

LL.M. in Natural Resources Law  
and International Environmental Law

Time to Set the Record Straight:  
The Legal Status of Marine Genetic Resources  
found within the Deep Seabed Area  
The Freedom of the High Seas, the Common Heritage of Mankind  
– or Neither?

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## **Abstract**

Later this year, the international community will assemble in New York for the first of four Intergovernmental Conference's that have been scheduled to take place over the next twenty-four months. At these, negotiators will be tasked with elaborating the text of an international legally binding instrument under the United Nations Convention on the Law of the Sea (LOSC), on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

These Conferences are likely to represent some of the most significant gatherings in international environmental law-making this century. However, the process towards this point has been fraught with friction and uncertainty, and characterised by an ideological divide between the 'developed North' and the 'developing South.' And, in this respect, a great number of obstacles remain to be overcome. The largest of these pertains to the legal status of marine genetic resources (MGRs) that are found within the deep seabed Area, and the attendant question as to which legal principle should underpin the governance of these under a new international agreement. This question has proven to be one of the most contentious within the contemporary international law of the sea, and has arisen through the identification of legal ambiguities under the LOSC. And, moreover, it is also within this context that the ideological divide between 'North' and 'South' has been most pronounced; whilst the former are seeking an extension of the principle of the freedom of the high seas to deep seabed MGRs, the latter submit that these should be governed under the common heritage of mankind. The resulting stalemate that has been observed between the two has subsequently engendered increasing support for a third approach; one that advocates for a pragmatic solution, and seeks to avoid ideological controversy.

The process thus far has recalled the intensive period of negotiations that preceded the adoption of the LOSC. Then, the international community undertook the seminal decision to declare the deep seabed Area as the common heritage of mankind, engendering a paradigm shift in the international governance of ocean waters. Now, it is suggested, it must do the same. The unfettered exploitation of the deep seabed's biological components could result in the extinction of MGRs, and serve to further enhance the disparities in economic wealth between the 'North' and 'South.' It is therefore time to set the record straight, and for the forthcoming Intergovernmental Conference to explicitly declare that deep seabed MGRs are to be the common heritage of mankind.

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*Colm Hastings*

Reykjavík, May 2018

## Introduction

On 24 December 2017, the United Nations General Assembly (UNGA) made the historic decision to

convene an intergovernmental conference... to elaborate the text of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, with a view to developing the instrument as soon as possible.<sup>1</sup>

The process towards the negotiation and potential adoption of a new international agreement on the conservation and sustainable use of marine biodiversity beyond national jurisdiction (BBNJ Process) is ‘potentially one of the most significant in international environmental law-making in the 21<sup>st</sup> century.’<sup>2</sup> It is widely acknowledged that the governance of marine biodiversity in areas beyond national jurisdiction (ABNJ) represents the ‘final frontier’ to the international law of the sea, and is perhaps the last remaining major issue to be resolved within the framework of the United Nations Convention on the Law of the Sea (LOSC).<sup>3</sup>

ABNJ represent some of the least protected areas on Earth, and it has been suggested that the present governance regime, complete with regulatory and legal gaps, and a weak implementation and enforcement of existing rules, is reminiscent of the nineteenth century lawless ‘wild west’ within the United States of America.<sup>4</sup> However, the UNGA’s decision suggests that the ‘long and winding road’ to encroaching this final frontier may soon be complete.<sup>5</sup>

The intergovernmental conference shall meet for four sessions between 2018 and 2020, during which time negotiations will address a ‘package’ of issues that were first identified in 2011, namely

the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, in particular, together and as a whole, marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine

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<sup>1</sup> UNGA Resolution 72/249 (adopted 24 December 2017) UN Doc. A/RES/72/249, at [1].

<sup>2</sup> Dire Tladi, ‘The Common Heritage of Mankind and the Proposed Treaty on Biodiversity in Areas beyond National Jurisdiction: The Choice between Pragmatism and Sustainability in the Proposed Implementing Agreement,’ 131.

<sup>3</sup> United Nations Convention on the Law of the Sea (10 December 1982) 1833 UNTS 3, *entered into force* 16 November 1994 (LOSC).

<sup>4</sup> David Freestone, ‘The Final Frontier: The Law of the Sea Convention and Areas beyond National Jurisdiction,’ in *Proceedings of the 2012 Law of the Sea Institute Conference on Securing the Ocean for the Next Generation*, 15.

<sup>5</sup> Glen Wright *et al*, ‘The Long and Winding Road Continues: Towards a New Agreement on High Seas Governance,’ 1.

protected areas, environmental impact assessments and capacity-building and the transfer of marine technology.<sup>6</sup>

Within this package, the issue of marine genetic resources (MGRs) has arguably proven to be the most contentious element.<sup>7</sup> MGRs have been described as the ‘sunk genetic treasures of the oceans,’ and are thought to possess significant scientific and commercial value.<sup>8</sup> Accordingly, the issue of which set of legal rules is to apply to them takes on a particular importance. However, whilst the LOSC establishes a ‘legal order for the seas and oceans,’ under which all aspects of oceans governance are to be regulated, the Convention fails to provide any guidance as to which legal regime should apply to deep seabed MGRs; a legacy of the time at which the Convention was adopted, and one that has presupposed the possible extension of two different, and fundamentally opposing legal regimes to the governance of these resources;<sup>9</sup> namely the freedom of the high seas, and, its legal ‘antithesis,’ the common heritage of mankind.<sup>10</sup>

The controversy that has surrounded the legal status of deep seabed MGRs has engendered ‘a divergence of view of a legal, political and ideological nature’ between the ‘developed North’ and the ‘developing South,’ and is one that recalls the intensive period of negotiations that preceded the adoption of the LOSC.<sup>11</sup> Then, the international community undertook the seminal decision to declare the deep seabed Area as the common heritage of mankind; a commitment that reflected a desire to move past the traditional ‘free use’ paradigm, and predicated a shift in the international governance of ocean waters.<sup>12</sup>

Now, the forthcoming Intergovernmental Conference presents a generational opportunity for the international community to do the same. It has been observed that the principally unregulated exploitation of the deep seabed’s biological resources under the freedom of the high seas could presuppose the complete destruction of MGRs, and also serve to further enhance the disparities in economic wealth between the ‘North’ and ‘South.’<sup>13</sup> It is

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<sup>6</sup> UNGA Resolution 72/249 supra note 1, at [2].

<sup>7</sup> Dire Tladi, ‘Conservation and Sustainable Use of Marine Biodiversity in Areas Beyond National Jurisdiction: Towards an Implementing Agreement’ in Rosemary Rayfuse (ed.), *Research Handbook on International Marine Environmental Law*, 259.

<sup>8</sup> Florian Rabitz, *The Global Governance of Genetic Resources: Institutional Change and Structural Constraints*, 134.

<sup>9</sup> LOSC, supra note 3, preambular para 5.

<sup>10</sup> Yoshifumi Tanaka, *The International Law of the Sea*, 193.

<sup>11</sup> Tladi, supra note 7, 259.

<sup>12</sup> Tladi, supra note 2, 124.

<sup>13</sup> Louise Angélique de la Fayette, ‘A New Regime for the Conservation and Sustainable Use of Marine Biodiversity and Genetic Resources Beyond the Limits of National Jurisdiction’, 251.

therefore submitted that the ‘free use’ paradigm must be set aside once again, and that deep seabed MGRs should accordingly be declared the common heritage of mankind.

The overall objective of this thesis is, then, to provide a normative basis for this conclusion and, in order to do so, it will undertake a comparative analysis of these two fundamental legal principles. This analysis will predominantly be undertaken within the framework of the LOSC; as the self-acclaimed ‘Constitution for the Oceans,’ and as the designated arena within which the BBNJ Process has primarily taken place.<sup>14</sup>

In this context, this thesis can essentially be broken down into three parts. The first part, encompassing Chapters 1 and 2, will enumerate the environmental, economic and legal factors that formed the principal basis for the UNGA’s historic decision. Chapter 1 will provide a contextual background for subsequent analysis, whilst Chapter 2 will examine the LOSC, and the Convention’s central role within this process.

The second part, and the body of this thesis’ work, is to be found in Chapters 3 and 4. Chapter 3 will examine the implementation of the principle of the freedom of the high seas, upon the high seas waters, under Part VII of the LOSC, whilst Chapter 4 will appraise the development of the common heritage of mankind, and its extension to the mineral resources of the deep seabed Area under Part XI of the Convention. In order to provide a direct point of comparison between the two, each Chapter will examine the respective arrangements that are in place for the conservation and sustainable use of marine biological diversity within that maritime zone.

The third and final part, Chapter 5, will thereafter seek to provide a normative basis, on the basis of the comparative analysis undertaken in Chapters 3 and 4, for this thesis’ conclusion. In doing so, it will principally focus on the *lex feranda* (what the law should be), and will only briefly consider that which has been presented as the *lex lata* (what the law is) under the LOSC. Whilst many states (and, indeed, academics) have seemingly been predisposed to attempt to resolve the legal status of deep seabed MGRs on the basis of their own interpretation as to how the law currently stands, it is submitted that the significance, and relative uniqueness of the issues at hand, demands that the international community looks beyond an interpretative analysis. The forthcoming Intergovernmental Conference presents a unique opportunity for the world to decide what the law *should be*, and this thesis will accordingly strive to do the same.

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<sup>14</sup> ‘A Constitution for the Oceans,’ Remarks by Tommy T. B. Koh, President of the Third United Nations Conference on the Law of the Sea, at the final session of the Conference at Montego Bay, Jamaica, on 6 and 11 December 1982, published by the United Nations with the text of the Convention and the Final Act of the Conference (1983) UN Publication Sales No. E.83, V.5 at xxxiii.

# 1. Background

## 1.1 General Background

### 1.1.1 The Oceans

It is a curious situation that the sea, from which life first arose, should now be threatened by the activities of one form of that life. But the sea, though changed in a sinister way, will continue to exist; the threat is rather to life itself.<sup>15</sup>

The ocean is a single, interconnected body of water, encompassing 70 per cent of the total area and containing 97 per cent of all of the water found on the surface of the Earth.<sup>16</sup> These waters are the foundation for all life on Earth and, indeed, ‘from which life first arose.’ They are the ‘lungs of the planet,’ and Earth’s climate, the air that we all breathe, the water that we all drink and the food that we all eat are all principally dependent on the health of the oceans.<sup>17</sup> The oceans also serve a vital importance to the global economy, providing welfare and livelihoods to the millions of humans that depend on these waters for food security and as a source of income.<sup>18</sup> Within these waters, vibrant marine environments contain diverse habitats and support an abundance of marine life.<sup>19</sup> These ecosystems are a rich source of biodiversity, and stable oceans are a prerequisite to their well-being and functionality.<sup>20</sup>

### 1.1.2 Marine Biological Diversity

In its simplest form, biological diversity can be said to represent the variety of all life on Earth. This variety, and the life that we witness today, is the product of billions of years of evolution, shaped by natural processes and, increasingly, by human interference.<sup>21</sup>

In a legal context, biological diversity has been defined as encompassing the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.<sup>22</sup>

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<sup>15</sup> Rachel Carson, *The Sea Around Us*, xiii.

<sup>16</sup> United Nations, *The Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction: A Technical Abstract of the First Global Integrated Marine Assessment*, 3.

<sup>17</sup> de la Fayette, supra note 13, 221.

<sup>18</sup> David Vousden, ‘Large Marine Ecosystems and Associated New Approaches to Regional, Transboundary and ‘High Seas’ Management’ in Rayfuse (ed.), supra note 7, 389.

