



The Role of the International Seabed Authority in the regime of the protection of the living resources within Areas Beyond National Jurisdiction

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Candidate number: 7

Word count: 17 999

Small Master's Thesis

Masters of Laws in Law of the Sea

UiT The Arctic University of Norway

Faculty of Law

Fall 2013

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1 Introduction

1.1 The subject

The ocean floor beyond national jurisdiction covers more than half of the world's surface. This vast area is less known one.¹ Lack of knowledge gave rise to myths about this ecosystem. It had been believed that it is cold, dark, hostile and biologically barren place without any life. Technological advances show, contrary to any myths, that the deep seabed is an interesting place which hosts perhaps the most species-richest ecosystem on the Earth.²

It had been suggested that only minerals of the seabed will be of particular commercial interest. However the exploitation of living resources, particularly marine genetic resources, becomes the most immediate commercial activity on the seabed.³ Such human activity is steadily increasing on the seabed and puts its ecosystem in jeopardy.⁴ While seabed minerals are subjected to international legal regime, the legal status of the living resources found in the Area is uncertain.

Free access to living resources located in the Area and lack of adequate legal regime for them could lead to situation of over-exploitation or *tragedy of the commons* when resource would be under extinction. In terms of genetic resources which can be exploited by only a small group of States to date, absence of a consensus on a legal regime will have serious global economic and social implications. Moreover, an exclusive exploitation of genetic resources only by few is not consistent with international law, in particular with principle of equity which advocated by the 1982 United Nations Convention on the Law of the Sea (LOSC).

LOSC is the fundamental comprehensive document dealing with various uses of the seas and oceans. LOSC provides legal framework and devotes Part XI to the Area. In terms of Part XI the International Seabed Authority (hereinafter Authority/ISA) oversees activity

¹ S. Bonney, "Bioprospecting, Scientific Research and Deep Sea Resources in Areas Beyond National Jurisdiction: A Critical Legal Analysis", *New Zealand Journal of Environmental Law*, Vol.10, 2006, p.42

² D. Leary, *International Law and the genetic resources of the deep sea*, Martinus Nijhoff, Leiden and Boston, 2007, Chapter 1, p.8

³ T. Scovazzi, "Mining, Protection of the Environment, Scientific Research and Bioprospecting: Some Considerations on the Role of the ISA", *The International Journal of Marine and Coastal Law*, Vol.19, No.4, 2004, p.384

⁴ H. Korn, S. Friedrich and U. Feit, *Deep Sea Genetic Resources in the Context of the CBD and LOSC*, Federal Agency for Nature Conservation, Bonn, 2003, p.19

and management of resources in the Area. Such resources are referred to minerals, living resources are not mentioned. On this omission, it should be logically noted that LOSC cannot offer solutions for all problems of the seas and oceans, the more so which will be happened in the future. Thus, subject issue of present thesis is an examination of the legal status of living resources of the Area and determination possible role of Authority in their protection.

1.2 The purpose, the main legal questions and demarcation of the thesis

When addressing this subject, the thesis embraces a range of legal questions. The main legal questions are formulated as follows: 1) Are living resources located within the Area subject to the regime of the Area under LOSC? 2) Is the International Seabed Authority responsible for protection and regulation of living resources of the Area?

The purpose of the thesis is to analyze international law in order to clarify the legal status of the living resources of the Area. The legal status of the living resources within national jurisdiction is clear: a State within its territory has sovereign rights over resources. However the legal status in areas beyond national jurisdiction (ABNJ) is vague: an access to and use of living resources of the Area is unregulated. The thesis also aims to examine the Authority's mandate. It places the following question, whether or not this mandate is appropriate to govern living resources of the Area? For this reason it will consider the scope of a prescriptive and enforcement jurisdiction of the Authority with respect to protection of the marine environment and its living resources. Issues raised in the thesis have become a matter of considerable debate within international community and so far they remain unresolved. Therefore, there are no doubts of the topicality of the present thesis.

The thesis concentrates on the ABNJ and particularly on the Area. On its part, areas within national jurisdiction are beyond the scope of this thesis. Although, Part XI of the LOSC mostly deals with non-living (minerals) resources, their legal status and regulation is not addressed in the thesis, as it focuses on living and genetic resources. The thesis undertakes neither in-depth biological analysis of the nature of living resources, nor sociological survey for assessing oversight of Authority in relation to such resources. However, it provides some biological characteristics which are necessary for solving legal questions. With respect to oversight of Authority, the thesis considers possible variations on the regulation of living resources under this body.

Discovered genetic resources originate new activity in the Area that is bioprospecting. Bioprospecting activity requires stand-alone research and it could not be considered within small limits of the present thesis. Therefore, it is beyond the scope of the thesis.

The common heritage of mankind (CHM) principle is the main pillar of the regime of the Area. It governs the Area and its resources on behalf of mankind as a whole. If living resources would fall under regime of the Area, their legal status would be based on the CHM principle. It is therefore an aim for the thesis to clarify all relevant implications for resources derived from CHM principle.

1.3 The definitions

For the purposes of the analyses of the legal status of living resources found in the Area, it is necessary to provide a precise definition of the maritime zone. LOSC Article 1(1)(1) stipulates that: “‘Area’ means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction”.⁵ Thus, the Area commences seaward from edge of continental shelf and in the cases of extended continental shelf from edge thereof. The term “Area” is defined for the purposes of the whole Convention that is said in the chapeau of the Article. The concepts “seabed”, “ocean floor” and “subsoil”, are not defined by the LOSC. The term deep seabed is generally used to identify the Area notwithstanding that this is both factually and legally incorrect because for some areas within national limits can be quite as deep as those beyond national limits.⁶

In the context of the wording “beyond the limits of national jurisdiction” in the Article 1(1)(1), it is explicitly that the Area is the maritime zone which refers to ABNJ. LOSC does not contain definition of the term “ABNJ” but it has been commonly accepted that the term refers to the Area and the waters of the high seas.⁷

It is also important to clarify how the term “living resources” should be defined. How do international legal instruments define “living resources”? What are the components thereof?

⁵ The 1982 United Nations Convention on the Law of the Sea, Article 1(1)(1)

⁶ L. de La Fayette, “A New Regime for the Conservation and Sustainable Use of Marine Biodiversity and Genetic Resources Beyond the Limits of National Jurisdiction”, *The International Journal of Marine and Coastal Law*, Vol.24, 2009, p.235, footnote 28

⁷ Bonney (2006) p.55

LOSC employs the term “living resources” but does not define them. It can be assumed that in the context of the LOSC and to be more exact Articles 61-67⁸ and 116-120⁹, “living resources” refer to living edible organisms harvested primarily for food, more specifically to fish and marine mammals.¹⁰ There is no exhaustive list of such resources. Besides LOSC, other international instruments touch upon components of term “living resources”.

For instance, in terms of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), “living resources” includes populations of fin fish, molluscs, crustaceans and all other species of living organisms.¹¹

In turn World Conservation Strategy prepared by the International Union for Conservation of Nature and Natural Resources (IUCN) classifies “living resources” broader as plants, animals and microorganisms.¹²

Further, regional Convention on Cooperation in the Northwest Atlantic Fisheries ambiguously defines “living resources” as all living components of marine ecosystems.¹³

It seems that there is no commonly accepted definition of the term “living resources”. Nevertheless, as I see it living resources refer to living organisms characterized by biotical components, addressed both edible and non-edible organisms.

1.4 Structure of the thesis

In the next chapter the methodology and legal sources that are used in the thesis will be presented. Chapter 3 presents deep seabed ecosystem as a particular biological community. Then, Chapter 4 undertakes analyses of the legal status of living resources within Area. Further, Chapter 5 examines the role of the Authority in the protection and regulation of the living resources of the Area. Conclusions are offered in Chapter 6 of the thesis.

⁸ These Articles deal with conservation of living resources within exclusive economic zone.

⁹ These Articles deal with conservation of living resources in the high seas.

¹⁰ de La Fayette (2009) p.222

¹¹ The 1982 CCAMLR Article 1(2).

¹² IUCN, World Conservation Strategy, Chapter 1, para.4, accessible at <http://data.iucn.org/dbtw-wpd/edocs/WCS-004.pdf>, (last visited July 2013).

¹³ The 1979 NAFO Convention Article 1(k).

2 Methodology and legal sources

2.1. Legal method

The legal method used in the thesis is determined on the bases of the legal questions addressed and on the bases of the relevant legal sources. The fundamental aim of the present thesis is to define legal status of living resources found in the Area and regime for their governance.

2.2 Legal sources

The thesis raises highly controversial issues in international law which still are under debate within international community. It addresses international issues with regard to living resources and to the role of Authority in their protection in ABNJ. Legal sources are applied for solving such issues in international law. Those issues are encompassed by international environmental law and law of the sea. International law is fragmented on the different branches of law. Both environmental and law of the sea are branches of international law. The sources of international environmental law and law of the sea are the same as in all international law.¹⁴ It is commonly accepted that Article 38(1) of the Statute of the International Court of Justice (ICJ) “[...]remains the only generally accepted statement of the sources of international law[...]”.¹⁵ The chapeau of Article makes no mention that following text provides list of the sources of international law, by contrast it simply prescribes that ICJ in accordance with international law shall apply such sources while resolving disputes. The sources are listed by Article 38(1) as follows:

- a. international conventions, whether general of particular, establishing rules expressly recognized by the contesting States;
- b. international custom, as evidence of a general practice accepted as law;
- c. the general principles of law recognized by civilized nations;
- d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.¹⁶

¹⁴ P. Birnie, A. Boyle and C. Redgwell, *International law and the environment*, Oxford University Press, Oxford, 3rd ed., 2009, p.15

¹⁵ *Ibid*, p.14

¹⁶ The Statute of the International Court of Justice, Article 38(1).

There is no clarification in the text of the Statute about hierarchy of listed sources. Nevertheless it should be observed that Article 38(1) places the sources in particular order. Due to this it can be assumed that sources under category “a)” are the most important and sources under category “d)” are less important, moreover the latter is explicitly characterized as subsidiary sources.¹⁷

2.2.1 Treaties

2.2.1.1 General

Treaty law is the most essential source when answering the legal questions raised in this thesis. International environmental law is a significant corpus of various treaties. A number of treaties are addressed in the thesis. LOSC is of particular importance, as well as the Convention on Biological Diversity¹⁸ (hereinafter CBD) and the 1994 Agreement Relating to the Implementation of Part XI of the LOSC (the 1994 Agreement).

2.2.1.2 Treaty interpretation

The 1969 Vienna Convention on the Law of Treaties (VCLT)¹⁹ embodies the principles applied for interpreting treaties. Article 31(1) establishes fundamental rule of interpretation and requires that “a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose”.²⁰ Interpretation is not amendment or rewriting a treaty.²¹ The thesis uses interpretation technique for interpreting LOSC’s text, context, and object and purpose while solving the problem at hand, whether living resources are part of the Area or not. Also subsequent agreements and preparatory work of the treaty can act as instruments of interpretation according to Article 31(3)(a) and Article 32. The thesis considers the 1994 Agreement in the light of Article 31(3)(a) and preparatory work of Part XI of the LOSC in the light of Article 32.

2.2.2 General principles

Article 38(1)(c) addresses to “the general principles of law recognized by civilized nations”.

¹⁷ I. Brownlie, *Principles of public international law*, Oxford University Press, Oxford, 7th ed., 2008, p.5

¹⁸ The 1992 Convention on Biological Diversity.

