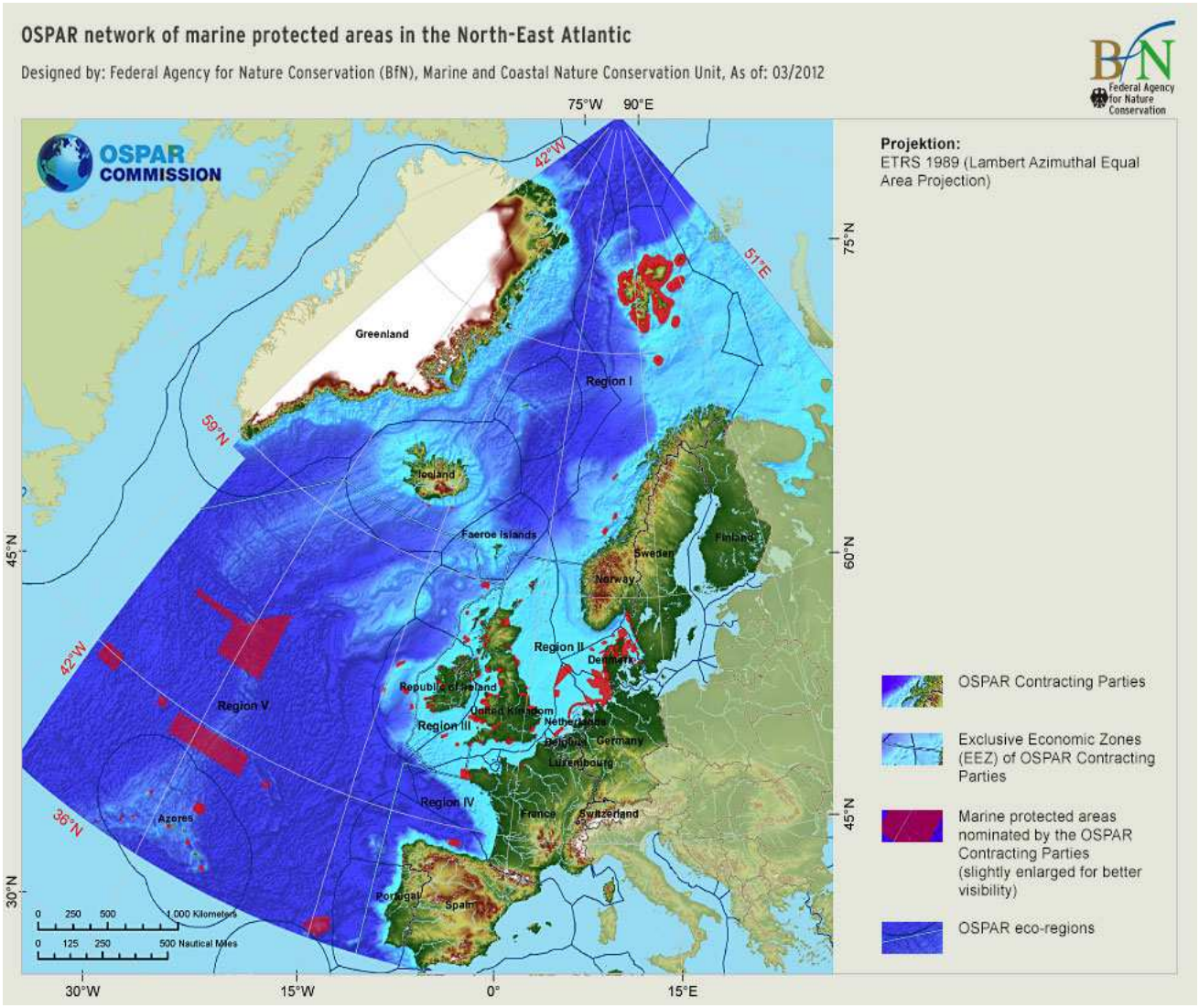
The precautionary approach requires States to take measures necessary to prevent marine pollution from land-based activities before damage has been caused. The application of the precautionary approach is qualified by economic, political and social factors. Also economic and political factors strongly influence the implementation of duties concerning the regulation of the land-based marine pollution.

Different national traditions of legislation and policy make it difficult for countries to agree on a uniform approach. National differences are even more marked between rich and poor States. Added to these difficulties is the fact there are so many different pollutants produced by a wide variety of activities and that there are various ways for them to eneter the sea from land. Much of this pollution is difficult to monitor, and its control and reduction is often costly. [95]

Moreover, it should be mentioned that the progress of regional agreements is not regular. Actually, there is no particular protocol regulating land-based marine pollution in the East Asian Seas, Red Sea and Gulf of Aden, South Pacific, West and Central Africa, East Africa, the North-East Pacific, the North-West Pacific, the South Asian Seas, the South-West Atlantic, and Arctic. Furthermore, the normative strength of the regulation varies depending on conventions. For instance, while the 1992 OSPAR Convention, the 1992 Helsinki Convention and the 1996 Syracuse Protocol replace the black/grey lists approach by the uniform approach, the 1983 Quito Protocol and the 1992 Bucharest Protocol still maintain the black/grey lists approach. The use of the BAT as well as the BEP is reflected only in the OSPAR Convention, the Helsinki Convention, and the 1996 Syracuse Protocol. Equally, the precautionary approach is included only in the OSPAR Convention, the Helsinki Convention, and the Syracuse Protocol. It can be observed that the 1992 OSPAR Convention contains relatively advanced rules and mechanisms to all land-based marine pollution matters.