<sup>19</sup> CBD, ‘What is Marine and Coastal Biodiversity,’ available at <https://www.cbd.int/marine/intro.shtml> (last accessed 20 April 2018).

<sup>20</sup> Kapil Narula, ‘Ocean Governance: Strengthening the Legal Framework for Conservation of Marine Biological Diversity Beyond Areas of National Jurisdiction,’ 65.

<sup>21</sup> CBD, ‘Sustaining Life on Earth: Biodiversity – The Web of Life,’ available at <https://www.cbd.int/convention/guide/> (last accessed 26 March 2018).

<sup>22</sup> Convention on Biological Diversity (5 June 1992) 1760 UNTS 79, entered into force 29 December 1993 (CBD) Article 2.

And it is this variability of life forms, and their interactions both with each other and with their surrounding environments, that has made Earth a uniquely habitable place for mankind.<sup>23</sup> These interactions provide ‘essential services for the maintenance of the biosphere in a condition which supports human and other life’ and are, accordingly, a prerequisite for our continued existence.<sup>24</sup>

Marine biological diversity, pertaining to all kingdoms of life found within the oceans, occupy a wide array of diverse habitats within these waters, ranging from mangrove forests to coral reefs and hydrothermal vents.<sup>25</sup> Marine biological diversity, like its terrestrial counterpart, is also vitally important for human well-being, and underpins a wide range of ecosystem services that sustain life both within and outside of the ocean waters.<sup>26</sup> The protection and preservation of these kingdoms is therefore essential if we are to secure these services for both our own and future generations.<sup>27</sup> And, in this context, it has been said that

[g]iven its vital importance for the survival of mankind, it could be said that the conservation of (marine) biological diversity is considered as a community interest of the international community as a whole.<sup>28</sup>

### **1.1.3 Areas Beyond National Jurisdiction**

One of the defining features of the LOSC is its division of the oceans into distinctive maritime jurisdictional zones, both vertically and horizontally, which will be considered in more detail in section 2.1.2.<sup>29</sup> For now, however, ABNJ constitute those zones that lie beyond the national jurisdiction of coastal states, and over which a state does not enjoy, and cannot exercise, its sovereign rights.<sup>30</sup> These zones, under the Convention, comprise the ‘high seas’ and the deep seabed ‘Area.’

Marine ABNJ have been said to represent ‘the last great global common areas on Earth.’<sup>31</sup> These encompass some 64 per cent of the world’s ocean waters, approximately half of the planet’s total surface area, and accordingly ‘host a significant proportion of the Earth’s

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<sup>23</sup> CBD, *Sustaining Life on Earth: How the Convention on Biological Diversity Promotes Nature and Well-Being*, 2.

<sup>24</sup> Tanaka, *supra* note 10, 334.

<sup>25</sup> CBD, ‘What is Marine and Coastal Biodiversity?’ *supra* note 20.

<sup>26</sup> DOALOS, ‘Marine Biological Diversity Beyond Areas of National Jurisdiction,’ available at [http://www.un.org/depts/los/biodiversityworkinggroup/marine\\_biodiversity.htm](http://www.un.org/depts/los/biodiversityworkinggroup/marine_biodiversity.htm) (last accessed 4 February 2018).

<sup>27</sup> Glen Wright, Julien Rochette and Elisabeth Druel, ‘Marine Protected Areas in Areas Beyond National Jurisdiction’ in Rayfuse (ed.), *supra* note 7, 272.

<sup>28</sup> Tanaka, *supra* note 10, 334.

<sup>29</sup> *Ibid*, 16.

<sup>30</sup> Tladi, *supra* note 2, 118.

<sup>31</sup> David Freestone, ‘Foreword’ in Rayfuse (ed.), *supra* note 7, IX.

biodiversity.<sup>32</sup> Indeed, since life is now known to exist throughout each part of the ocean, it has been suggested that ABNJ contain approximately 95 per cent of the habitat occupied by life on Earth in all of its various forms.<sup>33</sup>

As our understanding of the oceans has evolved, the international community has become ‘increasingly aware of the range of services provided by marine ecosystems and of the rich biodiversity of pelagic and benthic ecosystems beyond the limits of national jurisdiction.’<sup>34</sup> Marine biological diversity found within ABNJ, given the sheer vastness of the areas that these represent, has therefore been said to represent the most valuable provider of ecosystem services overall.<sup>35</sup> However, at present, it remains that ABNJ constitute some of the least protected regions on Earth.<sup>36</sup>

#### *1.1.3.1 The Deep Ocean and Seabed*

From a human perspective, the ‘open ocean and deep seabed have always been a source of great mystique and volatility.’<sup>37</sup> However, because of their relative inaccessibility, it is a juxtaposition that these represent by far the least explored regions on Earth.<sup>38</sup> It has been said that ‘we know more about the surface of the moon than the deepest parts of the ocean,’ and our knowledge of these regions, particularly below 2000 metres in depth, is therefore barely registerable.<sup>39</sup> Much less than 0.0001 per cent of the more than 1.3 billion km<sup>3</sup> that this area encompasses has thus far been subject to human exploration,<sup>40</sup> and it was only

quite recently we did not know what was at the bottom of the oceans. Nor did we know what the bottom of the ocean was made of. In most areas, we did not even know where the bottom of the ocean was.<sup>41</sup>

Prior to the adoption of the LOSC, the waters and ocean floor at these depths were widely considered to be barren; with such areas lying below the level of light penetration, and therefore devoid of photosynthetic activity, they were presumed to consist of a ‘vast desert’ in terms of life and species diversity.<sup>42</sup> However, the discovery of a unique biological ecosystem at a

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<sup>32</sup> Wright, Rochette and Druel, *supra* note 27, 272.

<sup>33</sup> *A Technical Abstract of the First Global Integrated Marine Assessment*, *supra* note 16, 1.

<sup>34</sup> Wright, Rochette and Druel, *supra* note 27, 272.

<sup>35</sup> Wright *et al.*, *supra* note 5, 13.

<sup>36</sup> Elisabeth Druel, ‘Marine Protected Areas in Areas Beyond National Jurisdiction: The State of Play,’ 5.

<sup>37</sup> Robin Warner, *Protecting the Oceans Beyond National Jurisdiction: Strengthening the International Law Framework*, 1.

<sup>38</sup> Marjo Vierros *et al.*, ‘Who Owns the Ocean? Policy Issues Surrounding Marine Genetic Resources,’ 29.

<sup>39</sup> Freestone, *supra* note 31, X.

<sup>40</sup> *A Technical Abstract of the First Global Integrated Marine Assessment*, *supra* note 16, 8.

<sup>41</sup> David Kenneth Leary, *International Law and the Genetic Resources of the Deep Sea*, 8.

<sup>42</sup> CBD, SBSTTA, ‘Study of the Relationship between the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea with regard to the Conservation and Sustainable Use of Genetic Resources on the Deep Seabed (Decision II/10 of the Conference of the Parties to the Convention on Biological

hydrothermal vent in 1977, ‘one of the most important findings in biological science in the latter half of the twentieth century,’ has presupposed a plethora of new discoveries about the existence of life on the deep ocean floor.<sup>43</sup>

#### *1.1.3.2 Marine Biological Diversity within the Deep Seabed*

The biological diversity found at these depths is particularly unique, with its patterns ‘shaped by variations in the depth and nature of the seabed, by variations in temperature, salinity, nutrients and currents of the water column, and by the latitudinal and seasonal variations in sunlight.’<sup>44</sup> These variations have entailed a vast genetic diversity in species, which form part of a biologically diverse realm within very specialised ecosystems known as the ‘benthos.’<sup>45</sup> ‘Benthos’ are comprised of either those species living on the ocean floor, the *benthos*, or those associated with the immediately overlying water, the *benthopelagic fauna*.<sup>46</sup> Whilst the majority of these organisms are microscopic and live buried in the sediment of the deep seabed, it has been observed that there are ‘striking oases of productive life even at this depth.’<sup>47</sup>

Hydrothermal vent ecosystems, in particular, are now known to represent some of the most productive and densely populated biological communities found on Earth.<sup>48</sup> The production of life at vent sites occurs through a process called chemosynthesis, in which mineral-rich water, laced with chemicals, is forced through fissures in the sea floor at a high pressure.<sup>49</sup> These sites are now known to sustain a diverse range of micro-organisms and marine species, and over 75% of these are endemic, only existing at one particular site.<sup>50</sup> It has now been estimated that the deep seabed Area may contain up to 10 million species of organisms, with at least three remaining to be discovered for each that is already known.<sup>51</sup> Many of these have adapted to life under extreme conditions, and the unique ability of such micro-organisms

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Diversity)’ (22 February 2003) UN Doc. UNEP/CBD/SBSTTA/8/INF/3/Rev.1, 3 (CBD, SBSTTA Study of Relationship between CBD and LOSC).

<sup>43</sup> Lyle Glowka, ‘Putting Marine Scientific Research on a Sustainable Footing at Hydrothermal Vents,’ 303.

<sup>44</sup> *A Technical Abstract of the First Global Integrated Marine Assessment*, supra note 16, 7.

<sup>45</sup> ISA, ‘Biodiversity,’ available at <https://www.isa.org.jm/biodiversity-0> (last accessed 4 February 2018).

<sup>46</sup> John D. Gage and Paul A. Tyler, *Deep Sea Biology: A Natural History of Organisms at the Deep Sea Floor*, 57.

<sup>47</sup> Warner, supra note 37, 4.

<sup>48</sup> Glowka, supra note 43, 303.

<sup>49</sup> Joanna Mossop, ‘Reconciling Activities on the Extended Continental Shelf with Protection of the Marine Environment’ in Rayfuse (ed.), supra note 7, 172.

<sup>50</sup> *CBD, SBSTTA Study of Relationship between CBD and LOSC*, supra note 42, 3.

<sup>51</sup> Konrad Jan Marciniak, ‘Marine Genetic Resources: Do They Form Part of the Common Heritage of Mankind Principle?’ in Lawrence Martin *et al* (eds.), *Natural Resources and the Law of the Sea: Exploration, Allocation, Exploitation of Natural Resources in Areas under National Jurisdiction and Beyond*, 377.

and species to survive, in these superheated, oxygen-deprived waters, has presupposed their classification as ‘extremophiles’ within the scientific community.<sup>52</sup>

#### 1.1.4 Marine Genetic Resources

Each of these micro-organisms and marine species contain unique genetic material, which codifies their particular adaptations and can serve to provide genetic libraries as to evolutionary events on Earth.<sup>53</sup> The opportunity to explore this mostly untapped ‘rich reservoir of novel genetic material’ has accordingly piqued scientific and, increasingly commercial, interest in the those resources that are found within deep seabed ecosystems.<sup>54</sup>

Whilst a universal definition for MGRs has yet to be agreed, the Convention on Biological Diversity (CBD) defines ‘genetic resources’ as ‘genetic material of actual or potential value,’ in which ‘genetic material’ comprises ‘any material of plant, animal, microbial or other origin containing functional units of heredity.’<sup>55</sup> This broad definition presupposes that MGRs can be considered to encompass the genetic material of all plants, animals and micro-organisms that reside within the ocean waters.<sup>56</sup>

The international community’s interest in the genetic material of MGRs is directly linked to the locations in which they are found. Deep seabed MGRs, in particular, have exhibited remarkable qualities in adapting to the extreme environments found at these depths, where volatile abiotic conditions include enormous pressures, eternal darkness, low ambient temperatures and a scarcity of nutrients.<sup>57</sup> In this context, it has been suggested that the more extreme the conditions of the marine environment, the ‘more probable it becomes that the organisms found there will exhibit extraordinary qualities in terms of their genetics,’ leading to their classification as ‘extremophiles.’ For the scientific community, it has been suggested that the evolution of life at hydrothermal vent sites, in particular, may correspond to the initial development of life on Earth.<sup>58</sup> Deep seabed MGRs therefore present an unique opportunity to enhance our collective understanding of ocean ecosystems and their function and, indeed, of ‘the development and function of life itself.’<sup>59</sup>

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<sup>52</sup> Mossop, *supra* note 49, 172.