¹⁹ The 1969 Vienna Convention on the Law of Treaties

²⁰ *Ibid*, Article 31(1)

²¹ Birnie (2009) p.21

What principles should be classified as “general principles” has been argued. Uncertainty takes place with the wording “civilized nations”, it is unclear: does it include merely principles applied in all municipal law or whether it also includes general principles admitted by international law.²² In the words of Birnie et. al: “[...]general principles derived by analogy from domestic law are only marginally useful in an environmental context”.²³ General principles of law have obtained prominent role in the international environmental law due to existence “[...]an increasing number of instruments expressed as ‘Declarations of Principles[...]’”.²⁴ Since negotiating LOSC many other Conferences were held by international community. Among others, the 1972 Stockholm Declaration, the 1992 Rio Declaration and Agenda 21 are outputs of such meetings. They have promulgated such principles as precautionary principle, principle of non-appropriation. A significance of general principles of law lies in their ability to influence on the interpretation, application and development of treaties.²⁵

The general principles of law are applied in the context of the present thesis as arguments of interpretation in accordance with Article 31(3) of the VCLT.²⁶

2.2.3 Judicial decisions

In conformity with Article 38(1)(d) judicial decisions, otherwise saying case law, are applied as subsidiary source. The ICJ and other international courts do not create the law and do not apply precedents while solving the disputes but in the words of I. Brownlie “[the Court] strives nevertheless to maintain judicial consistency.”²⁷ Thus, the courts do not avoid making references to earlier decisions. There is no judicial practice dealing with living resources of the Area or on matters of their protection by Authority. The thesis therefore addresses only to report made by World Trade Organization (WTO) Appellate Body in the “United States – Import Prohibition of Certain Shrimp and Shrimp Products” case and to provisional measures prescribed by International Tribunal for the Law of the Sea in the Southern Bluefin Tuna Case.

2.2.4 Legal theory

²² *Ibid*, p.27

²³ *Ibid*.

²⁴ *Ibid*, p.26

²⁵ Birnie (2009) p.28

²⁶ *Ibid*.

²⁷ Brownlie (2008) p.21

Article 38(1)(d) includes legal theory as subsidiary source in international law. This source only constitutes evidence of the law but writers may influence on it giving their interpretation.²⁸ Many writers take up authoritative seats, some of them are judges of international courts and tribunals, some are delegates in the Authority. For example, there are many references in the thesis to F. Armas-Pfirter who has been a member of the Legal and Technical Commission within Authority and now is a member of the Financial Committee. Also, many writers mentioned in the thesis are professors from the prestige Universities.

In the thesis, legal theory is used as a source of arguments on how the law should be treated and understood. It cannot be used as a primary source while resolving legal questions but it can be weighty argument in favor of some proposition.

2.2.5 Other sources

It has been argued that list of sources in Article 38 of ICJ Statute is incomplete. Other possible sources include General Assembly Resolutions and Declarations of Principles adopted by the United Nations or by ad hoc conferences. These sources can be characterized as “soft law” due to their non-binding nature. Lack of binding force does not mean lack of legal significance, as soft law may develop into binding hard law. For example, “soft law” United Nations Environmental Programme Guidelines on Environmental Impact Assessment were incorporated in the “hard law” 1991 Convention on Environmental Impact Assessment in a Transboundary Context.²⁹

A soft law has significant advantage is that it is flexible and could be formulated in a more precise and restrictive form than “hard law”.³⁰ It has been viewed by Birnie, Boyle and Redgwell that not all soft law instruments are unenforceable; instruments which have been adopted within a treaty framework have to be taken into account in interpreting and applying the treaty.³¹ In conformity with Article 31(3)(a) of the VCLT “any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions” shall be taken into account for the purpose of the interpretation of a treaty. The thesis dealing with legal questions in international law refers to soft law for the purposes of interpretation, application and understanding other legal norms.

²⁸ Brownlie (2008) p.23

²⁹ Birnie (2009) p.36

³⁰ *Ibid*, p.35

³¹ *Ibid*, p.36

Separately, rules, regulations and procedures issued by the Authority should be mentioned. The provisions of the Regulations for Prospecting and Exploration for Polymetallic Nodules (Nodules Regulations), Polymetallic Sulphides (Sulphides Regulations) and Cobalt-rich Ferromanganese crusts (Cobalt crusts Regulations) in the Area are examined. They play prominent role for solving issues raised in the thesis. So much, S. Nandan states that Nodules Regulations “[...]give practical effect to the scheme laid out in the 1982 LOSC and the 1994 Agreement[...]”.³² Also J. Harrison expresses the view that by virtue of Article 137(2) of the LOSC rules and regulations adopted by the Authority have binding status.³³ Article stipulates that: “The minerals recovered from the Area may[...]only be alienated in accordance with this Part[XI] and the rules, regulations and procedures of the Authority.”³⁴ Moreover, Harrison states that such rules and regulations do not depend on individual consent and there is no room to object.³⁵

³² S. Nandan, “Administering the Mineral Resources of the Deep Seabed” in D. Freestone, R. Barnes and D. Ong (eds), *The Law of the Sea: Progress and Prospects*, 2006, Chapter 5, p.87

³³ J. Harrison, *Making the Law of the Sea: A study in the Development of International Law*, “Developments in the deep seabed mining regime”, Chapter 5, Cambridge University Press, Cambridge, 2011, pp.122-123

³⁴ See LOSC, Article 137(2)

³⁵ *Supra* note 33, p.123

3 Deep seabed ecosystem

3.1 Living resources in the Area

Many factors determine the nature of an ecosystem itself and living organisms therein, among others climate, water depth, salinity, physical and chemical components thereof.³⁶ While dealing with legal issues concerning living resources of the Area, at the outset, their substance from biological point of view should be considered. This section will briefly present living resources of the Area as a particular biological community.

The Area is a vast expanse, it encompasses huge amount of the surface of the globe. It is the largest and under-explored ecosystem.³⁷ Living resources of the Area live in the unique conditions that sustain their life. For the time being, a lot of new species were discovered there. H. Korn curiously observes that: “[t]he unsuspected high diversity of the deep-sea floor defeated the theory of a desert-like environment.”³⁸ The discovery of the deep sea hydrothermal vents in 1977 gave great impetus to find new biological communities inside the Area. Underwater volcanoes at mid-oceanic ridges produce hot springs known as hydrothermal vents.³⁹ A hydrothermal vent forms when seawater meets hot magma.⁴⁰ It has special chemical and physical characteristics. It is found in the bathypelagic ocean zone. The water flowing from a hydrothermal vent is an integral part thereof and has high temperature (can rise up to 400 degrees above zero).⁴¹ Apart from hydrothermal vents, living resources take place within cold seeps, canyons, seamounts, trenches, brine pools and so on.⁴² For example, diverse biological community of crustaceans, corals, molluscs, starfish, worms and sponges inhabit seamounts which are extinct underwater volcanoes.⁴³ Most of the deep seabed living resources exist and live in a particular area and do not tend to move to another area. Such species are described as endemic.⁴⁴ It can be assumed that endemic living resources depend on specific

³⁶ de La Fayette (2009) p.228

³⁷ Bonney (2006) p.42

³⁸ Korn (2003) p.9

³⁹ Hydrothermal vents, National Oceanic and Atmospheric Administration, National ocean service, accessible at <http://oceanservice.noaa.gov/facts/vents.html>, (last visited August 2013).

⁴⁰ *Ibid.*

⁴¹ J. Imhoff, “Life at Deep Sea Hydrothermal Vents – Oases Under Water”, *The International Journal of Marine and Coastal Law*, Vol.24, 2009, p.202

⁴² de La Fayette (2009) p.229

⁴³ Bonney (2006) p.90

⁴⁴ *Supra* note 42

environmental features which can vary from one location to another. Such features diversify, for instance, from extreme conditions of cold to heat, high pressure, toxicity.⁴⁵ An extreme environment accelerates adaption processes of living resources of the Area. Living resources have unique essence which allows them to be there wherein other organisms are unable.⁴⁶ By virtue of their ability to survive in the unfriendly deep seabed environment, such living resources were characterized as “genetic resources”.⁴⁷

3.2 Relationship between living resources and genetic resources

To date living resources of the Area, especially genetic resources are of particular interest. This interest expressed in the science field. These resources have huge potential because knowledge about biodiversity within Area is limited.⁴⁸ As long as present research is devoted to clarification of the legal status of living resources located in the Area, it is therefore essential to determine in legal terms whether living and genetic resources are coherent or not. The aim of this section is to ascertain a factual link between two terms both living and genetic resources. The aim predetermines an important question is whether “genetic resources” are included in “living resources” and correspondingly must be regulated as integral whole or either of the two form distinct categories of resources and they must be subjected to different regulatory regimes?

There is a large mass of water over the sea-bed and ocean floor. This water is very cold and darkness surrounds everything. There are no chances for sunlight to get the surface. Such conditions are unfavourable for living resources and it was commonly believed that the fauna was sparse there. However, these severe conditions influenced on the adaptation processes which have stipulated appearance of new unique genetic dispositions for many living organisms.⁴⁹ Genetic resources of the deep seabed are issue of the current interest, especially in the light of technological improvements, namely bioprospecting. Thus, it has significant meaning for the present research to determine relationship between living resources and genetic resources of the Area, whether genetic resources fall under Part XI, International Seabed Authority regime and CHM.

⁴⁵ *Supra* note 43, p.50

⁴⁶ *Ibid.*

⁴⁷ Nele Matz-Luck, “The concept of the common heritage of mankind: its viability as a management tool for deep-sea genetic resources” in O. Elferink and E. Molenaar (eds.), *The International Legal Regime of Areas beyond National Jurisdiction: Current and Future Developments* (Brill Academic Publishers, Vol.26, 2010), p.61

⁴⁸ R. Rayfuse, “Precaution and the Protection of Marine Biodiversity in ABNJ”, *The International Journal of Marine and Coastal Law*, Vol.27, 2012, pp.773-774

⁴⁹ Matz-Luck (2010) p.61

LOSC employs the term “living resources” but it does not provide their definition. The term “genetic resources” is neither utilized nor described in the LOSC. The LOSC does not distinguish between living resources and their genetic material within Area.⁵⁰ At the time of negotiations on the LOSC, very little was known about marine ecosystems and consequently there were no debates over genetic resources.⁵¹ But that cannot, as I see it, be understood so that it should not be seen as part of the term living resources today. The definition can be found in the subsequent instruments, the CBD contains necessary wording. In Article 2 it provides that: “genetic resources means genetic material of actual or potential value”. On its part, “genetic material means any material of plant, animal, microbial or other origin containing functional units of heredity”. It can be concluded from these two definitions that the main focus goes not to the living organism but to the material itself.⁵² However, it is obviously that the term “genetic resources” has inherent link with living organism. It comes from another CBD’s definition as follows: “‘biological resources’ includes genetic resources, organisms[...]or any other **biotic** component[...]” (emphasis added). As long as the term “**living** resources” itself deals only with the biotic components, it can be presumed that “genetic resources” and “living resources are closely interrelated and the former is subsumed in the latter.”⁵³

It has been scientifically agreed that genetic material is a form of information, which is contained in the biological cells of living organisms. Hence, if conservation of genetic resources is required under CBD then it necessarily entails requirement to conserve living organisms in which these cells are contained. Conservation of living organisms or biodiversity is viable for the genetic resources and living resources altogether, the ecosystems of which they form a part and genetic resources should be considered together.⁵⁴ Thus, genetic resources will have all implications which will be made in the thesis with respect to living resources and vice-versa. In the context of the thesis genetic resources and living resources should be considered as interchangeable concepts.

⁵⁰ F. Lehmann, “The Legal Status of Genetic Resources of the Deep Seabed”, *New Zealand Journal of Environmental Law*, Vol.11, 2007, p.47

⁵¹ de la Fayette (2009) p.237

⁵² *Supra* note 47 p.61

⁵³ P. Drankier, “Marine genetic resources in Areas beyond National Jurisdiction: Access and Benefit-Sharing”, *The International Journal of Marine and Coastal Law*, Vol.27, 2012, p.400

⁵⁴ de la Fayette (2009) pp.227-228

4 What is a legal framework applied to living resources found in the Area?

4.1 Unclear legal status of living resources found in the Area – different views

LOSC provides specific regime for the Area and its resources, Part XI of the LOSC is devoted to that regime. The ISA is responsible for managing resources within Area. Living resources did not find place within framework of Part XI.⁵⁵ Consequently, it is not clear, whether the Authority is responsible for managing the living resources of the Area or not. This controversial issue remains unclear. There are many views on the relevance of the common heritage regime under Part XI of the LOSC to living resources located in the Area.