[95] Churchill, R.R and Lowe, A.V.: *The law of the Sea. Third edition*. Manchester, 1990, p 379

Figure 1. The OSPAR network of MPAs in the North-East Atlantic. Status at the end of 2010.[96]



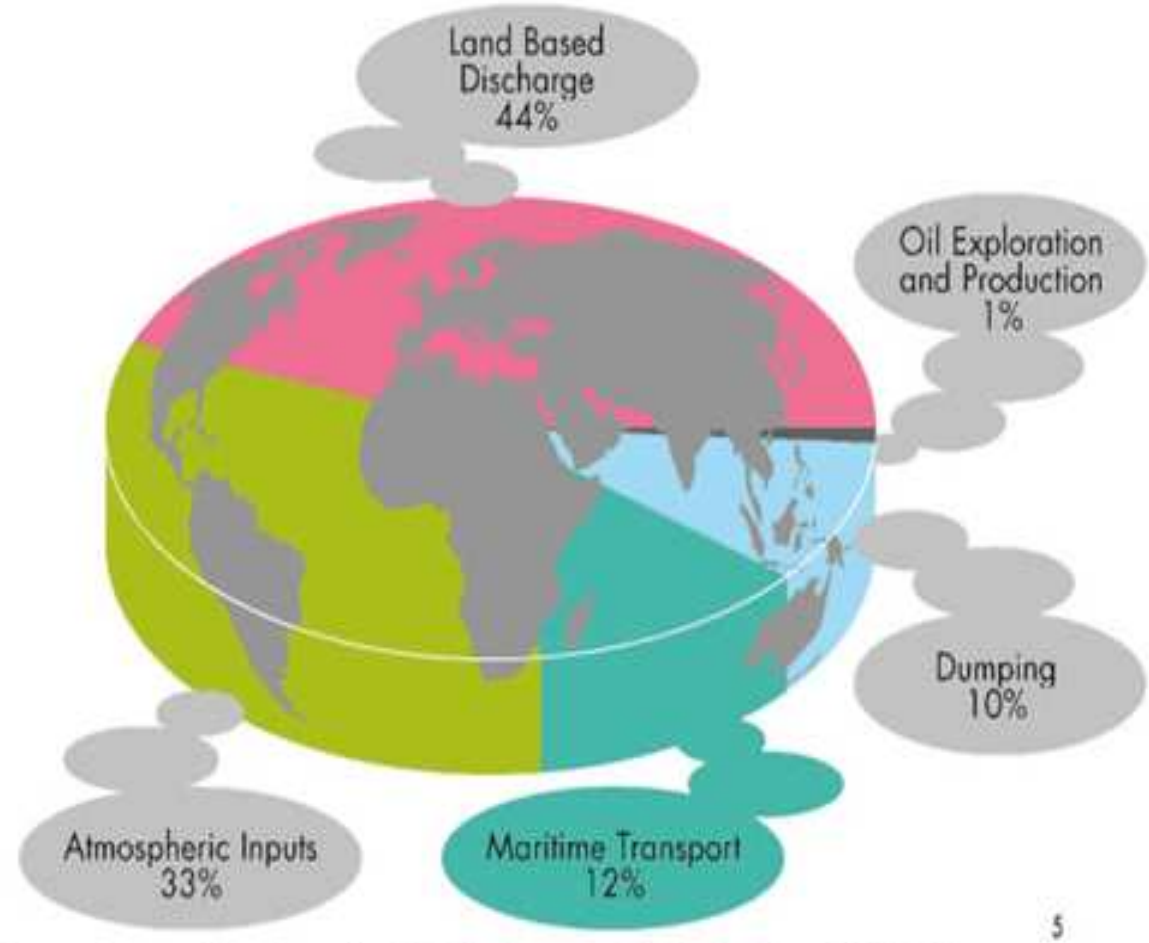
[96] http://www.bfn.de/habitatmare/en/karte-schutzgebiete-ospar.php

Figure 2. HELCOM marine area and parties to Convention.[97]

[97] http://www.helcom.fi/helcom/en_GB/aboutus/

Figure 3.

It is estimated that land based discharge (sewage, industrial effluent and urban/river run off etc.) and atmospheric inputs from land industry sources account for some 77% of marine pollution generated from human activities. In contrast, maritime transport is only responsible for some 12% of the total (see graphic). However, these United Nations estimates were produced in 1990 and the proportion of marine pollution that can be attributed to shipping is now thought to be lower than 10%. [98]



Source: Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP)

[98] http://www.marisec.org/shippingfacts/environmental/small-contribution-to-overall-marine-pollution.php?SID=50ceb20258be107f8f1d9631a4d53427

Figure 4. There are several causes of ocean pollution including oil pollution, marine debris, toxic materials, and ocean dumping and mining. Oil pollution is not only caused by large devastating tanker spills, it is also caused through runoff from land and industrial wastes which find their way to the ocean through drains. Other causes include intensive farming, septic tank, pesticide, animal dung, household waste, water table, waste water, nuclear waste... [99]

[99] http://www.worldculturepictorial.com/blog/content/ocean-pollution-climate-change-man-made-disaster-or-

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