<sup>53</sup> Eve Heafey, ‘Access and Benefit-Sharing of Marine Genetic Resources from Areas Beyond National Jurisdiction: Intellectual Property – Friend, Not Foe,’ 495.

<sup>54</sup> United Nations, *The First Global Integrated Marine Assessment: World Ocean Assessment I*, 818.

<sup>55</sup> CBD, *supra* note 22, Article 2.

<sup>56</sup> Tladi, *supra* note 7, 260.

<sup>57</sup> ISA, ‘Biodiversity,’ *supra* note 45.

<sup>58</sup> Marciniak, *supra* note 51, 377.

<sup>59</sup> de la Fayette, *supra* note 13, 226.

More significantly, however, these extraordinary qualities have also heightened bio-industry expectations as to the commercialised potential of these deep seabed species, and it has been observed that ‘the possibility of using the genetic material that make hydrothermal vents species able to survive in extreme conditions opens new horizons in the field of genetic engineering and offers prospects of promising economic implications.’<sup>60</sup> Whilst this commercial interest in the ‘blue gold’ of deep seabed MGRs has been a comparatively recent development, the natural environment ‘has long been a source of inspiration for new drugs and other products of biotechnology,’ and as the international community’s understanding of the life within deep seabed ecosystems has evolved, so has the commercial possibilities presented by the exploitation and utilisation of these resources.<sup>61</sup>

There are great, although perhaps still unsubstantiated expectations as to the potential value of MGRs, as well as to the bio-technologies that may be developed on the basis of these.<sup>62</sup> Nevertheless, the diversity of the genetic material that has been found, particularly at the sites of hydrothermal vents, has meant that this potential has so far been explored in a wide range of sectors. However, it is their potential application within the pharmaceutical industry that has generated the most commercial excitement and, since the turn of the century, the first seven pharmaceutical drugs to be derived from the genetic material of MGRs have been put into commerce.<sup>63</sup>

## **1.2 Factors Underpinning the BBNJ Process**

In this context, the BBNJ Process has been underpinned by two separate, but associated developments.<sup>64</sup> The first relates to increasing international concern regarding the state of the oceans in general, and marine biological diversity and fragile ecosystems in particular.<sup>65</sup> The second pertains to the aforementioned, increasingly privatised commercial interest in deep seabed MGRs, and the environmental and economic implications that their industrial-scale exploitation will likely present.<sup>66</sup>

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<sup>60</sup> Tullio Scovazzi, ‘Mining, Protection of the Environment, Scientific Research and Bioprospecting: Some Considerations on the Role of the International Sea-Bed Authority,’ 399.

<sup>61</sup> *The First Global Integrated Marine Assessment: World Ocean Assessment I*, supra note 54, 818-819.

<sup>62</sup> Marciniak, supra note 51, 377.

<sup>63</sup> *The First Global Integrated Marine Assessment: World Ocean Assessment I*, supra note 54, 819.

<sup>64</sup> Tladi, supra note 7, 259.

<sup>65</sup> Ronán Long and Mariamalia Rodríguez Chaves, ‘Anatomy of a New International Instrument for Marine Biodiversity Beyond National Jurisdiction: First Impressions of the Preparatory Process,’ 213.

<sup>66</sup> Rabitz, supra note 8, 132.

### 1.2.1 Loss of Marine Biological Diversity

As it was noted in section 1.1.1, stable oceans are a fundamental prerequisite to the well-being and functionality of marine biological diversity. However, it is now widely acknowledged that the health of the oceans is in a state of steep decline, and that this decline can be directly traced to the actions of mankind. We have not been particularly kind to the oceans.<sup>67</sup> The range and volume of human activities that affect ocean waters has risen exponentially over the past half a century, and this trend shows no sign of abating; on the contrary, conventional uses of the oceans are intensifying, and contemporary uses, such as bioprospecting, pose new and increasing threats.<sup>68</sup> Technological advancements, coupled with the demand of an increasing human population, are also driving an unprecedented exploitation of the ocean's resources, and the impacts of these are now only just starting to be felt. Indeed, as the *First Global Integrated Marine Assessment* observed, in rather sobering terms, we have now

reached the end of the period where human activities on the sea were minor in relation to the overall scale of the ocean. Human activities now have so many and such great impacts on the ocean that the limits of its carrying capacity are being (or, in some cases, have been) reached.<sup>69</sup>

This has therefore had a direct impact on the life that resides within these waters. However, as it was noted in section 1.1.3.1, our scientific understanding of the marine ecosystems that occupy the deep ocean floor remains nascent to a large degree, and assessing the impact of our human activities at these depths is therefore still bound by the embryonic state of our knowledge; posing additional challenges to those presented, for example, on land.<sup>70</sup> Nevertheless, the uniqueness of these habitats, and the extreme characteristics of the micro-organisms and marine species that occupy the deep seabed means that marine ecosystems at these depths are often fragile, endemic and highly interconnected.<sup>71</sup> These, moreover, have exhibited very slow growth rates and low fecundity, leading scientists to estimate that it could take decades for such biological communities to recover from any anthropogenic interferences.<sup>72</sup> So whilst the patterns of marine biological diversity at these depths 'are largely unquantified and their natural drivers are not fully understood',<sup>73</sup> their very nature entails that

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<sup>67</sup> Rosemary Rayfuse, 'Preface' in Rayfuse (ed.), supra note 7, XIII.

<sup>68</sup> Robin Warner, 'Environmental Assessment in Marine Areas Beyond National Jurisdiction' in Rayfuse (ed.), supra note 7, 291.

<sup>69</sup> *The First Global Integrated Marine Assessment: World Ocean Assessment I*, supra note 54, 40.

<sup>70</sup> CBD, 'Report of the Expert Workshop on Scientific and Technical Aspects Relevant to Environmental Impact Assessment in Marine Areas Beyond National Jurisdiction' (20 November 2009) UN Doc. UNEP/CBD/EW-EIAMA/2, 1.

<sup>71</sup> Marciniak, supra note 51, 377.

<sup>72</sup> CBD, *SBSTTA Study of Relationship between CBD and LOSC*, supra note 42, 20.

<sup>73</sup> *A Technical Abstract of the First Global Integrated Marine Assessment*, supra note 16, 7.

sampling, or even the introduction of an external element such as light, could have significant adverse environmental impacts.<sup>74</sup>

This becomes particularly relevant in the context of a rapidly globalising world. Whilst the remoteness of these areas have historically placed them beyond the reach of human activity, a paradigm shift in the stressors that are being placed on the oceans has entailed that the deep ocean floor can no longer claim to enjoy indirect protection at the hands of technological and economic limitations.<sup>75</sup> Deep seabed mining, and its corresponding environmental implications, is now an increasingly foreseeable reality, and the commercial interest in deep seabed MGRs is one other factor that has exacerbated international concern in this respect.

### **1.2.2 Commercial Interest in Marine Genetic Resources**

As it was noted in section 1.1.4.1, commercial interest in the ‘sunk genetic treasures’ of deep seabed MGRs has been a comparatively recent development. However, the scope for their commercial development has given rise to both environmental and economic concerns.

#### *1.2.2.1 Environmental Concerns*

Environmental concerns attendant to this interest can be traced to two related points. The first, and most tangible, relates to the nature of the sites within which such MGRs are found, as detailed in section 1.2.1. The second, and directly following on from this point, pertains to the industrial methods of investigation, or ‘bioprospecting,’ that are utilised to extract the MGRs from these sites. ‘Bioprospecting’ has been defined as ‘the exploration for commercially valuable genetic and biochemical resources’<sup>76</sup> or, more specifically, as ‘the process of gathering information from the biosphere on the molecular composition of genetic resources for the development of new commercial products.’<sup>77</sup> The highly productive ecosystems found within hydrothermal vents sites, as well as in those in submarine trenches and cold seeps, are now the subject of intense interest from ‘bioprospectors,’ who ‘are conducting progressively more invasive experiments at these sites’ on behalf of the commercial industry.<sup>78</sup> It has been observed that these experiments present various environmental risks, and this is particularly so when taking into account the nature of the sites being investigated.

Such activities may introduce light and noise to otherwise undisturbed environments, affect local water temperatures, produce pollution (such as debris or discharge from vessels and

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<sup>74</sup> Marciniak, *supra* note 51, 377.

<sup>75</sup> Wright *et al*, *supra* note 5, 7.

<sup>76</sup> CBD, *SBSTTA Study of Relationship between CBD and LOSC*, *supra* note 42, 14.

<sup>77</sup> CBD, ‘Information on Marine and Coastal Genetic Resources, including Bioprospecting’ (20 April 2000) UN Doc. UNEP/CBD/COP/5/INF/7, at [6].

<sup>78</sup> Warner, *supra* note 37, 20.

equipment), cause inadvertent movements, disturbance, and even the introduction of organisms, which can lead to site contamination. The pressures imposed by cumulative expeditions to deep seabed sites, as well as the subsequent collection or harvesting of MGRs deemed to be of commercial value, are therefore likely to cause harm both to the genetic resources themselves, as well as to the highly-interconnected ecosystems from which they are collected.<sup>79</sup> These concerns have moreover been exacerbated by the fact that such activities currently lie outside the scope of any international regulatory regime, which will be considered in section 2.2.1.2. Bioprospectors, at present, accordingly face no limitations on the amount of genetic and biochemical material that they can remove from these sites.<sup>80</sup>

#### *1.2.2.2 Economic Concerns*

The relative inaccessibility of the deep ocean floor has entailed that, for now, the major barriers to the acquisition of MGRs are not legal in nature, but instead ones of technology and expertise.<sup>81</sup> Bioprospecting activities at deep seabed hydrothermal vent sites can encompass costs of up to US \$5 million for a five-year expedition,<sup>82</sup> and is therefore ‘all but impossible except for a handful of actors,’ requiring specific technological machinery ‘that is not widely available and is concentrated in the hands of the few.’

This is particularly concerning in the context of MGRs found within ABNJ. The fact that these lie beyond the scope of national jurisdiction entails that there are no ‘providers’ of these resources, only users; as such, unlike for resources that are found within the national territory of a sovereign state, no ‘prior consent’ can be requested by the ‘provider’ as a means by which to regulate their access. This, as will be considered in more detail in section 5.2.2, has created a simple distinction between the small handful of states that are able to extract and utilise MGRs, and those that do not possess the technical capacity to do so.<sup>83</sup> In this respect, an examination of the patent market may provide an indicator of the relative capacities of states to engage in the extraction and utilisation of MGRs. It is noteworthy that of all of the international patent claims that have so far been made for bio-technologies or products derived from MGRs, 90 per cent are currently held by a total of only ten countries. Of these ten countries, the United States of America, Germany and Japan account for 70 per cent alone.<sup>84</sup>

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<sup>79</sup> Wright *et al*, *supra* note 5, 14.

<sup>80</sup> Warner, *supra* note 37, 21.

<sup>81</sup> Rabitz, *supra* note 8, 136.