There is divergence of views on the governmental level. For example, in 2006 on the 61st session of the United Nations General Assembly Ad Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biodiversity Beyond Areas of National Jurisdiction (Working Group), a number of delegations stated that there is no legal gap with respect to living resources of the deep seabed in ABNJ and that they are covered by the high seas regime. Other delegations maintained that a clarification is needed with regard to legal status of living resources. Moreover, they asserted that the present mandate of the ISA could be expanded to deal with deep sea biodiversity.⁵⁶

Further, in 2011 on the 66th session there was no consensus on the application CHM principle to living resources. Several delegations observed that the overall goal of the international community should be the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction. They also stated that “‘first come, first served’ approach existing on the high seas was counterproductive and undermined sustainability”.⁵⁷

Later, in 2012 on the 67th session, delegations failed to agree on a uniform conclusion as well. Some delegations reiterated that Part XI is only applicable to the mineral resources of the Area and living resources located there are subjected to the high

⁵⁵ See LOSC, Article 133

⁵⁶ Report of the Working Group of the UN General Assembly (A/61/65 of 20 March 2006), paras.29-31, accessible at <http://daccess-ods.un.org/TMP/578395.426273346.html> (last visited August 2013).

⁵⁷ Letter dated 30 June 2011 from the Co-Chairs of the Working Group to the President of UN General Assembly (A/66/119), para.17, accessible at <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N11/397/64/PDF/N1139764.pdf?OpenElement>, (last visited August 2013).

seas regime. Other delegations expressed the view that both the high seas and the Area refer to the ABNJ, whose nature and legal status are different. The regulation of activities in the oceans and use of their resources depended on maritime zones in which they were carried out or found. Due to this, resources of the deep seabed in ABNJ, including the living and genetic resources are, therefore, resources of the Area.⁵⁸

Despite these clear-cut positions standing for a long time, no agreement between States exists so far. It is interesting, what will be a driving force that will lead to the consensus? Meantime the legal status of the living resources located in the Area remains unclear. The first steps, however, have already been undertaken by Working Group, who has submitted Recommendations to the General Assembly on the 66th session. The Working Group recommended a process to be initiated by General Assembly:

[...]with a view to ensuring that the legal framework for the conservation and sustainable use of marine biodiversity in [ABNJ] effectively addresses those issues by identifying gaps and ways forward, including through the implementation of existing instruments and the possible development of a multilateral agreement under [LOSC].⁵⁹

The process would address genetic resources, including questions on the sharing of benefits.⁶⁰

There are different views expressed in the legal literature as well. Some authors such as A. Elferink and Armas-Pfirter argue that living resources in ABNJ are subjected to the CHM regime;⁶¹ T. Scovazzi and L. de La Fayette consider that they do not compose part of the CHM but advocate that they should be placed within CHM;⁶² C. Allen and D. Leary maintain contrary position that living resources fall inside high seas regime and hence they are subjected to the regime of open access.⁶³

⁵⁸ Letter dated 8 June 2012 from the Co-Chairs of the Working Group to the President of UN General Assembly (A/67/95), para.15, accessible at <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/372/82/PDF/N1237282.pdf?OpenElement>, (last visited August 2013).

⁵⁹ UN General Assembly Resolution, Document A/Res/66/231, 2011, Annex, pp.40-41, accessible at http://www.un.org/ga/search/view_doc.asp?symbol=%20A/RES/66/231, (last visited August 2013).

⁶⁰ *Ibid.*

⁶¹ O. Elferink, "The Regime of the Area: Delineating the Scope of Application of the Common Heritage Principle and Freedom of the High Seas", *The International Journal of Marine and Coastal Law*, Vol.22, 2007, p.174 and F. Armas-Pfirter, "The management of Seabed Living Resources in 'The Area' under UNCLOS", *Revista Electronica de Estudios Internacionales*, No.11, 2006, p.21

⁶² Scovazzi (2004) p.407 and de La Fayette (2009) p.269

⁶³ C. Allen, "Protecting the Oceanic Gardens of Eden: International Law issues in Deep-Sea Vent Resource Conservation and Management", *Georgetown International Environmental Law Review*, Vol.13, issue 3, 2001, p.638 and Leary (2007) Chapter 7.

Although LOSC does not reflect direct provisions on the regulation of living resources in accordance with its Part XI, this does not dispose of the question of whether or not such resources are part of the Area.

4.2 Are living resources of the deep seabed part of the Area?

4.2.1 General

This section deals with the main legal question whether living resources of the deep seabed are part of the Area and covered by the regime for resources in Part XI of LOSC or not. It will consider pro and contra arguments for inclusion living resources located in the Area within the regime under Part XI. It also examines the 1994 Agreement, idea of “sedentary species” analogy and drafting history of Part XI of the LOSC that may contribute to clarifying legal status of living resources of the deep seabed.

4.2.2 Pro and contra arguments

4.2.2.1 Arguments contra: a narrow textual basis of Articles 133 and 136 of the LOSC

Article 133(a) of the LOSC provides for narrower definition of the term “resources” to read as follows: “all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the sea-bed, including polymetallic nodules”.⁶⁴ This definition directly includes mineral resources and it can therefore be presumed that other resources or non-minerals do not fall under Article 133. Moreover, the next paragraph (b) strengthens first paragraph providing that “resources, when recovered from the Area, are referred to as minerals”.

Article 133 is placed within Section 1 of Part XI named “General provisions”. Thus provisions of Section 1 spread their force on the whole Part XI. Further, it should be noted that most of the Articles in Part XI operate with the term “mineral”, as exemplified by Articles 133, 137, 150 and so forth. It can therefore be concluded that Part XI of the LOSC focuses on the mineral resources of the Area. Then, it can be presumed that Part XI excludes living resources and that they should be subjected to another regime, the legal regime of the high seas. It should be observed that LOSC contains in Part VII a number of Articles⁶⁵ devoted to the conservation and management of the living resources in ABNJ. In turn Part XI does not mention “living resources” at all. This observation strengthens an assumption that living resources located in the Area fall under the high seas regime, not the regime of the Area.

⁶⁴ LOSC, Article 133(a)

⁶⁵ See LOSC, Articles 116-119

Furthermore, the CHM principle is enshrined in Article 136 of the LOSC in the following manner: “The Area and its resources are the common heritage of mankind”.⁶⁶ As long as living resources are not considered as part of the Area and are not included in its regime then the CHM principle does not cover these resources.

The main focus of Part XI on mineral resources can be explained by the fact that at the time of the Third Conference on the Law of the Sea, the mineral resources of the Area had high economic interest and required detailed regulatory regime.⁶⁷ Apart from three Conferences, informal consultations were held under the auspices of the Secretary General of the United Nations on revising, modifying or supplementing the 1982 LOSC. Several arrangements following the entry into force of the LOSC were adopted. Then, ISA was established as interim institutional arrangement, and again, the main focus in its functions and powers was made on the mineral resources.⁶⁸ Moreover, there are some opinions that mineral resources have predominant position due to their exhaustible nature which require special regulation for access. Living resources, on its part, are renewable and accordingly will not be suffered by extinction.⁶⁹

A narrow textual reading of Articles 133 and 136 is also supported in legal literature. Elferink notes that there are views that “the use of other resources [non-minerals] in the Area falls under the regime of the freedom of the high seas and is excluded from the scope of application of Part XI”.⁷⁰ For example, Allen in his paper compares constructions of Articles 87 and 133. Article 87 sounds as “the high seas are open to all States[...]It comprises, *inter alia*[...]”, then it enumerates the freedoms of the high seas. “*Inter alia*” formula means that this list is not exhaustive and can be extended. For instance, if we will conjecturally add “*inter alia*” formula into original text of the Article 133, it could be formulated as follows: resources means *inter alia* all solid, liquid or gaseous mineral resources in situ in the Area at or beneath the seabed, including polymetallic nodules. In this case, due to phrase “*inter alia*” the list of the resources would not be exhaustive and would not be limited only to minerals. However, Article 133 does not contain the *inter alia* “extender”, thus it has ordinary meaning that is provided by the context of the Article. Allen makes the conclusion that Article 133 excludes any other

⁶⁶ LOSC, Article 136

⁶⁷ Drankier (2012) p.403

⁶⁸ Gerard J. Mangone, “Negotiations on the 1982 LOSC”, *The International Journal of Marine and Coastal Law*, Vol.8, Issue 4, 1993, pp.530-531

⁶⁹ Allen (2001) p.636

⁷⁰ Elferink (2007) p.150

resources than mineral. The principle *expressio unius est exclusio alterius* or saying in other words “the expression of one thing implies the exclusion of anything not listed” supports his conclusion.⁷¹ R.R. Churchill and A.V. Lowe also point out that within Area “living resources and other non-mineral resources remain subject to the regime of the high seas”.⁷² P. Drankier notes that references to “resources” in Part XI do not include the living resources of the Area.⁷³

Conclusively, a strict textual approach with respect to Articles 133 and 136 of the LOSC together with some support from legal literature indicate that living resources fall outside the scope of the Part XI. However, it should be noted that according to the principles of interpretation, the ordinary meaning of the wording is not the only relevant factor for the understanding of treaties.

Further, an examination of the LOSC’s context and its object and purpose will be provided.

4.2.2.2 Arguments pro: a broad contextual basis of Articles 133 and 136 of the LOSC

In accordance with Article 31(1) of the VCLT there are three sources for treaty interpretation: the treaty’s terms, the context of those terms, and object and purpose of a treaty.⁷⁴ An object and purpose refer to a treaty’s goals which should be achieved by treaty itself.⁷⁵ In the sense of general rule of interpretation, analysis of the appurtenance of the living resources within the Area to the regime of the Part XI LOSC should go beyond the text of the conventional Articles and include interpretation of the context and object and purpose of the treaty.

Then, Article 133 of the LOSC should be examined in detail. It defines resources of the Area as a specific category for the purposes of Part XI by using the wording “minerals”. From the one hand, it could be interpreted strictly, namely, that only mineral resources relate to the regime of the Area and its CHM principle. Thus, other resources are not included in Part XI framework. On the other hand, it could be interpreted broader, so that although Article 133 mentions only mineral resources it does not state that Part XI is

⁷¹ Allen (2001) p.630

⁷² R. Churchill and A. Lowe, *The Law of the Sea*, Manchester University Press, Manchester, 1999, p.239, footnote 49

⁷³ Drankier (2012) p.401, footnote 65

⁷⁴ The VCLT, Article 31(1)

⁷⁵ D. Jonas and T. Saunders, “The object and purpose of a treaty: Three interpretive methods”, *Vanderbilt Journal of Transnational law*, Vol.43, No.3, 2010, p.580

only applicable to this type of the resources.⁷⁶ Then, it can therefore be presumed that the wording of the Article 133 does not exclude living resources from the scope of application of Part XI. This understanding is also strengthened by Article 145(b) of the LOSC which mentions other category of the resources, namely natural resources. Natural resources of the deep seabed are not excluded from the spatial definition of the Area. Therefore, it can be presumed that Part XI, due to this understanding of Article 133, is not limited only by mineral resources.

Further, in accordance with the text of the Article 136, it is obviously, that the CHM principle applicable to the whole “Area” and not only to its mineral resources. It could mean that living resources or any other non-mineral resources which are not resources as they defined by the meaning of Article 133 LOSC if they can be found within Area fall under the CHM principle. In fact, since the Area itself is the CHM, it is feasible that everything within it, both living and non-living, should be the CHM as well. It can therefore be concluded that living resources of the Area are inseparable from the unique marine environment of the Area itself.

It can preliminarily be concluded that broader interpretation of the wordings of the Articles 133 and 136 indicates that Part XI and CHM principle are not limited only by mineral resources; moreover they operate with respect to living resources as well.