<sup>82</sup> Arianna Brogiato *et al*, ‘Fair and Equitable Sharing of Benefits from the Utilization of Marine Genetic Resources in Areas Beyond National Jurisdiction: Bridging the Gaps between Science and Policy,’ 177.

<sup>83</sup> Rabitz, *supra* note 8, 137.

<sup>84</sup> Sylvia Arnaud-Haond *et al*, ‘Global Genetic Resources: Marine Biodiversity and Gene Patents,’ 1521.

This development, and the role of intellectual property rights in this context more generally, has naturally raised questions and concerns of equity, and the sharing of benefits; particularly within the developing world,<sup>85</sup> where it is feared that a maintenance of the ‘status quo’ will only serve to exacerbate the prevalent disparities in the distribution of economic wealth between the ‘developed North’ and the ‘developing South.’<sup>86</sup>

### 1.3 Concluding Observations

The international community’s developing awareness towards these two underlying factors has accordingly predicated a closer examination of the existing legal arrangements that are in place for marine biological diversity in ABNJ.<sup>87</sup> This examination has precipitated two contested areas of terrain which, like the developments that preceded them, are separate but related. The first pertains to the adequacy of these existing arrangements to effectively protect and preserve marine biological diversity beyond the limits of national jurisdiction, and their propensity to do so in an equitable manner. The second, and legally most contentious, concerns the legal status of deep seabed MGRs.<sup>88</sup>

While this examination has taken place in various international fora, the LOSC, as the ‘Constitution for the Oceans,’ has demanded particular attention.<sup>89</sup> In this context, and as will be the focus of the next Chapter 2, it has been observed that there are ‘serious lacunae in the [Convention’s] governance regime for areas beyond national jurisdiction,’ and that these are reflected through deficiencies in coverage, implementation and effectiveness.<sup>90</sup> The escalating crisis in marine ecosystems, it is suggested, can therefore be principally traced to a failure of governance and, in this regard, the Convention has been ‘criticised as being insufficient to address modern threats to the marine environment and biodiversity.’<sup>91</sup> The BBNJ Process has, accordingly, taken place within the context of these conclusions.

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<sup>85</sup> Robert Blasiak *et al*, ‘Negotiating the Use of Biodiversity in Maritime Areas Beyond National Jurisdiction,’ 1.

<sup>86</sup> Vierros *et al*, *supra* note 38, 30.

<sup>87</sup> *CBD, SBSTTA Study of Relationship between CBD and LOSC*, *supra* note 42, 4.

<sup>88</sup> Tladi, *supra* note 7, 259.

<sup>89</sup> ‘A Constitution for the Oceans,’ Remarks by Tommy T. B. Koh, *supra* note 14, at xxxiii.

<sup>90</sup> Freestone, *supra* note 4, 16.

<sup>91</sup> Tladi, *supra* note 2, 116.

## 2. The United Nations Convention on the Law of the Sea

### 2.1 The Convention

The law of the sea is one of the oldest subjects of international law. Today, it also continues to be one of the most dynamic, as the ongoing BBNJ Process has served to demonstrate. And lying at the heart of this evolution has been, and continues to be, the LOSC.<sup>92</sup> The LOSC ‘codifies and develops the rules of international law pertaining to the use of ocean space and maritime activities.’<sup>93</sup> As such, it provides a comprehensive legal regime for the governance of the oceans and is ‘the legal framework within which all activities in the oceans must be carried out.’<sup>94</sup>

The Convention’s stated aim is to establish ‘a legal order for the seas and oceans,’ as one that will

facilitate international communication, and will promote the peaceful use of the seas and oceans, the equitable and efficient utilisation of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment.<sup>95</sup>

Acknowledging that the oceans are subject to various and, at times, competing interests, this legal order entails that all activities that take place on the oceans should be managed, and regulated, in order to ‘ensure that ocean-related activities do not interfere with each other.’<sup>96</sup> The Convention’s management of the oceans accordingly represents an ‘important contribution to the maintenance of peace, justice and progress for all peoples of the world,’<sup>97</sup> particularly bearing in mind

that the achievement of these goals will contribute to the realisation of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries...<sup>98</sup>

At the time of its adoption, the Convention’s drafters explicitly recognised the LOSC’s ‘historic significance,’ and today it is still widely acknowledged as representing the ‘Constitution for the Oceans,’ particularly in terms of the comprehensiveness of the regime that it establishes.<sup>99</sup>

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<sup>92</sup> Donald Rothwell and Tim Stephens, *The International Law of the Sea*, 25.

<sup>93</sup> Ronán Long, ‘The Inexorable Rise of the United Nations Convention on the Law of the Sea within the European Legal Order’ in Michael W. Lodge and Myron H. Nordquist, *Peaceful Order in the World’s Oceans*, 157.

<sup>94</sup> DOALOS, *Marine Biological Diversity beyond Areas of National Jurisdiction: Legal and Policy Framework*, 1.

<sup>95</sup> LOSC, supra note 3, preambular para 5.

<sup>96</sup> de la Fayette, supra note 13, 262.

<sup>97</sup> LOSC, supra note 3, preambular para 2.

<sup>98</sup> Ibid, preambular para 6.

<sup>99</sup> Ibid, preambular para 2.

However, in the context of the Convention's ability to effectively protect and preserve marine biological diversity, this designation, as it was noted in section 1.3, is increasingly being challenged. Indeed, it has been stated that whilst the threats being posed to marine biological diversity in ABNJ have grown exponentially, the governance framework under the Convention 'has not kept pace.'<sup>100</sup> The Convention's deficiencies in effectiveness as well as coverage, its practice of delimiting maritime zones, and its failure to address the legal status of deep seabed MGRs, have all served to reinforce this particular conclusion.

### 2.1.1 Deficiencies in Effectiveness as well as Coverage

Regulatory gaps in the LOSC governance framework entail that not all human activities taking place in ABNJ are sufficiently covered under the Convention, with some lying beyond the scope of its legislative reach.<sup>101</sup> And, where such activities are regulated, the obligations expressed are often too imprecise, qualified or ambiguous to be considered effective in their prescription of environmental protection.<sup>102</sup>

#### 2.1.1.1 Deficiencies in Effectiveness

The LOSC is framework in nature, and thus contains few detailed norms of environmental protection.<sup>103</sup> Whilst it devotes an entire chapter, Part XII, to the 'protection and preservation of the marine environment,' its normative elements establish only 'general and rather peripheral obligations' relating to the conservation of marine biological diversity, with two of these warranting particular consideration in this respect.<sup>104</sup> First, under Article 192, States Parties have a general obligation to 'protect and preserve the marine environment.'<sup>105</sup> This obligation has been held to extend to the 'conservation of the living resources of the sea' by the International Tribunal for the Law of the Sea (ITLOS).<sup>106</sup> It is broad in scope, applying to all ocean areas, and the Seabed Disputes Chamber to the ITLOS has acknowledged its *erga omnes* character in this respect.<sup>107</sup> However, the obligation to 'protect and preserve the marine

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<sup>100</sup> Kristina M. Gjerde and Anna Rulska-Domino, 'Marine Protected Areas beyond National Jurisdiction: Some Practical Perspectives for Moving Ahead,' 352.

<sup>101</sup> Wright *et al*, *supra* note 5, 23.

<sup>102</sup> Robin Churchill, 'The LOSC Regime for the Protection of the Marine Environment – Fit for the Twenty-First Century?' in Rayfuse (ed.), *supra* note 7, 29.

<sup>103</sup> *Ibid*, 5.

<sup>104</sup> *Ibid*, 12.

<sup>105</sup> LOSC, *supra* note 3, Article 192.

<sup>106</sup> *Southern Bluefin Tuna (New Zealand v Japan; Australia v Japan)* (Provisional Measures) (1999) 117 ILR 148, at [70].

<sup>107</sup> *Responsibilities and Obligations of States Sponsoring Persons and Entities with respect to Activities in the Area (Request for Advisory Opinion Submitted to Seabed Disputes Chamber)*, Advisory Opinion (2011) 50 ILM 458, at [59] (SDC Advisory Opinion).

environment’ is circumscribed by the sovereign right of states to exploit their own natural resources, pursuant to their own environmental policies.<sup>108</sup>

Second, Article 194(5) prescribes that measures taken to prevent, reduce and control pollution of the marine environment

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.<sup>109</sup>

The Permanent Court of Arbitration has suggested that this obligation extends to the protection and preservation of rare and fragile ecosystems from all forms of human interference, and not just those of a polluting nature.<sup>110</sup> It also has a general scope of application, and extends to all vulnerable marine ecosystems and species wherever they are located, including the deep seabed Area.<sup>111</sup> Nevertheless, it remains that the conservation of marine biological diversity is only prescribed to the extent that it forms part of such a ‘rare or fragile ecosystem,’ a definition of which has yet to be provided.<sup>112</sup>

Neither of these provisions, it is therefore suggested, can be relied upon to provide effective, comprehensive protection to marine biological diversity in ABNJ. Each are far too general to impose any meaningful obligations on states, and prescribe no specific methodologies as to how such conservation is to be achieved.<sup>113</sup> Beyond these general provisions, the LOSC also prescribes obligations to protect and preserve the marine environment in those parts of the Convention that govern specific maritime zones, and these will be considered in Chapters 3 and 4.

#### *2.1.1.2 Deficiencies in Coverage*

Whilst the Convention does not explicitly entertain the exploitation or utilisation of MGRs, a legacy of the time at which the LOSC was adopted, the comprehensiveness of the Convention’s regime dictates that the marine environmental protection provisions detailed in section 2.1.1.1 nevertheless extend to MGRs found within the deep seabed; ‘whether within areas under national jurisdiction or beyond,’ and however incomplete or inadequate they may be.<sup>114</sup> And, in this context, the Convention’s principal deficiency in terms of coverage relates to the practice of bioprospecting, and ‘the exploration for commercially valuable genetic and

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<sup>108</sup> LOSC, supra note 3, Article 193.

<sup>109</sup> Ibid, Article 194(5).

<sup>110</sup> *Chagos Marine Protected Area Arbitration (Mauritius v United Kingdom)* (Final Award) (PCA 2015) ICGJ 486, at [320].

<sup>111</sup> Scovazzi, supra note 60, 396.

<sup>112</sup> Churchill, supra note 102, 18.

<sup>113</sup> Wright, Rochette and Druel, supra note 27, 273.

<sup>114</sup> *CBD, SBSTTA Study of Relationship between CBD and LOSC*, supra note 42, 8.

biochemical resources.’ As it was noted in section 1.2.1.1, the LOSC does not specifically address such activities, a lacuna that has arisen ‘by accident rather than design.’<sup>115</sup> As such, bioprospectors currently self-regulate their activities on a voluntary basis.<sup>116</sup>

However, some have disputed the existence of this lacuna, and questioned whether a distinction may be made between bioprospecting and marine scientific research (MSR), which *is* regulated under Part XIII of the LOSC. This reasoning is based on an interpretation of Article 246 of the Convention, in which it seemingly anticipates two types of MSR being conducted in respect of maritime zones within national jurisdiction; one that intends to ‘increase scientific knowledge of the marine environment for the benefit of all mankind,’ and a second ‘of direct significance for the exploration and exploitation of natural resources, whether living or non-living.’<sup>117</sup>

Nevertheless, the Convention does not make a contiguous elaboration with respect to MSR conducted in ABNJ. Moreover, when taking into account the increasingly commercial nature of the international interest in deep seabed MGRs, as well as the attendant environmental and economic concerns that this has occasioned, it has been suggested that a distinction ‘should reside solely in the purposes and intent for which the activity is undertaken.’<sup>118</sup> And, on this basis, that bioprospecting ‘calls for a specific legal framework which puts it in an appropriate context,’ and under which the international community can regulate the actions of those representing the bio-technology industry.<sup>119</sup>

### *2.1.1.3 Institutional Fragmentation*

Under Article 197 of the LOSC, States Parties are required to cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organisations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment.<sup>120</sup>

The obligation to cooperate is a central element in the Convention’s approach to the protection and preservation of the marine environment.<sup>121</sup> However, the Convention’s evident shortcomings in this regard has entailed that the majority of inter-state cooperation pertaining

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<sup>115</sup> CBD, SBSTTA, ‘Bioprospecting of Genetic Resources of the Deep Sea-Bed’ (24 July 1996) UN Doc. UNEP/CBD/SBSTTA/2/15, at [12].

<sup>116</sup> Warner, *supra* note 37, 21.

<sup>117</sup> LOSC, *supra* note 3, Articles 246(3) and (5)(a).

<sup>118</sup> CBD, SBSTTA *Study of Relationship between CBD and LOSC*, *supra* note 42, 14.

<sup>119</sup> Scovazzi, *supra* note 60, 404.

<sup>120</sup> LOSC, *supra* note 3, Article 197.

<sup>121</sup> Tladi, *supra* note 7, 263.

to the conservation of marine biological diversity now takes place in ‘competent organisations’ outside of the Convention’s framework.<sup>122</sup> Indeed, states can now turn to a wide range of bodies to address these issues, with a plethora of international institutions purporting to fill the Convention’s regulatory gaps.<sup>123</sup>

The growing concerns over the status of the oceans, and marine biological diversity in particular, has presupposed that human activities are now subject to an extensive and expanding legal framework, both at the regional and international level. However, this framework has developed in a de-centralised, fragmented and sectoral manner, with a variety of approaches being used to address disparate biological concerns across diverse sectors such as transport, fishing and deep seabed mining.<sup>124</sup> This has meant that efforts to conserve marine biological diversity are now directly influenced by a wide range of actors, often with distinct interests.<sup>125</sup>

In this respect, it has been suggested that the prevalent governance issues are only being exacerbated by the patchwork of institutional approaches that exist.<sup>126</sup> Implementation gaps have arisen through uncoordinated regional and international efforts, as well as the overlapping scope of existing agreements.<sup>127</sup> And whilst each of these instruments, and the institutions that govern them, present an opportunity to advance the conservation and sustainable use of marine biological diversity in ABNJ, the absence of an overarching governance framework has engendered a lack of structure, consistency or coherence between these.<sup>128</sup> Indeed, as the *Global Ocean Commission* has observed,

[i]n such a highly fragmented landscape, policy coherence and effective international cooperation at and between global levels are essential to achieving common objectives... Over the years, efforts have been made to improve coordination and coherence... These efforts have not generally met with great success.<sup>129</sup>

This institutional fragmentation has proven to be a ‘major bone of contention’ throughout the BBNJ Process, and it is one that is moreover complicated by the Convention’s practice of delimiting distinct maritime zones.<sup>130</sup>

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<sup>122</sup> Alexander Proelss and Katherine Houghton, ‘Protecting Marine Species’ in Rayfuse (ed.), supra note 7, 231.

<sup>123</sup> James Harrison, ‘Actors and Institutions for the Protection of the Marine Environment’ in Rayfuse (ed.), supra note 7, 58.

<sup>124</sup> Rabitz, supra note 8, 133.

<sup>125</sup> Proelss and Houghton, supra note 122, 231.

<sup>126</sup> Freestone, supra note 4, 19.

<sup>127</sup> Narula, supra note 20, 70.

<sup>128</sup> Dire Tladi, ‘Ocean Governance: A Fragmented Regulatory Framework’ in Pierre Jacquet *et al* (eds.), *Oceans: The New Frontier – A Planet for Life*, 101.

<sup>129</sup> Global Ocean Commission, *Policy Options Paper #10: Modernising Ocean Governance*, 4. Reproduced in Wright *et al*, supra note 5, 22.

<sup>130</sup> Rabitz, supra note 8, 133.

### 2.1.2 Delimitation of Maritime Zones

The preamble of the LOSC acknowledges that the issues of ‘ocean space are closely interrelated and need to be considered as a whole.’<sup>131</sup> Nevertheless, one of the Convention’s principal features is its division of the oceans into distinct jurisdictional maritime zones, both horizontally and vertically, which has further resulted in a ‘divided rather than an integrated system of oceans governance.’<sup>132</sup> Under the LOSC’s zonal management approach, human activities are regulated according to the legal category of the maritime zone in which the activity is taking place, with the Convention prescribing the respective rights and obligations within each of these. The same, therefore, applies to the application of measures intended to conserve marine biological diversity.<sup>133</sup>

However, the spatial delimitation of the Convention’s artificially-constructed maritime zones fails to account for the ‘ecological interactions between species as well as the ecological conditions of the physical surroundings.’ The ocean is a dynamic natural system, and in this respect the zonal management approach runs fundamentally at odds to the natural functioning of biological processes, which do not respect artificial legal boundaries.<sup>134</sup> This ‘divergence between the law and nature is a serious deficiency,’ and one that inhibits the Convention’s ability to effectively protect and preserve marine biological diversity in an integrated, holistic manner.<sup>135</sup>

The LOSC’s failure to admit to ecological realities is particularly manifest in the context of deep seabed MGRs, in which a ‘symbiotic relationship exists between the water column and organisms belonging to the ocean floor,’ and where mineral and biological resources are often ‘physically intermingled.’<sup>136</sup> Nevertheless, the Convention’s zonal management approach entails that a legal distinction is made between the deep seabed ‘Area’ and the ‘high seas’ water column lying above it. This means that the governance frameworks that oversee the regulation of these symbiotic ecosystems are distinct for each zone and, to compound matters even further, operate under different, and fundamentally opposing legal regimes.<sup>137</sup> The Convention’s delimitation of maritime zones is therefore one of the principal contexts in which the thorny

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<sup>131</sup> LOSC, *supra* note 3, preambular para 4.

<sup>132</sup> Freestone, *supra* note 4, 16.

<sup>133</sup> Tanaka, *supra* note 10, 36.

<sup>134</sup> Yoshifuma Tanaka, ‘Zonal and Integrated Management Approaches to Ocean Governance: Reflections on a Dual Approach in International Law of the Sea,’ 486.

<sup>135</sup> Yoshifumi Tanaka, *A Dual Approach to Ocean Governance: The Cases of Zonal and Integrated Management in International Law of the Sea*, 6.

<sup>136</sup> de la Fayette, *supra* note 13, 258.

<sup>137</sup> Edith Brown Weiss, ‘Freedom of the High Seas vs The Common Heritage of Mankind: Fundamental Principles in Conflict,’ 521.

issue, of determining which of these regimes should apply to MGRs found within the deep seabed, has played out.

### **2.1.3 Legal Uncertainty as to the Status of Marine Genetic Resources in the Deep Seabed**

Questions concerning the legal status of deep seabed MGRs have proven, as it was stated in section 1.3, to be some of the most contentious in the contemporary international law of the sea. Discussions concerning this issue have engendered a divergence of views of a ‘legal, political and ideological nature,’ and whilst these will be explored in more detail in Chapter 5, the following is intended to serve as a brief introduction. For now, however, this divergence of views, running predominantly along the established lines of ‘North’ and ‘South,’ has been underscored by a ‘legal ambiguity’ under the LOSC, on the basis of which two groups of states have proffered their own narratives as to how the legal status of deep seabed MGRs should be construed.<sup>138</sup> And this, accordingly, has presupposed the formulation of two distinct and fundamentally irreconcilable interpretations.<sup>139</sup>

Under the LOSC, the deep seabed ‘Area’ is defined as the ‘seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction.’<sup>140</sup> According to Article 136 of the Convention, this Area, and its ‘resources,’ are subject to a specific legal status as the common heritage of mankind.<sup>141</sup> However, ‘resources’ in this respect constitute ‘all solid, liquid, or gaseous mineral resources *in situ* in the Area at or beneath the seabed, including polymetallic nodules,’ and this has led some to suggest that, by definition, this would exclude all living, biological or genetic resources that are found to exist within the deep seabed from being subject to the same status.<sup>142</sup> Those that advocate this position add that since the areas at these depths were widely considered to be a ‘vast desert’ in terms of life and species diversity at the time of the LOSC’s drafting, the Convention cannot ‘perform miracles’ and pertain to regulate that about which it did not know.<sup>143</sup> And, in this respect, the negative definition that the Convention provides for the spatial scope of the high seas, as applying to all parts of the oceans that are not within a distinct jurisdictional maritime zone, would therefore entail that deep seabed MGRs would form, by default, part of these waters.<sup>144</sup> Such resources would thus be subject to the

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<sup>138</sup> Valentina Germani and Charlotte Salpin, ‘The Status of High Seas Biodiversity in International Policy and Law’ in Jacquet *et al* (eds.), *supra* note 134, 196.

<sup>139</sup> Tladi, *supra* note 2, 115.

<sup>140</sup> LOSC, *supra* note 3, Article 1(1).

<sup>141</sup> *Ibid*, Article 136.

<sup>142</sup> *Ibid*, Article 133(a).

<sup>143</sup> Marciniak, *supra* note 51, 383.

<sup>144</sup> LOSC, *supra* note 3, Article 86.

legal regime prescribed under Part VII of the LOSC, which regulates human activities within the high seas under the principle of freedom.<sup>145</sup>

The converse interpretation submits that as the wording of Article 136 of the Convention states that both the ‘Area’ and its ‘resources’ are to be the common heritage of mankind, the Area itself should be regarded as a separate entity, independently of its mineral resources. This interpretation serves to pacify the effect of the Convention’s definition of ‘resources’ in limiting the material scope of the principle of the common heritage of mankind.<sup>146</sup> And, since the Area encompasses ‘the seabed and ocean floor and subsoil thereof,’ this could be interpreted to comprise each and every type of resource found to exist within the deep seabed, whether non-living or living, mineral, biological or, indeed, genetic.<sup>147</sup>

Some have gone to great lengths in their attempts to turn back the hands of time, in order to decipher the legal intentions of those that drafted Article 136 at the Third United Nations Conference on the Law of the Sea (LOSC III). Unfortunately, time and space do not permit these investigations to be explored in greater depth here. Whilst both sides can contend to possess reasonable propositions on which to base their claim, it seems safe to say that the differences in views ‘cannot be resolved by reference to the text of the Convention.’<sup>148</sup> And, accordingly, this serves to reinforce the point that the international community should, at the forthcoming Intergovernmental Conference, look beyond the text of the LOSC, and embrace its unique opportunity to decide what the law *should be*.

Nevertheless, these attempts have been made, and the issue has proven to be so controversial, precisely because, the two legal regimes to which deep seabed MGRs are submitted to be subject to, the principles of the freedom of the high seas and the common heritage of mankind, are antithetical in nature, and fundamentally opposing in a myriad of ways. The effects of this decision, either way, is therefore going to have very significant global implications,<sup>149</sup> and explains both why the controversy surrounding the legal status of MGRs has largely subsumed the other ‘package’ elements of the BBNJ Process and, why, in the early stages of this process, the ‘developing South’ insisted that any progress on the conservation and sustainable use of marine biological diversity in ABNJ would be contingent on first addressing the legal status of deep seabed MGRs.<sup>150</sup> Doing so, and overcoming the ‘ideological divide,’ is

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<sup>145</sup> Ibid, supra note 3, Article 87.