4.2.2.3 Arguments pro: object and purpose of the LOSC

An object and purpose of a treaty is also a source of interpretation which can help to understand the meaning of a treaty. According to Article 31(1) of the VCLT: “A treaty shall be interpreted[...]in the light of its object and purpose”.⁷⁷ In the words of Jason and Saunders “object and purpose refers to the goals that motivated the drafting and ratification of a treaty”.⁷⁸ If we will address to structure of the most of the international treaties we can observe that, generally, a preamble of a treaty, by using the following wordings “desiring”, “believing”, “recognizing” and so on, reflects intentions and goals of the drafters or what purposes shall be achieved by adopting a treaty. The fact that the Preamble of the LOSC expresses “the desirability of establishing[...]the equitable[...]utilization of[...]resources, the conservation of[...]living resources[...]”⁷⁹, also it expects “the realization of[...]equitable international economic order[...]needs of mankind as a whole[...]the

⁷⁶ Elferink (2007) p.152

⁷⁷ The VCLT, Article 31(1)

⁷⁸ Jonas and Saunders (2010) p.581

⁷⁹ LOSC, Preamble, para.4

special interests and needs of developing countries”, is significant for the regime of living resources, in particular genetic resources.⁸⁰ These goals of the LOSC cannot be achieved if living and genetic resources of the Area will be exclusively used by few States. For the achievement conventional goals these resources should be guarded and used equitably for the benefit of all mankind.

F. Lehmann in his analysis of the legal status of genetic resources of the deep seabed highlights two conflicting views with regard to relationship between living/genetic resources from one side and regime of the high seas and the Area from another. From the one hand the author outlines industrial countries which state that these resources fall within the high seas freedoms with free access to them. On the other hand, developing countries that argue that the living and genetic resources of the seabed are covered by CHM principle with its legal implications.⁸¹ It should be taken into account that only industrial countries are technologically able to extract living resources from the seabed and they have no interest in benefit sharing system which is one of the core elements of CHM principle. This system means that all benefits derived from resources are shared on behalf of mankind as a whole.⁸² The objectives of the LOSC are reflected in its Preamble. As noted above, it aims to consider the needs and special interests of developing countries. Moreover, unilateral extraction by industrial States is not consistent with statements of LOSC’s Preamble on the equitable utilization of resources of the seas and oceans. In the case when living resources of the Area are not part thereof but part of the high seas with free access, it excludes principle of equitable sharing of these resources within international community. Since final text of the LOSC is invoked to consider interests of both industrial and developing countries it can therefore be concluded that position of the developing countries is justified, and, in terms of the purposes contained in LOSC’s Preamble, living resources of the seabed fall under CHM principle.

4.2.2.4 Arguments pro: interpretation of the LOSC’s context - Preamble

Article 31(2) of the VCLT provides that “[t]he context for the purpose of the interpretation of a treaty shall comprise[...]preamble[...]”.⁸³ LOSC’s Preamble refers to the 1970 UN General Assembly Declaration of Principles Governing the Seabed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction (Declaration of

⁸⁰ *Ibid*, para.5

⁸¹ Lehmann (2007) pp.43-44

⁸² See LOSC, Article 140

⁸³ The VCLT, Article 31(2)

Principles).⁸⁴ The principles elaborated in the Declaration were later included as basis for the regime of Part XI of the LOSC.⁸⁵ It should be noted that in accordance with Article 10 of the UN Charter Treaty, General Assembly may issue merely recommendations,⁸⁶ and it has no *prima facie* legislative power.⁸⁷ Hence, it has been argued that Declaration of Principles lacks the binding force.⁸⁸ Paragraph 6 of the LOSC's Preamble cites the Declaration of Principles and stipulates that: "the [Area], as well as its *resources*, are the common heritage of mankind" (emphasis added).⁸⁹ The text mentions resources in general and does not specify what the resources are meant here, whether only mineral or all resources of the sea-bed and ocean floor. The term "resources" is neither defined nor limited in the Declaration of Principles. Therefore, it can be presumed that the Declaration of Principles, which are part of the Preamble and context, extends the CHM principle to a broader meaning of resources than the texts of Articles 133 and 136 LOSC do this. The text can therefore be interpreted as including all resources, both living and non-living. According to this understanding, living resources of the Area will be regulated by ISA and will be covered by Part XI not Part VII LOSC, thus there will not be open access for these resources. The main counter argument on such interpretation of the term "resources" is that the Declaration of Principles is not binding law but only a recommendation.⁹⁰

4.2.3 The 1994 Agreement Relating to the Implementation of Part XI of the LOSC

In conformity with Article 31(3)(a) of the VCLT for the purpose of the interpretation of a treaty together with the context "any subsequent agreement between the parties regarding[...]the application of [the treaty] provisions"⁹¹ shall be taken into account. The 1994 Agreement is a significant legal source which is a *de facto* amendment to the LOSC.⁹² The question addressed in this section is how the 1994 Agreement deals with "resources" located in the Area and may contribute to answering the research question. It

⁸⁴ UN General Assembly Resolution 2749(XXV), Declaration of Principles, 1970, accessible at <http://daccess-dds-ny.un.org/doc/RESOLUTION/GEN/NR0/350/14/IMG/NR035014.pdf?OpenElement>, (last visited August 2013).

⁸⁵ Elferink (2007) p.156, footnote 52

⁸⁶ UN Charter Treaty, Article 10, accessible at <http://treaties.un.org/doc/Publication/CTC/uncharter.pdf>, (last visited July 2013).

⁸⁷ Birnie (2009) p.32

⁸⁸ Allen (2001) p.633

⁸⁹ LOSC, Preamble, para.6

⁹⁰ Korn (2003) p.43

⁹¹ The VCLT, Article 31(3)(a)

⁹² Harrison (2011) "Implementing agreements", Chapter 4, p.93

was drafted by the UN General Assembly and annexed to Resolution 48/263.⁹³ The agreement is an inherent part of the LOSC, Article 2 of which stipulates that it is to be interpreted and applied together with Part XI of the LOSC as a single instrument; importantly that in the event of any inconsistency between them, the Agreement will prevail.⁹⁴

The main purpose of adoption of the Agreement is to enhance the prospects for more extensive adherence, particularly, ratification of the LOSC by responding to the problems with the deep seabed mining regime in Part XI.⁹⁵ It should be noted that the Agreement does not alter the content of the CHM principle, it affects neither this definition nor any elements associated with it.

Further, it is important to note that as long as the negotiations which leading up to the adoption Agreement was intended to reflect (predominantly) the aspects of the mining regime, other controversial issues were not included in the agenda.⁹⁶ Moreover, it must be paid attention to the observation made by M. Hayes that during the negotiations of the 1994 Agreement, there were no suggestions among negotiators to include living resources within Article 133.⁹⁷ There was no consensus between States on inclusion living resources within Article 133. Therefore this debatable issue and issues concerning mining regime in the Area could not be placed on the discussion at one time. Negotiations of the Agreement had to achieve universal adherence to the LOSC and examining other issues might led to the deadlock. Text of the Preamble to the Agreement affirms this intention of the States Parties.⁹⁸

Thus, the 1994 Agreement makes no mention with respect to living resources within its provisions. The Preamble of the 1994 Agreement in the same way as the Preamble of the LOSC states that: “the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction, as well as the resources of the Area, are the common heritage of mankind”.⁹⁹ This wording uses the broad term “resources of the Area” without

⁹³UN General Assembly Resolution, Document A/RES/48/263, accessible at <http://www.un.org/documents/ga/res/48/a48r263.htm>, (last visited August 2013).

⁹⁴ The 1994 Agreement, Article 2(1)

⁹⁵ B. Oxman, “Law of the Sea forum: the 1994 Agreement on implementation of the seabed provisions of the LOSC”, *American Journal of International Law*, Vol.88, 1994, p.688

⁹⁶ Drankier (2012) p.403

⁹⁷ M. Hayes, “Charismatic Microfauna: Marine Genetic Resources and the Law of the Sea”, *Law, Science and Ocean Management*, 2007, pp.688-689

⁹⁸ The 1994 Agreement, Preamble, para.6

⁹⁹ *Ibid*, para.2

further elaboration; therefore it could be applied to non-living as well to living resources of the Area.

Both Preambles remain unclear to which resources they address. However, the further text of the 1994 Agreement, in particular the annexes, makes it clear that it focuses specifically on the mining activities in the Area and consequently on mineral resources. In legal literature this statement is also supported by Harrison who argues that the 1994 Agreement establishes and consolidates an exclusive regime for the exploration and exploitation of minerals in the Area.¹⁰⁰ Then the Drankier's statement, that the 1994 Agreement revises mining regime of Part XI of the LOSC,¹⁰¹ also affirms that other resources than minerals are beyond the scope of the agreement.

The 1994 Agreement leaves the essential principles and objectives of Part XI LOSC in place, including the key principle of CHM in respect of the Area. It is highly important to conclude that despite fact that 1994 Agreement focuses on the mining activities, at the same time it has no provision that would exclude living resources from the scope of application of Part XI and CHM regime of the LOSC. This conclusion has significant meaning for the legal status of living resources of the Area.

4.2.4 Sedentary species analogy

The purpose of this section is to determine whether or not living resources of the deep seabed meet "sedentary species" criteria. If living resources of the deep seabed would fall under "sedentary species" category, Article 77(4) of Part VI of the LOSC that stipulates that "[t]he natural resources[...]consist of the mineral and[...]living organisms belonging to sedentary species", could be used by analogy in relation to Part XI. Then, Article 133 should include both minerals and living sedentary species on the model of Article 77(4). This assumption ensued from the idea that the legal status of living resources on the seabed beyond national jurisdiction should be the same as that of sedentary species on the continental shelf within national jurisdiction. Both sedentary living resources and minerals compose natural resources of the continental shelf. In the words of de La Fayette, by analogy with sedentary species and non-living minerals on the continental shelf, living resources found on the deep seabed should fall under the same legal regime as seabed minerals.¹⁰² In terms of Part VI LOSC sedentary species and mineral resources are

¹⁰⁰ Harrison (2011) Chapter 4, p.99

¹⁰¹ Drankier (2012) p.403

¹⁰² de La Fayette (2009) p.268, footnote 82

regulated by single regime. In the same way, Part XI may regulate minerals and living resources simultaneously within single framework.

For the purposes of Part VI which is dedicated to continental shelf regime Article 77(4) includes sedentary species within term “natural resources”. “Sedentary species” defined as “[...]organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.” LOSC does not define such complex characteristics as “harvestable stage” and “constant contact with the seabed”.

It should be noted that living resources that are in constant contact with the seabed in the Area definitely cannot be examined as part of the high seas regime. On this point, Elferink argues that all resources located in a zone form part of that zone.¹⁰³ The high seas and the Area are different geographic zones. Their legal status is essentially different. Therefore, resources which can be found within one zone, apparently, cannot be related to another zone. If living resources are in constant contact with the seabed, they can be considered as inseparable with it and hence they form part of the seabed. According also to Armas-Pfirter the maritime area of these resources forms the legal regime applicable to them.¹⁰⁴ In the light of this, he argues that living resources of the Area are not subjected to the high seas regime, but that they are sedentary species which are legally part of the Area regime.¹⁰⁵ There are severe living conditions within Area. It is scientifically evidenced that most of the living organisms of the deep seabed live around hydrothermal vents. Because of large masses of water above the seabed, food does not sink from the surface but driven up from the seafloor within hydrothermal vents.¹⁰⁶ Therefore, rich biodiversity can be found there. There are bacteria, tube worms, mussels, snails, crabs, fishes and octopuses in hydrothermal vent communities.¹⁰⁷ Further it can be presumed that if living organism is able to move, for example, towards shallower waters it cannot fall under sedentary species category but rather subjected to the high seas regime. In other case living organisms do not seem to be high seas resources if they cannot leave their habitat, in particular hydrothermal vent with special conditions for their survival.¹⁰⁸ S. Bonney explains their nature in short as living resources of hydrothermal vents depended on

¹⁰³ Elferink (2007) p.150

¹⁰⁴ Armas-Pfirter (2006) p.21

¹⁰⁵ *Ibid*, p.21 and p.26

¹⁰⁶ Allen (2001) p.622

¹⁰⁷ *Supra* note 104, pp.16-17

¹⁰⁸ *Ibid*, p.19

chemosynthesis. This is a process by which organisms use heat, water, chemicals in order to generate energy and sustain their life.¹⁰⁹ Thus, it can be concluded that the nature of the living resources itself, their dependence on the ecosystem conditions in the hydrothermal vents classifies them as “sedentary species” of the Area.