<sup>146</sup> Tladi, supra note 2, 117.

<sup>147</sup> Marciniak, supra note 51, 383.

<sup>148</sup> Tladi, supra note 7, 262.

<sup>149</sup> Heafey, supra note 53, 508.

<sup>150</sup> Tladi, supra note 7, 268-269.

likely to present the greatest obstacle to the successful adoption of a new international agreement.

## **2.2 The Convention Trapped in an Earlier Time**

The LOSC was adopted at a time in which the international community's awareness and understanding of environmental matters remained relatively underdeveloped. This was particularly so in the context of the deep seabed, where 'it was assumed that these areas were largely devoid of life. Certainly, no one imagined that the few animals believed to exist had any commercial value.'<sup>151</sup> The discovery of the first biological community at the site of a hydrothermal vent occurred halfway through the LOSC III, and it has been observed that the Convention's acknowledged shortcomings in the context of marine biological diversity, and particularly deep seabed MGRs, can therefore largely be attributed to the LOSC being a simple reflection of human consciousness at this time.<sup>152</sup>

### **2.2.1 Relationship between Science and International Law**

This reflection evinces the dynamic tension that characterises the relationship between science and international law. The law, in this respect, has always faced a difficult task in attempting to 'keep up with scientific and technological progress as it marches into uncharted terrain beyond the boundary of existing regulatory and institutional frameworks.'<sup>153</sup> And, in the case of oceans policy, this progress often 'provides little time for contemplation.'<sup>154</sup> Nevertheless, the ephemeral and inter-temporal nature of the international law of the sea entails that the legal rules intended to regulate human activity within the oceans must 'be kept under constant review and reformed with the passage of time.' Doing so enables the law to address new challenges that arise 'subsequent to their adoption and implementation,' such as those that have now been presented by the discovery of life within the deep ocean floor.

### **2.2.2 The Convention's Scope for Normative Development**

The LOSC has, accordingly, been 'particularly sensitive to, and influenced by, developments in scientific knowledge and technology.'<sup>155</sup> However, the Convention's difficult and outdated amendment procedures have invoked criticism of its scope for normative

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<sup>151</sup> de la Fayette, *supra* note 13, 268.

<sup>152</sup> Wright *et al*, *supra* note 5, 24.

<sup>153</sup> Anna-Marie Hubert, 'Marine Scientific Research and the Protection of the Oceans' in Rayfuse (ed.), *supra* note 7, 313.

<sup>154</sup> John A. Knauss, 'Development of the Freedom of Scientific Research Issue of the Third Law of the Sea Conference,' 94.

<sup>155</sup> David M. Ong, 'Towards an International Law for the Conservation of Hydrocarbon Resources within the Continental Shelf' in David Freestone *et al* (eds.), *The Law of the Sea: Progress and Prospects*, 93.

development, with some describing it as being ‘unwieldy’ in responding to scientific and environmental developments; particularly as they relate to marine biological diversity.<sup>156</sup> Indeed, the Convention does not envisage a straightforward mechanism for its legal development, and in this respect compares unfavourably with other multilateral environmental agreements, such as the CBD, which provide conferences or meetings of the parties with the prescriptive powers to drive those agreements normatively forwards.<sup>157</sup>

Instead, the principal method by which the LOSC has attempted to keep pace with external developments has been through the negotiation and adoption of ‘implementing agreements’ within the Convention’s framework. Two implementing agreements have previously been concluded under the LOSC; the Part XI Agreement, which revolutionised the deep seabed mining regime for mineral resources in the Area, and the Fish Stocks Agreement, which ameliorated the Convention’s conservation measures for fisheries resources on the high seas. These two agreements have played a significant developmental role in elaborating key normative provisions under the Convention, and in the process have eliminated legal or implementation gaps that had been identified after the Convention had been adopted, and will be considered on this basis in Chapters 3 and 4 respectively.<sup>158</sup>

### **2.3 Concluding Observations**

It is in the context of the environmental and economic developments that were detailed in section 1.2, and the Convention’s shortcomings as addressed in sections 2.1 and 2.2, that the increasingly urgent calls for the negotiation and adoption of a third implementing agreement under the LOSC have taken place. First, it has been proposed that a new international agreement is needed to further specify, implement and update the Convention’s environmental protection measures as they relate to marine biological diversity in ABNJ, in order to address the ‘new threats and intensifying measures’ that these components face.<sup>159</sup> And second, with the commercial exploitation and utilisation of MGRs found within ABNJ now an ever-increasing reality, it has been suggested that a new agreement is required to address the question of which legal regime applies to deep seabed MGRs; both in order to effectively determine the rights and obligations that are to apply in respect of these, and to ensure that any benefits derived from their utilisation are distributed in a fair and equitable manner.<sup>160</sup>

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<sup>156</sup> Long and Chaves, *supra* note 65, 213.

<sup>157</sup> Alan Boyle, ‘Further Development of the 1982 Law of the Sea Convention: Mechanisms for Change,’ 564.

<sup>158</sup> Long and Chaves, *supra* note 65, 213.

<sup>159</sup> Narula, *supra* note 20, 74.

<sup>160</sup> Edward Guntrip, ‘The Common Heritage of Mankind: An Adequate Regime for Managing the Deep Seabed?’ 405.

As it was acknowledged in section 1.3, these two issues are separate but related. And, moreover, as it was first alluded to in section 2.1.3, clarifying the second of these will go a long way towards addressing the first. This is because beyond the general shortcomings of the LOSC that have already been identified in this Chapter, it has been observed that

[a]t the heart of the environmental problems in oceans governance is the Grotian principle of the freedom of the seas which is not only confirmed but entrenched in the Convention.<sup>161</sup>

This entrenchment of the principle of the freedom of the high seas is particularly significant in the context of the discussions concerning the legal status of deep seabed MGRs. As the next Chapter will attempt to demonstrate, the legal regime under Part VII of the LOSC, underpinned as it is by Hugo Grotius' archaic understanding of the ocean waters, exhibits fundamental flaws which have inherently limited international efforts to effectively conserve and manage the living resources within these waters. Nevertheless, it remains that a small group of states from within the 'developed North' continue to insist on extending this regime to the governance of deep seabed MGRs; the international community, it is suggested, would instead do well to pay heed to these historical warnings.

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<sup>161</sup> Tladi, *supra* note 7, 264.

### 3. The High Seas

#### 3.1 Spatial Scope

The LOSC, as it was previously noted in section 2.1.3, does not provide a positive geographical definition of the high seas. Instead, it defines the spatial scope of Part VII of the Convention, which applies to

all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State.<sup>162</sup>

The high seas legal regime therefore principally applies to the water column beyond coastal states' claimed exclusive economic zones (EEZs). However, it may also apply to the underlying seabed and subsoil, where such areas lie outside the scope of the jurisdictional regimes applying to coastal states' 'outer' continental shelf areas, or to the deep seabed Area under Part XI of the Convention.<sup>163</sup> For those states' advocating that deep seabed MGRs fall outside the scope of Part XI, this latter distinction is a crucial point. By default, such resources would therefore be subject to the high seas legal regime prescribed under Part VII of the LOSC, and regulated under the principle of the freedom of the high seas. The idiosyncrasies of this principle will now be examined.

#### 3.2 'Freedom of the Seas'

The high seas legal regime under the LOSC is widely acknowledged to have derived from the doctrine of the 'freedom of the seas,' which was first propounded by the Dutch jurist Hugo Grotius in the first part of the seventeenth century. Grotius drew a distinction between the 'inner sea,' which was enclosed on all sides by land and so susceptible to human occupation, and the 'outer sea,' or oceans, which were 'immense... infinite, bounded only by the heavens,' and which could neither be 'seized or inclosed.' This 'outer sea' was to be 'common to all, because it is so limitless that it cannot become a possession of any one.'<sup>164</sup> Despite having now encountered various legal circumscriptions, almost four hundred years later Grotius' fundamental understanding of the open oceans continues to define and shape the governance of all human activities upon the high seas waters.<sup>165</sup>

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<sup>162</sup> LOSC, *supra* note 3, Article 86.

<sup>163</sup> David Attard and Patricia Mallia, 'The High Seas' in David Attard *et al* (eds.), *The IMLI Manual on International Maritime Law: Volume I: The Law of the Sea*, 239.

<sup>164</sup> Hugo Grotius, *The Freedom of the Seas or the Right which Belongs to the Dutch to Take Part in the East Indian Trade* (translation and revision of the text of 1633 by Ralph Van Deman Magoffin), 37.

<sup>165</sup> Tanaka, *supra* note 10, 154.

### 3.2.1 Freedom of the High Seas

Under Article 87 of the LOSC, the principle of the freedom of the high seas stipulates that the high seas waters are ‘open to all States, whether coastal or land-locked.’<sup>166</sup> Such waters lie beyond the scope of any state’s national jurisdiction, and accordingly ‘[n]o State may validly purport to subject any part of the high seas to its sovereignty.’<sup>167</sup> The freedom of the high seas therefore entails that both the high seas and its ‘freedoms’ are to be enjoyed by all, under which each and every state is granted a free and equal right to engage in the range of lawful ocean activities that are prescribed under the Convention.<sup>168</sup> These activities include navigation, overflight, the laying of submarine cables and pipelines, the construction of artificial islands and other installations, and MSR, although this list is not exhaustive.<sup>169</sup> As a necessary corollary, no state is permitted to take any unilateral action that would potentially lead to a curtailment of these.<sup>170</sup>

However, this is not to say that within the high seas, states and individuals are free to act in a completely unfettered manner. A legal principle cannot create a *vacuum juris*, or state of lawlessness, and the fact that these freedoms are to be enjoyed by all states necessarily demands that they cannot be absolute.<sup>171</sup> In this regard, Article 87 also includes two qualifying provisions. First, the freedom of the high seas is to be ‘exercised under the conditions laid down by this Convention and by other rules of international law,’<sup>172</sup> such as those relating to the protection of the marine environment as detailed in section 2.1.1.1, or to the conservation and management of its living resources, which will be considered in section 3.3.1. Second, it prescribes that the high seas freedoms

shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area.<sup>173</sup>

It has been suggested that the ‘due regard’ requirement is an element of the principle of good faith, and requires that ‘these rights must be exercised reasonably.’ As such, the correspondent interests of other states in their exercise of these freedoms ‘must be taken into account and not simply ignored.’<sup>174</sup>

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<sup>166</sup> LOSC, supra note 3, Article 87(1).

<sup>167</sup> Ibid, Article 89.

<sup>168</sup> Tanaka, supra note 10, 156.

<sup>169</sup> LOSC, supra note 3, Article 87(1).

<sup>170</sup> Attard and Mallia, supra note 163, 241.

<sup>171</sup> David Anderson, *Modern Law of the Sea: Selected Essays*, 233.

<sup>172</sup> LOSC, supra note 3, Article 87(1).

<sup>173</sup> Ibid, Article 87(2).

<sup>174</sup> Anderson, supra note 171, 234-235.

Nevertheless, it remains that the fundamentally open nature of the high seas, under Grotius' formative understanding of the open oceans, inherently limits the ability of the international community to effectively protect and preserve the marine life that resides within these waters. And, in this respect, two inexorable features of the principle of the freedom of the high seas, being the 'common' nature of the high seas waters, and the concomitant principle of exclusive flag state jurisdiction, can serve to illustrate this.