C. Allen however, argues on the contrary that only certain species living in hydrothermal vents can be classified as sedentary species. Moreover, Allen states that the provision of Article 77(4) on sedentary species cannot be applied by analogy with respect to the Area.¹¹⁰ He undertakes an in-depth analysis in relation to sedentary species analogy and observes a lot of biological characteristics and all of them cannot be placed in the present research. Living resources of the hydrothermal vents do not meet such characteristic as “constant physical contact with the seabed”. This is the main objection made by Allen. He exemplifies that fish and octopus species appurtenant to macrofauna found at hydrothermal vents are able to move without being in constant physical contact with the seabed. Therefore they are not sedentary species.¹¹¹ Further Allen argues that hydrothermal vent living organisms are not harvested in the same way as other living organisms. In the words of Allen such organisms are sampled rather than harvested.¹¹² Consequently, the characteristic “harvestable stage” is complicated to apply with regard to living organisms at hydrothermal vents.¹¹³ As a result he asserts that: “[...]the sedentary species classification approach is poorly suited to the [hydrothermal] vent biotic communities”.¹¹⁴ In the light of this, as long as living resources of the deep seabed are part of hydrothermal vents ecosystem, they do not fall under “sedentary species” category.

Allen rightly points out that living resources which are able to move without constant physical contact with the seabed do not fall under sedentary species category. However, if living resources are inseparable (in constant contact) with the seabed in the Area, they should nevertheless be considered as sedentary species. Moreover they are integral part of the seabed of the Area and under no circumstances they cannot be considered as part of the high seas. Living resources which inhabit the Area at hydrothermal vents have a greater dependence on vent ecosystem itself, and on seabed and subsoil.¹¹⁵ In the light of this statement made by Armas-Pfirter, it can be concluded that

¹⁰⁹ Bonney (2006) p.89

¹¹⁰ Elferink (2007) p.151, footnote 31

¹¹¹ Allen (2001) pp.625-626

¹¹² *Ibid*, pp.622-623

¹¹³ *Ibid*, p.623

¹¹⁴ *Ibid*, p.628

¹¹⁵ Armas-Pfirter (2006) p.21

living resources of hydrothermal vents do fall under “sedentary species” category. Also as I see the best reasons in support of the view of Armas-Pfirter that living resources of the deep seabed relating to the sedentary species are not part of the high seas but appurtenant to the regime of the Area.¹¹⁶

4.2.5 Drafting history and preparatory work of Part XI of the LOSC

Consideration of a drafting history of Part XI could shed some light on the controversial status of living resources, and may have significance for the understanding of the relevant provisions of the LOSC. According to VCLT Article 32: “recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty[...]”.¹¹⁷ In terms of Article 32 such recourse could be applied in cases when “interpretation according to Article 31[...]leaves the meaning ambiguous or obscure; or leads to a result which is manifestly absurd or unreasonable”.¹¹⁸ The analyses carried out above suggest that the preparatory work of LOSC may be used as supplementary means of interpretation to solve the question at hand.

At the outset, it should be noted that due to small limits of thesis an investigation of the preparatory work of Part XI of the LOSC has not been undertaken. The facts and arguments provided in this section are derived from legal literature.

The resources of the deep sea-bed did not attract attention during the first two United Nations Conferences on the Law of the Sea of 1958 and 1960.¹¹⁹ However, further, there are many references to considerations about the resources of the Area which were made during the preparatory works of LOSC. In the words of Armas-Pfirter in 1972, in accordance with the Report of the Committee on the Peaceful Uses of the Seabed beyond the Limits of National Jurisdiction, number of delegations stated that the CHM regime and consequently Part XI should cover both living and non-living resources of the seabed.¹²⁰ On this point, P. Drankier notes that the preparatory work shows that there were different opinions on the status of the living resources of the Area. Herewith, no agreement was made which would exclude living resources from the scope of application of Part XI. Moreover, living resources of the Area were not a matter of any discussion in the Second

¹¹⁶ Armas-Pfirter (2006) p.21

¹¹⁷ The 1969 VCLT, Article 32

¹¹⁸ *Ibid*, Article 32(a) and (b)

¹¹⁹ J. Gamble, “Assessing the reality of the Deep Seabed regime”, *San Diego Law Review*, Vol.22, 1985, p.780

¹²⁰ Armas-Pfirter (2006) p.7

Committee of the Third Conference, which dealt with the regime of the high seas.¹²¹ Therefore, it can be presumed that living resources of the Area were not considered as part of the high seas during preparatory work on the LOSC. More importantly, these resources were examined as part of the CHM regime and Part XI LOSC but drafters narrowed the final text of the term “resources” to “mineral” due to several possible reasons:

1. If living resources would be placed within Part XI regime, CHM regime would cover them. In this case, the freedom of fishing could be affected;¹²²
2. It had been believed that there were no any species of the living resources within Area for commercial exploitation on the moment of the negotiation. Thus, drafters did not see necessity to regulate access to living resources of the Area.¹²³

The drafting history of Part XI indicates that regime under Part XI had to cover both living and mineral resources. Thereafter drafters, in terms of Article 133 of the LOSC, limited “resources” to mineral resources. However, it is important to note that final text of Part XI neither explicitly excludes living resources from the scope of application of that Part nor includes these resources within the scope of the high seas regime of Part VII. It can preliminarily be concluded that living resources located in the Area are legally part of Part XI and regime of the Area.

4.2.6 The bottom line

Whether or not living resources of the deep seabed are part of the Area is a highly controversial issue, with divergent views in international fora and in legal literature. However, the analyses of the relevant provisions of LOSC and a consideration of the drafting history lead to the conclusion that living resources of the deep seabed fall under the regime of the Area of Part XI. This conclusion has important implications for the regime applicable to those resources. Although Part XI does not provide a specific regulatory framework for the living resources, and the resources must therefore be managed due to the principles that apply for the Area. The application of the CHM regime with respect to living resources of the Area is crucial, and the legal implications of this will be investigated in the next section.

¹²¹ Drankier (2012) p.403

¹²² Armas-Pfirter (2006) p.8

¹²³ *Ibid.*

4.3 The common heritage of mankind

4.3.1 General about the CHM principle

This subsection will provide a brief presentation the CHM principle. The following subsections will introduce the basic elements of the CHM principle and an analysis of their applicability with regard to living resources of the Area. The CHM governs the Area and its resources. Consequently it is highly important to discuss to what extent the CHM principle through its elements could govern living resources of the Area.

The CHM principle gave origin to the whole regime of the Area. This concept has a long history; on the first stages it was suggested that if something could not be held by one State without detriment to the other States this must be considered as “common heritage”.¹²⁴ The CHM principle was vigorously debated during the negotiations of LOSC.¹²⁵ Ultimately, the CHM principle was conceived for the internationalization of common spaces beyond national limits.¹²⁶ The CHM regime is a third kind of regime on a level with the traditional regimes of sovereignty when State has exclusive rights and the regime of the high seas or the regime of the common property when all States have equal freedoms.

The CHM principle is regulated by the preamble and more specifically by Articles 136 to 141 of the LOSC. Article 136 explicitly provides that: “The Area and its resources are the common heritage of mankind”.

The basic content of the CHM principle as embodied in the LOSC was largely shifted from the Declaration of Principles.¹²⁷ There are five basic elements of the CHM principle and all of them are reflected in the Part XI of the LOSC.

4.3.2 Non-appropriation

The first is non-appropriation element of any areas and resources in ABNJ. The term “non-appropriation” means prohibition on claiming and exercising sovereign rights, it prevents ownership and exclusive control over something.¹²⁸ Article 137(1) is a basis for this element, it declares that: “No State shall claim or exercise sovereignty or sovereign rights

¹²⁴ Armas Pfirter (2006) p.5

¹²⁵ Leary (2007) Chapter 5, p.98

¹²⁶ E. Franckx, “The ISA and the CHM: The need for States to establish the Outer Limits of their Continental Shelf”, *The International Journal of Marine and Coastal Law*, Vol.25, 2010, p.544

¹²⁷ M. Lodge, “The CHM”, *The International Journal of Marine and Coastal Law*, Vol.27, 2012, p.734, footnote 4

¹²⁸ Elferink (2007) p.154

over any part of the Area or its resources[...]nor shall[...]appropriate any part thereof”.¹²⁹ In the same spirit as Article 136, this provision is applicable both to the Area and its resources. E. Guntrip has made good observation on this wording that: “this provision does not address which acts amount to an appropriation or sovereign claim”.¹³⁰ LOSC does not, however, clarify in what cases an act will qualify as a sovereign claim or an appropriation.

The principle of non-appropriation has significant importance for the status of living resources of the Area. As long as living resources are part of the regime of Part XI, the prohibition on claiming or exercising sovereign rights over them is also applicable. In this case, States cannot exercise sovereign rights over living resources and have not free access to them.

4.3.3 Benefit of mankind as a whole

The second element of CHM requires the use of the Area and its resources for the benefit of mankind as a whole. In conformity with Article 140(1) of the LOSC “[a]ctivities in the Area shall[...]be carried out for the benefit of mankind as a whole”.¹³¹ This element is one of the means to give effect to the principle that the Area is the CHM.¹³² Further, paragraph 2 specifies that for the benefit of mankind as a whole “[...]the equitable sharing of financial and other economic benefits derived from activities in the Area[...]” shall be provided by the ISA. As for what constitutes “activities in the Area”, this is defined in the introductory Article 1(1)(3) of LOSC as “[...]all activities of exploration for, and exploitation of, the resources of the Area;”.¹³³ Therefore Articles 140 and 1(1)(3) of the LOSC allowing to conclude that activities in the Area inter alia with respect to living resources shall be carried out for the benefit of mankind as a whole. This means that financial and economic benefits derived from extraction of living resources of the Area are subjected to equitable sharing on behalf of mankind as a whole. This element will have great significance for the recent developments particularly with regard to the genetic resources and bioprospecting activities.

4.3.4 Use for peaceful purposes

¹²⁹ LOSC, Article 137(1)

¹³⁰ E. Guntrip, “The CHM: an adequate regime for managing the deep seabed”, *Melbourne Journal of International Law*, Vol.4, 2003, p.387

¹³¹ LOSC, Article 140(1)

¹³² Elferink (2007) p. 156

¹³³ LOSC, Article 1(1)(3)

The third prescribed element of CHM, refers to the requirement that the destination of the Area shall be dedicated to peaceful purposes. Article 141 states that: “The Area shall be open to use exclusively for peaceful purposes by all States[...]without discrimination[...]”.¹³⁴ Consequently, any military activity, which could lead to harmful effects on living resources, should be prohibited. Also, genetic resources of the Area should be used exclusively for peaceful purposes and without discrimination. Article 141 does not define what peaceful purposes are. It leaves some room for discussion on a question what purposes would not fall under “peaceful”. Do only military activities compose “non-peaceful use” of the Area or it can be extended to other activities? For example, Article 1 of the Antarctic Treaty prescribes that “Antarctica shall be used for peaceful purposes only”.¹³⁵ It prohibits “[...]inter alia, any measures of a military nature[...]establishment of military bases,[...]carrying out of military maneuvers,[...]testing of any type of weapons”.¹³⁶ This definition associates “non-peaceful use” only with military activities but the wording “inter alia” indicates that the list of activities in Article 1 is not exhaustive and can be extended.

As I see it the lack of precise definition of the term “peaceful purposes” or at least a list of activities which are related to “non-peaceful” in Article 141 of the LOSC creates difficulties for States wishing to exercise activities in the Area. For example, what activities in the Area will be considered as non-peaceful with respect to living and genetic resources? Where it could be merely their extraction or military acts that may damage the resources and so forth.

4.3.5 Establishment of the ISA and protection of the marine environment

The fourth and fifth elements of CHM, require the establishment of an international organization entitled to act on behalf of mankind in the exercise of rights over the resources, and the protection of the marine environment respectively. Article 137(2) declares that: “All rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act”.¹³⁷ And Article 157(1) stipulates that: “The Authority[...]shall[...]organize and control activities in the Area[...]with a view to

¹³⁴ LOSC, Article 141

¹³⁵ The 1959 Antarctic Treaty, Article 1, accessible at http://www.ats.aq/documents/ats/treaty_original.pdf, (last visited August 2013).

¹³⁶ *Ibid.*

¹³⁷ See LOSC, Article 137(2)

administering the resources of the Area”.¹³⁸ Scovazzi points out “the institutional aspect is one of the main components of the concept of CHM and cannot be separated from the others”.¹³⁹ Additionally, Article 145 requires that the marine environment should be protected. On this basis Article 145 states that: “Necessary measures shall be taken [...]to ensure effective protection for the marine environment[...]To this end, the Authority shall adopt appropriate rules, regulations and procedures”.¹⁴⁰ The role of the Authority in the protection of the living resources and the marine environment of the Area will be discussed in detail in the next Chapter.

The CHM principle contains number of elements to which States should be guided when conducting activities in the Area. However, the legal content of these elements is not complete and requires elaboration. For example, the prohibition on the appropriation of the Area reflects the inherent nature of the CHM principle rather than being an individual element of it. The third element is based on the term “peaceful purposes” which is not defined in the LOSC. Conclusively, there is framework within LOSC provisions for operation the CHM principle in relation to living resources of the Area and especially genetic resources with a view on the future prospects.

¹³⁸ LOSC, Article 157(1)

¹³⁹ T. Scovazzi, “The seabed beyond the limits of national jurisdiction: general and institutional aspects” in O. Elferink and E. Molenaar (eds.), *The International Legal Regime of Areas beyond National Jurisdiction: Current and Future Developments* (Brill Academic Publishers, Vol.26, 2010), p.45

¹⁴⁰ See LOSC, Article 145

5 The role of the International Seabed Authority

5.1 General

The purpose of this Chapter is to investigate the role of the International Seabed Authority, whether it is responsible for protection and regulation of living resources of the Area. This Chapter will briefly introduce the ISA and further will focus on its mandate. The question at hand is to what extent will this mandate be appropriate to ensure the effective management of living resources of the Area? To this end, the scope of prescriptive and enforcement jurisdiction of the Authority with respect to protection of living resources will be examined.

5.2 The International Seabed Authority

Paragraph 5 of the Preamble UN General Assembly Resolution 2749 (XXV) declares that “an international regime applying to the area and its resources and including appropriate international machinery should be established.”¹⁴¹ ISA is an autonomous international organization which is responsible for the organizing and controlling activities in the Area specifically administering its resources. It is established under LOSC and the 1994 Agreement. Both instruments contain norms that rule its functioning. Article 156 of the LOSC establishes the Authority which shall function in accordance with Part XI. In the same Article there is an important statement in paragraph 2 that: “All States Parties are *ipso facto* members of the Authority.”¹⁴² Therefore, it can be concluded that under LOSC no specific conditions are required for States to be members of the Authority. Adherence of a State to the Convention automatically turns it into a member of the Authority.

Further, Article 157 defines the nature and fundamental principles of the Authority. The Authority is invoked for organizing and controlling the activities in the Area, with the specific aim of administering its resources. Paragraph 2 has substantial meaning, it is read as follows: “the powers and functions of the Authority shall be those expressly conferred upon it by [LOSC]. The Authority shall have such incidental powers, consistent with

¹⁴¹ UN General Assembly Resolution 2749 (XXV), Preamble, para.5

¹⁴² LOSC, Article 156(2)

[LOSC], as are implicit in and necessary for the exercise of those powers and functions with respect to activities in the Area.”¹⁴³

From the wording of Article 157(2) it might be assumed that the Authority has an extensive competence. The Authority has both main powers (those expressly conferred by LOSC) and supplementary powers (incidental powers). “Incidental powers” can be characterized as unwritten powers that are necessary for the Authority to effectively perform such powers and functions as are expressly conferred upon it.¹⁴⁴

Further, regarding the functions and powers of the Authority, Article 152 in paragraph 1 states that: “The Authority shall avoid discrimination in the exercise of its powers and functions[...]”.¹⁴⁵ This indicates that Authority within its competence shall provide equitable treatment to all States without exceptions. But paragraph 2 contains deviation from this principle and stipulates that the Authority is under permission to pay special consideration for developing States. In the special circumstances, Authority will provide for more favorable treatment to developing State than industrialized State.

LOSC establishes the organization of the Authority in Article 158. An Assembly, a Council and a Secretariat are established as the principal organs of the Authority and Enterprise established separately.

In conformity with Article 153(1) activities in the Area referring to exploration and exploitation of the resources of the Area “shall be organized, carried out and controlled[...]in accordance with[...]the rules, regulations and procedures of the Authority.”¹⁴⁶ Part XI focuses on the mineral resources and mining activity. As consequence it can be presumed that Authority’s mandate can be characterized as mining oriented. However, it has been concluded that living resources located in the Area are legally part of the regime of Part XI. Therefore, the Authority shall administer these resources as well as minerals. Moreover, Article 145 requires, the Authority to adopt rules, regulations and procedures with respect to activities in the Area in order to ensure effective protection for the marine environment.¹⁴⁷ Nevertheless, the problem at hand is that Article 145 does not explicitly prescribe that the Authority must protect living resources. It obliges to protect the marine environment as a whole.

¹⁴³ LOSC, Article 157(2)

¹⁴⁴ Armas-Pfirter (2006) p.12

¹⁴⁵ LOSC, Article 152(1)

¹⁴⁶ LOSC, Article 153(1)

¹⁴⁷ LOSC, Article 145

5.3 Are living resources an integral part of the marine environment?

This section aims to investigate whether or not the marine environment encompasses living resources as integral component. It is highly essential for researching Authority's role in the protection of the living resources in the Area to determine in the legal terms whether or not "the marine environment" encompasses living resources. Positive answer would mean that the obligations of the Authority under Article 145 to protect the marine environment would also cover an obligation to protect living resources of the Area. For this reason, in this section the term "marine environment" should be considered in detail.

First of all, it should be addressed to the LOSC. LOSC uses the term "marine environment" but does not define it. The components which constitute marine environment could be extracted from the definition "pollution of the marine environment". Article 1(1)(4) stipulates that: "pollution of the marine environment means the introduction by man[...] into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life[...]"(emphasis added).¹⁴⁸ Although, from the literal meaning, the wording does not directly provide that marine environment includes the living resources but it is obviously that living resources are included into marine environment and they are integral part thereof.

Further, Part XII of the LOSC is devoted to the protection and preservation of the marine environment. It is applicable to all States and to all maritime zones, including the Area. Article 193 is of importance, it declares that: "States[...] exploit their natural resources[...] in accordance with their duty to protect and preserve the marine environment".¹⁴⁹ Hence, an exploitation of natural resources clearly is part of the duty to protect the marine environment.

Then, Article 194 provides measures for prevention, reduction and controlling pollution of the marine environment. In particular paragraph 5 stipulates that: "The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life".¹⁵⁰ Consequently, measures, which would be applicable for the protection of the whole marine environment, cannot be used separate from measures which shall protect living resources.

¹⁴⁸ LOSC, Article 1(1)(4)

¹⁴⁹ LOSC, Article 193

¹⁵⁰ LOSC, Article 194(5)

Nodules Regulations have the precise definition of the “marine environment”. In the Regulation 1(3)(c) it defines the marine environment as “the physical, chemical, geological and biological components,[...]the waters of the seas and oceans and the airspace above those waters, as well as the seabed and ocean floor and subsoil thereof.”¹⁵¹

Also case law affirms that the living resources should be considered as part of the marine environment. The International Tribunal for the Law of the Sea in the Southern Bluefin Tuna Case has prescribed provisional measures where in paragraph 70 it notes that: “the conservation of the living resources of the sea is an element in the protection and preservation of the marine environment”.¹⁵²

Finally, the concept “marine environment” embraces ocean space, namely water column, seabed, ocean floor and subsoil, then, everything comprised in that space, rare and fragile ecosystems, biological components, living resources and other forms of marine life. In that case, in accordance with Article 145 the Authority is under obligation to protect living resources of the Area as integral part of the marine environment as a whole. Within its mandate the Authority has both the prescriptive and enforcement jurisdiction relating to the protection of the marine environment of the Area.¹⁵³ Then, such jurisdiction spreads on the living resources as well.

5.4 Prescriptive jurisdiction

5.4.1 General

Article 145 of the LOSC obliges the Authority to protect the marine environment and consequently the living resources. The purpose of this section is to analyze the scope of the Authority’s prescriptive jurisdiction with regard to the protection of the marine environment and its living resources. The question that needs to be answered is to what extent the obligations relating to the marine environment as a whole are adequate in order to ensure the protection of living resources.

5.4.2 Obligations under Law of the Sea Convention

¹⁵¹ Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, Regulation 1(3)(c), accessible at <http://www.isa.org.jm/files/documents/EN/Regs/PN-en.pdf>, (last visited August 2013).

¹⁵² The Arbitral Tribunal, *Southern Bluefin Tuna Case (Australia and New Zealand v. Japan)*, Provisional measures, Award on Jurisdiction and Admissibility, 2000, p.42, para.70

¹⁵³ Y. Tanaka, “Reflections on the Conservation and Sustainable Use of Genetic Resources in the Deep Seabed Beyond the Limits on National Jurisdiction”, *Ocean Development and International Law*, Vol.39, 2008, p.133

The main Article concerning prescriptive jurisdiction of the Authority is Article 145 of the LOSC which derives from previously mentioned UN General Assembly Resolution 2749 (XXV). It is formulated as follows:

Necessary measures shall be taken in accordance with [LOSC] with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority shall adopt appropriate rules, regulations and procedures for *inter alia*:

- (a) the prevention, reduction and control of pollution[...]to the marine environment[...];
- (b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.

It should be noted that the mandate creates a clear obligation for the Authority to protect marine environment but it does not specify what principles and methods should be served as the bases for this obligation.

The term “activities in the Area” is defined in Article 1(1)(3) of the LOSC as all activities of exploration for, and exploitation of, the resources of the Area.¹⁵⁴ Therefore, the ISA is under responsibility to regulate all activities and potential harmful effects thereof with respect to resources. It adopts appropriate rules, with the aim of protecting the marine environment. Following this, the regulatory powers granted to the Authority are not limited only to the harmful effects from mining activities. Paragraph (b) of Article 145 elaborates more general obligations of the chapeau on the protection of the marine environment and provides that natural resources and flora and fauna of the Area shall be under protection. This obligation is highly important because it specifically spreads on living resources as part of natural resources and component of fauna and flora. Therefore both latter terms should be explained.

The concept “natural resources” is not defined by the provisions of Part XI. In pursuance Article 31(2) of the VCLT the concept “natural resources” of the Part XI might be interpreted in the light of the same concept applied in another Part of the LOSC. Article 56(1)(a) of the LOSC, concerning rights, jurisdiction and duties of the coastal State in the exclusive economic zone, includes both living and non-living resources into “natural resources”. This Article stipulates: “[...]conserving and managing the natural resources, whether *living or non-living*[...]” (emphasis added).¹⁵⁵ Therefore, it is undoubtedly that living resources of the Area are integral part of natural resources in terms of LOSC.

¹⁵⁴ LOSC, Article 1(1)(3)

¹⁵⁵ LOSC, Article 56(1)(a)

Further, the term “flora and fauna” has significant meaning. Neither LOSC has the definition of this term, nor 1994 Agreement. Generally, “flora and fauna” comprises animals and plants marine as well as terrestrial and other biotic organisms.¹⁵⁶ The term “flora and fauna” does not deal with abiotic components of the environment. The main condition is to be “living”.

Conclusively, Article 145(b) of the LOSC specifies that the Authority is directly responsible for the protection of living resources.

Another relevant and more specific provision is placed in the subparagraph (x) of the same Article 162(2). This stipulates that the Council shall “disapprove areas for exploitation[...]in cases where substantial evidence indicates the risk of serious harm to the marine environment”.¹⁵⁷ It has been assumed that due to its competences, the Authority would be able to designate protected areas in the Area,¹⁵⁸ like OSPAR Commission did already in the high seas. As an example the Charlie-Gibbs South Marine Protected Area¹⁵⁹ and the Charlie-Gibbs North High Seas Marine Protected Area¹⁶⁰ established by the OSPAR.