### 3.2.2 The 'Common' Nature of the High Seas

In section 1.1.3, it was noted that marine ABNJ have been said to represent 'the last great global common areas on Earth.'<sup>175</sup> The 'global commons' have been defined as comprising those areas that lie beyond the sovereignty of any state, and the high seas, encompassing 64 per cent of the world's ocean waters, and approximately half of the planet's surface area, are Earth's largest in this respect. The notion of 'global commons' areas builds upon Grotius' observation that the limitless nature of the ocean waters envisaged that they could not be subject to claims of ownership or possession. Instead, as Grotius put forward, these areas were to belong to all, and were to be held collectively, with their ownership to be shared and undivided amongst all states. Under such a collective ownership regime, no state could therefore seek to exclude the use of the oceans from others.<sup>176</sup>

This understanding of the high seas has engendered 'a classical controversy' as to whether the high seas should be regarded as *res nullius*, that is belonging to no one, or *res communis*, as being the thing of the entire community.<sup>177</sup> However, these concepts have been described as unhelpful, and today the high seas are more widely considered to represent 'common property;' common in the sense that they do not belong to any state, and cannot be appropriated, but are nevertheless open for use by each and all.<sup>178</sup> The 'common property' doctrine is presumed to also extend to the living resources of these waters. This presumption has been made on the basis of the decision in the 1893 Bering Sea Fur-Seals Arbitration, in which an international arbitral tribunal rejected the United States of America's claim to a right of property and, significantly, protection, with regard to fur seals frequenting islands outside of the country's territorial waters. Indeed, the tribunal held that the establishment of common rules for the preservation of such resources could not be made unilaterally, and would 'require the

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<sup>175</sup> Freestone, supra note 31, IX.

<sup>176</sup> Nico Schrijver, 'Managing the Global Commons: Common Good or Common Sink?' 1254.

<sup>177</sup> Tanaka, supra note 10, 155.

<sup>178</sup> Marciniak, supra note 51, 375.

concurrence of other States.<sup>179</sup> This interpretation would also seem to hold up upon an examination of the LOSC, which invalidates claims of sovereignty over ‘any part of the high seas’ waters (emphasis added).<sup>180</sup>

However, it has been suggested that the ‘common’ nature of the high seas, and the extension of the ‘common property’ doctrine to the living resources found within these waters, has presented ‘very real management issues’ for these parts of the oceans.<sup>181</sup> This can be explained, in short, through two related points. First, the ‘common property’ doctrine envisages the free and ‘open’ access to these resources. And second, the fact that the high seas waters lay beyond the scope of national jurisdiction naturally limits the possibilities for this access to be restricted.

### 3.2.2.1 An ‘Open Access’ Regime

One of the fundamental characteristics of a ‘global commons’ area is the notion of ‘open access,’ and the classification of the living resources of the high seas as ‘common property’ has meant that these can be freely accessed and exploited under an ‘open access’ legal regime.<sup>182</sup> This regime has been operationalised under the LOSC through the principle of the freedom of the high seas which, as it was noted in section 3.2.1, stipulates that the high seas are to be ‘open to all States.’<sup>183</sup> As such, other states neither have the right to regulate, or to otherwise limit, the access of other states to the living resources that reside within these waters.<sup>184</sup> Entitlement to these resources follows from their harvest and, accordingly, no demand for the sharing of benefits accruing from these can be made; a detail that could prove to be critical in the context of MGRs.<sup>185</sup> This has led some to suggest that the high seas essentially represent a ‘free for all,’ in which states operate on a ‘first come, first served basis.’<sup>186</sup>

Whilst restrictions on access can be prescribed under the Convention, or by other rules of international law, it is the states themselves that are principally responsible for ensuring that their access and exploitation of the high seas’ living resources does not adversely affect the concurrent rights of other states, as an element of the ‘due regard’ requirement detailed in

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<sup>179</sup> *Award Between the United States and the United Kingdom relating to the Rights of Jurisdiction of United States in the Bering’s Sea and the Preservation of Fur Seals*, 15 August 1893. Published in United Nations, *Reports of International Arbitral Awards*, Volume XXVIII (United Nations 2007) 265, available at [http://legal.un.org/riaa/cases/vol\\_XXVIII/263-276.pdf](http://legal.un.org/riaa/cases/vol_XXVIII/263-276.pdf) (last accessed 2 May 2018).

<sup>180</sup> LOSC, supra note 3, Article 89.

<sup>181</sup> Vousden, supra note 18, 393.

<sup>182</sup> John Vogler, *The Global Commons: A Regime Analysis*, 4.

<sup>183</sup> Schrijver, supra note 176, 1256.

<sup>184</sup> Rabitz, supra note 8, 135.

<sup>185</sup> Ane Jørem and Morten Walløe Tvedt, ‘Bioprospecting in the High Seas: Existing Rights and Obligations in View of a New Legal Regime for Marine Areas Beyond National Jurisdiction,’ 324.

<sup>186</sup> Schrijver, supra note 176, 1253.

section 3.2.1.<sup>187</sup> However, in the absence of stringent regulatory control, it has been suggested that the availability of an open access resource generally ‘leads to over-exploitation and minimises the interest of any individual state in conservation and restraint.’<sup>188</sup> Indeed, on the contrary, those with the capacity to do so are likely to pursue a policy of maximum exploitation, at the expense of all other concerns;<sup>189</sup> in this respect, the ‘serious crisis’ that has enveloped the high seas fish stocks, and which it is feared is likely to have ‘potentially disastrous impacts on global food security,’ would seemingly uphold this conclusion.<sup>190</sup>

### 3.2.2.2 *Beyond the Scope of National Jurisdiction*

Within ‘global commons’ areas, and as it was noted in section 3.2.2, the conservation and management of the living resources that reside within these is to be governed collectively, by all states. And whilst, as will be explored in greater detail in section 3.3.1, Part VII of the LOSC does require states to cooperate with each other in adopting measures to manage and conserve the living resources of the high seas, the nature of these areas, as lying beyond the scope of any state’s national jurisdiction, has fundamentally undermined the ability of states to do so.

As the international arbitral tribunal was the first to acknowledge in the case of the Bering Sea Fur-Seals, the ‘common’ nature of these waters entails that individual, or even groups of states are unable to unilaterally establish common rules pertaining to the management of high seas’ living resources, or to restrict the access of others to the same. Doing so would impinge on the correspondent access rights of other states, and the adoption of collective management measures is therefore contingent on the formal consensus and agreement of all states to be bound by these. This has proven difficult to achieve in the face of those states whose interests, in an open access regime, is primarily in ‘the direct exploitation of such areas.’<sup>191</sup>

It has therefore been suggested that under the principle of the freedom of the high seas, the policing and regulation of human activities within the high seas waters ‘in essence relies on self-regulation.’<sup>192</sup> And in the absence of a supranational institutional framework to oversee the governance of these waters, this self-regulation is effected under the principle of exclusive flag state jurisdiction, which identifies the responsible flag state as being the ‘key panacea’ for the

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<sup>187</sup> Anderson, *supra* note 171, 234.

<sup>188</sup> Patricia W. Birnie, Alan E. Boyle and Catherine Redgwell, *International Law and the Environment*, 195.

<sup>189</sup> Tladi, *supra* note 2, 124.

<sup>190</sup> Rabitz, *supra* note 8, 132.

<sup>191</sup> Vousden, *supra* note 18, 387.

<sup>192</sup> Tladi, *supra* note 2, 116.

maintenance of peaceful order on the high seas. The limitations of this principle, particularly as it pertains to the conservation of living resources within these waters, will now be considered.

### 3.2.3 Principle of Exclusive Flag State Jurisdiction

The principle of exclusive flag state jurisdiction is ‘one of the most widely acknowledged in international maritime law,’ and constitutes an essential adjunct to the principle of the freedom of the high seas.<sup>193</sup> Under Article 92 of the LOSC, which codifies customary international practice, ‘[s]hips shall sail under the flag of one State only and... shall be subject to its exclusive jurisdiction on the high seas.’<sup>194</sup> And, in this respect, two key points can be drawn.

First, ‘flag states,’ pertaining to those states that have granted a vessel the right to sail under its flag, are principally responsible for the exercise of control and jurisdiction over the activities of such vessels when they are operating on the high seas, in all ‘administrative, technical and social matters.’<sup>195</sup> Accordingly, under the principle of flag state jurisdiction, it is the flag state that is responsible for ensuring that all human activities on the high seas are carried out in accordance with the attendant rights and obligations prescribed by either the LOSC, or under international law. This includes those that relate to the protection of the marine environment, or to the conservation and management of the high seas’ living resources.<sup>196</sup> And second, this jurisdiction is exclusive. As such, other states have ‘no right to exercise prescriptive, enforcement, and adjudicative jurisdiction over foreign ships on the high seas,’ save for in the exceptional circumstances provided under the Convention.<sup>197</sup> This exclusivity is a necessary corollary to the principle of the freedom of the high seas, and serves to guarantee the concomitant rights of access to, and utilisation of, both the high seas waters and the living resources that reside within them.<sup>198</sup>

However, it has been observed that lax regulation concerning the use, and often unregulated access to, ‘flags of convenience’ has undermined the effectiveness of this system and, in doing so, served to exacerbate the troubled governance of these waters.<sup>199</sup> In this respect, the absence of precise legal guidance on the attribution of nationality to vessels under the LOSC

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<sup>193</sup> Caroline Goodman, ‘The Regime for Flag State Responsibility in International Fisheries Law – Effective Fact, Creative Fiction, or Further Work Required?’ 157.

<sup>194</sup> LOSC, *supra* note 3, Article 92(1).

<sup>195</sup> *Ibid*, Article 94(1).

<sup>196</sup> Warner, *supra* note 68, 305.

<sup>197</sup> Eric Powell, ‘Taming the Beast: How the International Legal Regime Creates and Contains Flags of Convenience,’ 263.

<sup>198</sup> Tanaka, *supra* note 10, 158.

<sup>199</sup> Anastasia Telesetsky, ‘Laundering Fish in the Global Undercurrents: Illegal, Unreported, and Unregulated Fishing and Transnational Organised Crime,’ 953.

has facilitated the practice of ‘open registries,’ in which states that have proven themselves either incapable of, or completely indifferent towards, exercising effective jurisdiction and control, bestow their nationality to vessels which with they have a tenuous or even no ‘genuine link.’<sup>200</sup> Vessels that operate under ‘flags of convenience’ effectively, then, do so outside of the law; free to engage in a range of unlawful activities on the high seas waters without fear of legal repercussion.<sup>201</sup> And, in this context, the practice of illegal, unreported and regulated (IUU) fishing, which now accounts for the removal of almost one out of every eight fish that is taken from the oceans, has only served to reinforce the limitations of the principle of exclusive flag state jurisdiction.<sup>202</sup> The international community’s collective efforts to conserve and manage the living resources of the high seas, including as these pertain to marine biological diversity can, accordingly, all too easily be avoided,<sup>203</sup> all of which facilitates a vicious cycle of non-compliance upon these waters.<sup>204</sup> It is, therefore, within the context of the analysis that has been undertaken in sections 3.2.2 and 3.2.3, that the following examination will take place.

### **3.3 Marine Biological Diversity on the High Seas**

As it was noted in section 3.2.1, Article 87 of the LOSC qualifies the application of the principle of the freedom of the high seas by requiring that it be exercised in accordance with the conditions laid down by the Convention, and by other rules of international law. This entails that measures can be taken to restrict the principle’s application in order to protect or preserve the marine environment, or to conserve and manage its living resources; including marine biological diversity. And, in this respect, a progressive restriction on the exercise of these rights has been acknowledged.<sup>205</sup> However, the efficacy of these restrictions remains contingent on their ability to overcome both the entrenched idiosyncrasies of the Grotian’ principle of freedom, and the inherently ‘anarchical’ nature of the high seas waters.<sup>206</sup> And all too often, as the following sections will attempt to illustrate, these have failed to do so.