Article 165(2)(e) of the LOSC also affirms the competence of the ISA in the field of the protection of the marine environment. This Article is dedicated to the organ of the Council within Authority, namely the Legal and Technical Commission.¹⁶¹ The Commission shall, in conformity with paragraph 2(e), “make recommendations to the Council on the protection of the marine environment[...]”.¹⁶² Article does not address to living resources. It can therefore be applicable only implicitly to these resources as long as they are integral component of the marine environment. This provision is seen as soft because of the wording “recommendation”. In that case, the Council may merely take recommendations into account and it is not under obligation to adopt them.

¹⁵⁶The definition contained in Glossary of terms, accessible at <http://www.isa.org/jm/files/documents/EN/ScientificGlossary.htm>, (last visited August 2013).

¹⁵⁷ See LOSC, Article 162(2)(x)

¹⁵⁸ M. Lodge, “Current Legal Developments ISA”, *The International Journal of Marine and Coastal Law*, Vol.26, 2011, p.466

¹⁵⁹ OSPAR Decision 2010/2 on the establishment of the Charlie-Gibbs South Marine Protected Area, Document OSPAR 10/23/1-E, Annex 36, 2010, accessible at http://www.ospar.org/v_measures/browse.asp?menu=00510416000000_000000_000000, (last visited August 2013).

¹⁶⁰ OSPAR Decision 2012/1 on the establishment of the Charlie-Gibbs North High Seas Marine Protected Area, Document OSPAR 12/22/1, Annex 6, 2012, accessible at http://www.ospar.org/v_measures/browse.asp?menu=00510416000000_000000_000000, (last visited August 2013).

¹⁶¹ See LOSC, Article 163(1)(b)

¹⁶² LOSC, Article 165(2)(e)

Article 209(1) is another potential basis for the prescriptive jurisdiction of the Authority. This provision is in the Part XII which is devoted to the general obligation on the protection and preservation of the marine environment. Article 209 specifically deals with the pollution from activities in the Area. It prescribes that “[i]nternational rules, regulations and procedures shall be established in accordance with Part XI to prevent, reduce and control pollution of the marine environment from activities in the Area”.¹⁶³ These rules shall be established by ISA, inasmuch as ISA has legislative power with respect to the Area in terms of Part XI of the LOSC.

Subsequently, in accordance with Article 318 of the LOSC, the Annexes form an integral part of the Convention. Annex III to the LOSC and Article 17(1)(b)(xii) is of particular interest. It stipulates that:

1. The Authority shall adopt and uniformly apply rules, regulations and procedures[...]for the exercise of its functions as set forth in Part XI on, *inter alia*, the following matters:
[...]
- (b) operations:
[...]
- (xii) mining standards and practices, including those relating to operational safety, conservation of the resources and the protection of the marine environment.

There are some key phrases in the above wording. Authority shall apply rules “uniformly” or without any deviations, no exceptions should be made. Interesting that it makes no mention about special consideration with respect to the developing States how other Articles of the LOSC do. “Inter alia” formula means that list of matters on which Authority adopts rules is not exhaustive and can be continued. The phrase “conservation of the resources” does not specify type of the resources, herewith, considering the following phrase “protection of the marine environment”, namely protection of the whole Area, thus, the former means conservation all resources in the Area, including living resources.

5.4.3 Obligations under 1994 Agreement

The 1994 Agreement also provides prescriptive jurisdiction for the Authority. Section 1 paragraph 5(g) of the Annex prescribes that between the entry into force of the LOSC and the approval of the first plan of work of resource exploitation, the Authority was to concentrate on: “adoption of rules, regulations and procedures incorporating applicable standards for the protection and preservation of the marine environment”. The provision

¹⁶³ LOSC, Article 209(1)

again refers merely to protection of the marine environment as a whole. Notwithstanding, living resources should be protected by such standards. Section 1(7) further requires that:

An application for approval of a plan of work shall be accompanied by an assessment of the potential environmental impacts of the proposed activities and by a description of a programme for oceanographic and baseline environmental studies in accordance with the rules, regulations and procedures adopted by the Authority.¹⁶⁴

According to this wording it can be assumed that the Authority has a power to adopt rules, regulations and procedures with regard to environmental impact assessment (EIA).

5.4.4 Regulations of the ISA

An obligation to protect the marine environment is also envisaged in the Regulations (Nodules, Sulphides and Cobalt crusts) adopted by the Authority. Under these Regulations the Authority has certain prescriptive jurisdiction as well.

On the tenth session of the ISA in 2004 the Secretary-General pointed out in the Report that hydrothermal vents are highly vulnerable to detrimental environmental effects. Moreover, significance of the genetic resources was noted. Also, it has been asserted that activities in the course of exploration and mining in the Area have the potential to cause an impact on the marine environment. For this reason, Secretary-General maintained that it was clearly within the responsibility of the Authority to take measures to protect extreme biological communities associated with polymetallic sulfides and cobalt-rich crusts in the Area.¹⁶⁵

The Authority has issued regulations which pay attention to the protection of the marine environment. Accordingly, one of its first priorities was the formulation of the Nodule Regulations.¹⁶⁶ Importantly, these Regulations deal specifically with environmental issues, for example they have following environmentally oriented wording: “prospecting shall not be undertaken if substantial evidence indicates the risk of serious harm to the marine environment.”¹⁶⁷ The Nodules Regulations contain whole Part V concerning the protection and preservation of the marine environment. Regulation 31(1) of

¹⁶⁴ The 1994 Agreement, Annex, Section 1(7)

¹⁶⁵ Report of the Secretary-General of the ISA under Article 166, para.4, of the United Nations Convention on the Law of the Sea on the 10th Session of the Assembly of the ISA, Document ISBA/10/A/3, 31 March 2004, p.43, para.133, accessible at http://www.isa.org.jm/files/documents/EN/10thSession/Assembly/ISBA10_A_3.pdf, (last visited August 2013).

¹⁶⁶ The International Seabed Authority, Marine Scientific Research, accessible at <http://www.isa.org.jm/en/scientific>, (last visited August 2013).

¹⁶⁷ Nodules Regulation, Regulation 2(2)

that Part requires the Authority to establish and keep under periodic review environmental rules, regulations and procedures to ensure the effective protection of the marine environment from harmful effects that may arise from activities in the Area. Further, Regulation 31(7) introduces interesting concept “preservation reference zones” which means “areas in which no mining shall occur to ensure representative and stable biota of the seabed in order to assess any changes in the flora and fauna of the marine environment”.¹⁶⁸ For instance, on its 14th session Legal and Technical Commission has adopted recommendations for the establishment of preservation reference areas for nodule mining in the Clarion-Clipperton Zone in order to safeguard the biodiversity, ecosystem function and deep-sea environment.¹⁶⁹ This protective tool is similar to “marine protected areas”. Marine protected areas are used for limitation or prohibition activities which will be harmful for environment and everything therein. As was previously mentioned, living resources in the Area are particularly sensitive. On its part, mining activity is the most important threat to such resources.¹⁷⁰ Accordingly, establishment of the “preservation reference zone” has great meaning for protection and conservation living resources in the Area.

Also, Sulphides Regulations and Cobalt crusts Regulations have been issued by the Authority. Protection and preservation of the marine environment is envisaged under these Regulations as well. Accordingly to Sulphides Regulation 33(4) Authority shall not authorize activity which would have serious harmful effects on vulnerable ecosystems, in particular hydrothermal vents and consequently living organisms which are inseparable with them.¹⁷¹ Substantially, this Regulation explicitly recognizes that hydrothermal vents are a special ecosystem that requires protection.

The Nodules, Sulphides and Cobalt crusts Regulations contain provisions on the protection of the marine environment that elaborate upon provisions of Article 145 of the LOSC and specify the obligations of the ISA with regard to the protection of the marine environment. That is to say the Regulations provide for rules which reveal the scope of the “necessary measures” referred to in the chapeau of Article 145.

¹⁶⁸ Nodules Regulation, Regulation 31(7)

¹⁶⁹ 14th session of the Legal Technical Commission, Rationale and recommendations for the establishment of preservation reference areas for nodule mining in the Clarion-Clipperton Zone, Document ISBA/14/LTC/2, 2008, p.1, accessible at <http://www.isa.org.jm/files/documents/EN/14Sess/LTC/ISBA-14LTC-2.pdf>, (last visited August 2013).

¹⁷⁰ Armas-Pfirter (2006) p.18

¹⁷¹ Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area, Regulation 33(4), accessible at <http://www.isa.org.jm/files/documents/EN/Regs/PolymetallicSulphides.pdf>, (last visited August 2013).

5.4.5 Concluding remarks on prescriptive jurisdiction of the Authority

The analysis of the relevant provisions indicates that the Authority has an extensive prescriptive jurisdiction with respect to protection of the marine environment. All the provisions do not mention living resources. Nonetheless, they are implicitly protected as part of the marine environment. Although prescriptive jurisdiction is ample, it is much general in relation to regime of the protection of living resources. The provisions on the prescriptive jurisdiction with regard to living resources should be more specific. Primarily, the term “living resources” must be included into Article 145 of the LOSC and other relevant provisions considered above.

5.5 Enforcement jurisdiction

Under prescriptive jurisdiction, the Authority has the obligations to adopt rules, regulations and procedures for the protection of the marine environment and its living resources. An adequate regime of their protection requires the compliance with prescribed rules. To that end, an enforcement mechanism is required. The Authority as responsible body must exercise the enforcement jurisdiction. The purpose of this section is to analyze the scope of the Authority’s enforcement jurisdiction with regard to the protection of the marine environment and, correspondingly, its living resources.

Article 160 of the LOSC is dedicated to the Assembly of the Authority. Paragraph 2(m) within this Article gives the power to the Assembly “to suspend the exercise of rights and privileges of membership pursuant to article 185”. In accordance with Article 185(1), the Authority *may* suspend the exercise of the rights and privileges of membership of a State Party in the Authority that has grossly and persistently violated the provisions of the Part XI of the LOSC. The wording uses the word “may” which means that this is right of the Authority rather than obligation. Article 185(1) remains unclear, what provisions should be violated for the suspension of the exercising of the rights. It does not indicate the precise provisions but merely says “provisions of the Part XI”. It can therefore be assumed that Article 145 is implied. Then, in conformity with this Article, the protection of the marine environment and its resources is exercised by virtue of rules, regulations and procedures of the Authority. Thus, accordingly to Articles 145 and 185(1), the Authority may suspend the exercise of the rights of a State Party that has violated the rules,

regulations and procedures of the Authority on the protection of the marine environment and its resources.

Further, in conformity with Article 162(1) of the LOSC, the Council is acknowledged as executive organ of the Authority. Paragraph 2(a) of the same Article authorizes the Council to “supervise and co-ordinate the implementation of the provisions of this Part [XI] on all questions and matters within the competence of the Authority and invite the attention of the Assembly to cases of non-compliance”.¹⁷² Therefore, the protection of the marine environment within Area is to be supervised by the Council of the ISA.¹⁷³ Moreover, Article 162(2)(w) commits the Council to “issue emergency orders, which may include orders for the suspension[...]of operations, to prevent serious harm to the marine environment[...]in the Area”.¹⁷⁴ The similar provision is contained in the Regulation 32(5) of the Nodule Regulations. In that case, environmental obligations of the Authority override the obligations on granting of opportunities for the activities in the Area.

Hereafter, the next Article which deals specifically with enforcement with respect to pollution from activities in the Area is Article 215 of Part XII of the LOSC. It provides that “[e]nforcement of international rules, regulations and procedures established in accordance with Part XI to prevent[...]pollution of the marine environment[...]shall be governed by [Part XI itself].”¹⁷⁵ In terms of Part XI, the Authority is responsible for adoption of such international rules and then it can be presumed that the Authority is responsible for their enforcement.

Further, Article 18 of the Annex III to the LOSC establishes penalties for the violations of the Part XI and the rules, regulations and procedures of the Authority, including the violations of the rules on the protection of the marine environment. The penalties can be expressed in the suspension or termination rights on the activities in the Area and Authority may impose monetary penalties as well.

It has been argued that Article 145 of the LOSC prescribes that the Authority shall adopt rules, regulations and procedures for the protection and conservation of the living resources of the Area. To this end, Nodules Regulation 31(2) explicitly obliges the Authority, as well as sponsoring States, to supervise and apply the precautionary approach and makes reference to the Principle 15 of the Rio Declaration on the Environment and

¹⁷² LOSC, Article 162(2)(a)

¹⁷³ Tanaka (2008) p.135

¹⁷⁴ LOSC, Article 162(2)(w)

¹⁷⁵ LOSC, Article 215

Development 1992. This Declaration represents statement of general rights and obligations of States affecting the environment.¹⁷⁶ It endorses new or developing principles of law concerned with protection of the global environment.¹⁷⁷ The Declaration is a soft law instrument and has evidential value on how the law should develop.¹⁷⁸

The precautionary approach has key role in order to ensure effective protection for the marine environment and in particular for the living resources. Also, it has crucial role in the current regulations which the Authority has already drafted.¹⁷⁹ Principle 15 of the Rio Declaration declares that:

“In order to protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”¹⁸⁰

There are three commonly agreed elementary components in the content of precautionary approach. These are: a threat of environmental harm; uncertainty; and action.¹⁸¹ An application of precautionary approach is formulated in obligatory terms by using word “shall” in the Principle 15. It has been argued that precautionary approach obtained status as general principle of law.¹⁸² This principle can influence on the interpretation and application of a treaty.¹⁸³ LOSC and in particular Article 145 does not employ the term “precautionary approach”. Nevertheless, it can be assumed that in the context of Article 145 the precautionary approach could be applied by the Authority with regard to living resources.

However, an application of the precautionary approach leaves some ambiguities. How should serious damage be defined? What are the measures? Moreover, the scientific knowledge concerning marine environment of the Area is insufficient.¹⁸⁴ Nonetheless, it has been argued that mining activity is a highly risky activity which is the most important threat in relation to extremely vulnerable living resources of the Area. Consequently, from

¹⁷⁶ Birnie (2009) p.112

¹⁷⁷ *Ibid.*

¹⁷⁸ *Ibid.*

¹⁷⁹ D. Hartley, “Guarding the final frontier: the future regulations of the ISA”, *Temple International and Comparative Law Journal*, Vol.26(2), 2012, p.343

¹⁸⁰ The 1992 Rio Declaration, Principle 15

¹⁸¹ A. Trouwborst, “The precautionary principle in general international law: combating the Babylonian Confusion”, *RECIEL*, Vol.16(2), 2007, p.187

¹⁸² Birnie (2009) p.27

¹⁸³ *Ibid.*, p.28

¹⁸⁴ Tanaka (2008) p. 136

the perspective of precautionary approach, mining activity within the Area shall be undertaken in the cases when full certainty exists that harm to the marine environment and particularly to the living resources will not be caused by proposed activity. In the light of the precautionary approach, the Nodules Regulations require proponent of the activity to undertake preliminary impact assessment on the marine environment. This requirement contained in the Nodules Regulation 18(c).

5.6 The bottom line

The Authority nowhere operates with term “living resources” within all provisions concerning protection of the marine environment. Nevertheless, the term “marine environment” includes living resources. In this case, the Authority is responsible to protect living resources as a part of the whole marine environment. Under its mandate, the Authority has both the prescriptive and enforcement jurisdiction. The analysis both of them indicates that the mandate is an extensive on the matters of the protection of the marine environment. However there is no specific legal management regime for the ISA to exercise regulation and protection of living resources of the Area as a particular unit of the marine environment. General framework suitable for the management of the marine environment cannot be sufficient for living resources. The regime for the marine environment may provide only fundamental basis and cannot reflect all aspects while living resources as an integral component requires more comprehensive, detailed approach to their regulation and protection. Thus, on my view, rules concerning the marine environment in whole will not be enough for ensuring effective management and protection of living resources of the Area. Consequently, current Authority’s mandate is not proper for the management of living resources and should be reformed.

5.7 The way forward

The purpose of this section is to introduce appropriate option for the management of living resources of the Area. With the absence of a comprehensive regulatory regime for the living resources places them under risk of over-exploitation and may cause destruction of their ecosystems. Currently there is only minority of industrialized States that can exploit living resources, in particular genetic, of the deep seabed; there is no framework for an equitable sharing of the benefits resulting from the exploitation. This is not compatible with the goals of the LOSC on the conservation of living resources of the seas and oceans,

and their equitable utilization. Legal certainty and comprehensive regulation are essential for the protection of the living resources.

Some commentators are of the opinion that new international regime responsible for living resources in the Area should be established. This new regime could be embodied in a global organization on the bases of the ISA. This new organization would specifically be concerned with the management and protection of living resources of the Area and would not concern mineral resources at all.¹⁸⁵ From the positive side, a new institution would not be restricted by the interests of the mining activity and would concentrate on the adoption exclusively conservation environmental measures. Also it would authorize access to deep seabed living/genetic resources. But it would have to closely collaborate with the Authority in order to coordinate activities. And, it seems that there might be overlapping competences between two institutions. The major disadvantage of establishment new institution is that it will require much material resources and take indefinite period of time for its adaptation. Also, it would be a fragmented regime for deep sea resources as a whole, when one institution is responsible for mineral resources and another for living resources.¹⁸⁶

From the perspective of effectiveness and coherence it seems more appropriate to expand the mandate of the Authority to cover living resources and biodiversity of the Area at all. An expanded mandate would regulate living resources as well as mineral resources and include the protection of the marine biodiversity of the Area. This could be made by adoption of a new implementing agreement to the LOSC.¹⁸⁷ Existing examples are the 1995 UN Fish Stocks Agreement¹⁸⁸ and the 1994 Agreement. There are two advantages with respect to expand the current mandate of the Authority.¹⁸⁹ The ISA is already in place and operational. Furthermore, Authority has already some responsibility for the conservation of biodiversity and a necessary structural mechanism which can be supplemented to be compatible for exercising supervision within Area over activities linked with living resources and their protection, sustainable use and benefit sharing. New implementing agreement would cover such issues as EIA, application of precautionary approach, marine protected areas, adequate enforcement mechanism and so forth.

¹⁸⁵ Bonney (2006) p.64

¹⁸⁶ *Ibid*, p.86

¹⁸⁷ de La Fayette (2009) p.275

¹⁸⁸ The 1995 Agreement for the Implementation of the Provisions of the LOSC Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

¹⁸⁹ Scovazzi (2004) p.409

6. Conclusion

The Area is the largest ecosystem on the planet and even so far having advanced technology it remains a least known one. However a range of notable discoveries has been made by world community. In my opinion, the discovery of rich biodiversity on the deep seabed is major. Existence of life there contradicts with biological science because it had been believed that in such environmental conditions as on the deep seabed no life can be sustained. By contrast, living resources inhabit in the Area and they biologically adapted to live there. To date, not mining activity is of particular interest in the Area, but living or genetic resources are increasingly becoming a key interest within international community. The total potential of living resources of the Area has not been estimated yet. Nevertheless, such interest increases and will inevitably increase pressure on such type of the resources.¹⁹⁰

Any resource require regulatory regime for its sustainable and wise use. In the absence of a regime resources will be subjected to threats of an extinction, exhaustion and depletion. It has been noted above that some authors consider that living resources, unlike minerals, are renewable and they are not suffered by extinction. However, contrary view was held by World Trade Organization Appellate Body. Appellate Body considered that “exhaustible” resources and “renewable” are not mutually exclusive. Then it pointed out with the references to modern science that: “[...]living species are in certain circumstances indeed susceptible of depletion, exhaustion and extinction[...]”, eventually, it concluded that living resources are exhaustible as minerals and other non-living resources.¹⁹¹ This means that living resources are exhaustible as well as minerals and consequently should be subjected to proper regulatory regime.

In the introduction chapter, the thesis has raised the problem of uncertain legal status of living resources located in the Area. Part XI of the LOSC, devoted to the Area, provides regulatory regime only for the mineral resources by that living resources are beyond the scope. However, neither Part XI nor any other provision of the LOSC defines

¹⁹⁰ Korn, *supra* note 4

¹⁹¹ WTO Appellate Body Rep., *United States – Import prohibition of certain shrimp and shrimp products Case*, 1998, para.128

the question, what regime should cover such resources. It has reasonably been assumed that as long as Part XI “withdraws from” living resources, they must fall within high seas framework and Part VII of the LOSC. In point of fact it could make sense because under law of the sea ABNJ include only high seas and Area, and if some feature does not fall within Area then it inevitably falls within high seas. LOSC does not reflect direct provisions on the regulation of living resources in accordance with its Part XI. Nonetheless, this does not dispose of the question is whether or not such resources are part of the Area. An attempted analysis and interpretation of relevant legal norms in the thesis has indicated that living resources located in the Area are part of the Area and subjected to regime contained in Part XI of the LOSC. Then, living resources of the Area cannot be considered as resources of the high seas and not subjected to corresponding freedoms.

Part XI of the LOSC does not set a distinct regulatory regime for living resources of the Area. The regime created for the minerals is not relevant for other uses of the Area. Nonetheless, the principles governing the Area provided in section 2 of Part XI can be applicable to living resources.¹⁹² The most notable is the CHM principle which implies establishment of the Authority for regulation and protection of the resources of the Area.

The Authority administers the resources of the Area. In the light of provisions contained in the Section 2 of Part XI of the LOSC, it acts on behalf of mankind as a whole and provides for the equitable sharing of financial and economic benefits derived from activities in the Area. Consequently, the second main legal question illustrated in the thesis was to determine whether the Authority is responsible for the protection of living resources in the Area. It has been argued that living resources located in the Area fall under regime of the Area. Therefore, the Authority is explicitly responsible for the protection of these resources. Also, the question at hand was to investigate to what extent the Authority’s mandate is appropriate for protection of living resources of the Area. The Authority for the purpose of its functions and powers has both prescriptive and enforcement jurisdiction. Its mandate has mineral resource focus and it governs mining activity in the Area. However marine environmental protection is no less important responsibility. Some provisions contained especially within rules, regulations and procedures adopted by the Authority have prominent environmental focus. These environmental regulations override mining oriented regulations. If mining activity in the Area is inconsistent with environmental considerations, such activity could be stopped or not be commenced at all. Sulphides

¹⁹² Elferink (2007) p.174

Regulation 33(4) exemplifies such assumption, it provides for power of Authority to prohibit activity in the Area in the cases of serious harmful effects on the vulnerable ecosystems.

Main obstacle addressed to regulation and protection of living resources of the Area is lacuna of references to them within context of the provisions. Mostly, Articles refer to protection of the marine environment as a whole and do not specify any type of resources, only Article 145 of the LOSC mentions the protection of natural resources and specifically of fauna and flora in the Area. Nonetheless, the marine environment embraces living resources as its integral part. In fact, protection of the marine environment cannot be exercised separately from protection of its composition. If it would so, such protection could not be effective. The effective protection of the marine environment as a whole could be achieved through protection parts thereof individually.

Although the regime concerning protection of the marine environment encompasses protection of living resources but in terms of effectiveness such regime under Authority's mandate is not sufficient. Human activity and pressure on living resources in the Area is ever increasing. Thereby these resources require more extensive regulatory and protective regime. Such regime would specifically deal with living and genetic resources of the Area. It has been suggested to expand the Authority's present mandate and include living resources. Such expansion should be made through new framework implementing agreement to the LOSC. It would reflect all issues linked to the living resources of the Area and incorporate precautionary principle, marine protected areas and other environmental tools. Besides, an establishment of new implementing agreement would be consistent with recommendations issued by the Working Group on the 66th session UN General Assembly.¹⁹³

Current polarized view on legal status of living resources of the Area within international community and lack of consensus are main impediments to make steps towards appropriate option. States are reluctant to make a pivotal decision on and uphold "intelligence position". However, it can be presumed that the consensus might be reached on the nearest sessions of the UN General Assembly.

¹⁹³ *Supra* note 59

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