#### **3.3.1 Part VII of the LOSC**

The LOSC’s provisions pertaining to the marine environment of the high seas are contained in Section 2 of Part VII of the Convention. This Part contains only five Articles, and

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<sup>200</sup> Tanaka, *supra* note 10, 162.

<sup>201</sup> Elisabeth Druel *et al*, ‘A Long and Winding Road: International Discussions on the Governance of Marine Biodiversity in Areas Beyond National Jurisdiction,’ 20.

<sup>202</sup> Telesetsky, *supra* note 199, 939.

<sup>203</sup> Druel *et al*, *supra* note 213, 20.

<sup>204</sup> Goodman, *supra* note 193, 164.

<sup>205</sup> Wright *et al*, *supra* note 5, 10.

<sup>206</sup> Tina Shaughnessy and Ellen Tobin, ‘Flags of Inconvenience: Freedom and Insecurity on the High Seas,’ 16.

reflects the contentious nature of negotiations at the LOSC III.<sup>207</sup> Whilst some delegations noted that the exercise of the freedoms of the high seas should be ‘coupled with certain responsibilities,’ and that their exercise should not ‘endanger the ecology and environment of the oceans,’ those representing Western and distant water fishing nations advocated for their free and unfettered application.<sup>208</sup>

The compromised final text of Section 2, Part VII does not specifically recognise the need to protect and preserve the marine environment, and instead focuses on the conservation and management of the living resources of the high seas. In this regard, Article 117 stipulates that

[a]ll States have the duty to take, or to cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.<sup>209</sup>

The general nature of Article 117 has led some to suggest that the prescriptions under Section 2, Part VII could be extended to the adoption of measures necessary for the conservation of marine biological diversity, and that these are therefore adequate to protect the high seas’ biological resources.<sup>210</sup> However, this can be challenged in two respects.

First, the nature of the freedom of the high seas, as detailed in section 3.2.2.2, entails that the obligation under Article 117 can essentially be reduced to a call for state self-regulation. Indeed, any measures adopted on this basis would only be binding on those that had either conceived these, or had consent to be bound by them.<sup>211</sup> And second, the general reference to ‘living resources’ in Article 117 is misleading; it is clear from the remaining parts of Section 2 that these ‘resources’ in fact primarily refer to fish, and that Section 2 is principally concerned with the regulation of high seas fish stocks.<sup>212</sup> As such, Article 118 requires states to ‘cooperate with each other in the conservation and management of living resources,’ and particularly in the case of those states ‘whose nationals exploit identical living resources, or different living resources in the same area.’ However, this duty of cooperation is specifically envisaged through the establishment of subregional or regional fisheries organisations.<sup>213</sup>

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<sup>207</sup> Warner, *supra* note 37, 32.

<sup>208</sup> UNGA, ‘Report of the Twelfth Meeting of Sub-Committee II of the Sea-Bed Committee’ (1971) UN Doc. A/A.138/SC.II/SR.12, 111; UNGA ‘Official Records of the Third United Nations Conference on the Law of the Sea, Vol. II, Second Committee, 31<sup>st</sup> Meeting’ (7 August 1974) UN Doc. A/CONF.62/C.2/SR.31, at [69], [74] and [75].

<sup>209</sup> LOSC, *supra* note 3, Article 117.

<sup>210</sup> de la Fayette, *supra* note 13, 264.

<sup>211</sup> Tladi, *supra* note 2, 116.

<sup>212</sup> de la Fayette, *supra* note 13, 264.

<sup>213</sup> LOSC, *supra* note 3, Article 118.

Whilst fish and marine biological diversity (and particularly MGRs), as well as their attendant exploitative acts of fishing and bioprospecting, are fundamentally distinct in nature, the governance of high seas fisheries warrants a brief examination for two reasons. First, the two share a relationship of causality, and it has been observed that the increasingly destructive practices of high seas fishing vessels represents the second most severe threat to marine biological diversity in ABNJ after climate change.<sup>214</sup> And second, those that are advocating for the extension of the principle of the freedom of the high seas to the governance of deep seabed MGRs anticipate that these resources would be regulated under a system that is, in essence, designed to address the conservation and management of high seas fish stocks. A brief examination of the legal framework that is in place for high seas fisheries can therefore inform this particular discussion.

### *3.3.1.1 Governance of High Seas Fisheries*

The framework nature of the LOSC has entailed that the very general provisions prescribed in Section 2, Part VII of the Convention have subsequently been operationalised, in the context of high seas fisheries, through an increasingly elaborate web of international and regional agreements.<sup>215</sup> At the centre of this web is the United Nations Fish Stocks Agreement (UNFSA) which, in particular, has considerably strengthened the Convention's *modus operandi* on the conservation and management of high seas fish stocks.<sup>216</sup> The Agreement provides for the further regulation of these through the establishment of regional fisheries management organisations (RFMOs), as the 'primary vehicle for cooperation between states.'<sup>217</sup> These organisations now represent a necessary corollary to the principle of exclusive flag state jurisdiction on the high seas waters, at least at the regional level.

### *3.3.1.2 Regional Fisheries Management Organisations*

Whilst primarily pertaining to the conservation and management of high seas fisheries, the UNFSA also acknowledges the effects of fishing activities on vulnerable marine ecosystems (VMEs), and recognises the need to 'avoid adverse impacts on the marine environment, preserve biodiversity, maintain the integrity of marine ecosystems and minimise the risk of long-term or irreversible effects of fishing operations.'<sup>218</sup> In the elaboration of measures relating

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<sup>214</sup> de la Fayette, *supra* note 13, 251.

<sup>215</sup> *Ibid*, 264.

<sup>216</sup> United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (4 August 1995) 2167 UNTS 88, *entered into force* 11 December 2001 (UNFSA).

<sup>217</sup> Vousden, *supra* note 18, 394.

<sup>218</sup> UNFSA, *supra* note 216, preambular para 8.

to the management of certain fish stocks, the UNFSA therefore requires RFMOs to adopt a precautionary and ecosystem-based approach, and explicitly recognises the protection of marine biological diversity as a constituent element in this.<sup>219</sup> In this regard, some organisations have sought to give effect to various UNGA resolutions on bottom and deep-sea fisheries through the closure of particular fishing areas, in order to protect VMEs, such as hydrothermal vents, from the destructive effects of certain fishing practices.<sup>220</sup>

However, it has been observed that whilst some high seas areas have been closed to bottom fishing activities, ‘many areas where [vulnerable marine ecosystems] are likely to occur remain open with few or no constraints.’<sup>221</sup> As such, existing RFMOs have been criticised for failing to integrate measures concerning the conservation and management of marine biological diversity into their regulatory and management approaches and, in this respect, it has been observed that

the priority of RFMOs – or at least of their member countries – has been first and foremost to guide the exploitation of fish stocks. While conservation is part of nearly all their mandates, they have yet to demonstrate a genuine commitment to it on the water.<sup>222</sup>

Moreover, the jurisdictional scope of any measures that are adopted in this context is limited to those states that have agreed to be bound by them, through their membership to that particular RFMO. Whilst the access of commercial vessels to high seas fish stocks is contingent on such membership, or at least by a consent to be bound by such conservation and management measures, the ineffective exercise of flag state jurisdiction or use of ‘flags of convenience’ entails that such measures can easily be avoided.<sup>223</sup> Both the UNFSA, and 1993 FAO Compliance Agreement have, in this regard, aspired to strengthen flag state responsibilities, by requiring that no state shall grant its nationality to a vessel operating on the high seas unless it has the capacity to effectively exercise its jurisdictional obligations.<sup>224</sup> However, neither of these have proven to be particularly successful, and it remains that ‘[s]till a global commons to

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<sup>219</sup> Ibid, Article 5(g).

<sup>220</sup> UNGA Resolution 61/105 (adopted 8 December 2006) UN Doc. A/RES/61/105, at [83]; UNGA Resolution 64/72 (adopted 4 December 2009) UN Doc. A/RES/64/72, at [119].

<sup>221</sup> Matthew Gianni *et al*, *Unfinished Business: A Review of The Implementation of the Provisions of United Nations General Assembly Resolutions 61/105 and 64/72, Related to the Management of Bottom Fisheries in Areas Beyond National Jurisdiction*, 3.

<sup>222</sup> Sarika Cullis-Suzuki and Daniel Pauly, ‘Failing the High Seas: A Global Evaluation of Regional Fisheries Management Organizations,’ 1042.

<sup>223</sup> Rosemary Rayfuse, ‘Regional Fisheries Management Organisations’ in Rothwell *et al* (eds.), *supra* note 216, 446-447.

<sup>224</sup> 1993 Agreement to Promote Compliance with International Conservation and Management Measures on the High Seas (24 November 1993) 2221 UNTS 91, *entered into force* 24 April 2003 (Compliance Agreement) Article III(3); UNFSA, *supra* note 216, Article 18(2).

most, the high seas undergo widespread and rampant illegal fishing with next to no consequence.<sup>225</sup>

### 3.3.2 Marine Protected Areas

A second approach for the protection and preservation of marine biological diversity on the high seas pertains to the use and designation of marine protected areas (MPAs). MPAs can be seen as one way of giving effect to the LOSC's general marine environmental protection provisions under Part XII of the Convention, as detailed in section 2.1.1, and it has been observed that 'efforts at advancing the cause of conservation and preservation and, as a consequence, eroding [the] freedom of the high seas have perhaps been most evident in the practice of States relating to [MPAs].'<sup>226</sup> Whilst a universal definition for MPAs has yet to be agreed upon, such areas can be broadly considered to encompass

an area within or adjacent to the marine environment, together with its overlying waters and associated flora, fauna, and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings.<sup>227</sup>

In essence, then, MPAs enjoy a 'special' and superior status to corresponding non-protected areas, as a result of their more stringent regulation of one or more human activities.<sup>228</sup> Such areas are now widely acknowledged to constitute a powerful tool in the conservation of marine biological diversity in ABNJ, providing 'enhanced protection to habitats or ecosystems that are vulnerable, unique, or representative' and, accordingly, a necessary 'safeguard against irreversible biodiversity loss.' MPAs can also serve to operationalise a precautionary process in the conservation and utilisation of marine biological diversity, providing a 'cautious and scientifically rigorous approach to protecting not just what is known to be important today, but what may turn out to be important tomorrow.'<sup>229</sup> Given our as yet incomplete understanding of the drivers and processes of marine biological diversity in the deep ocean waters that lie beyond national jurisdiction, it is suggested that such an approach should naturally be desired.

The international community has, in various global forums, committed to establish a coherent and representative network of MPAs in ABNJ, including within the high seas

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<sup>225</sup> Cullis-Suzuki and Pauly, *supra* note 222, 1042.

<sup>226</sup> Tladi, *supra* note 7, 267.

<sup>227</sup> CBD, SBSTTA, *Marine and Coastal Biodiversity: Review, Further Elaboration and Refinement of the Programme of Work*, Report of the Ad Hoc Technical Expert Group on Marine and Coastal Protected Areas (13 February 2003) UN Doc. UNEP/CBD/SBSTTA/8/INF/7, at [30].

<sup>228</sup> Erik J. Molenaar and Alex G. Oude Elferink, 'Marine Protected Areas in Areas Beyond National Jurisdiction: The Pioneering Efforts under the OSPAR Convention,' 6.

<sup>229</sup> UNEP, *Ecosystems and Biodiversity in Deep Waters and High Seas*, 44.

waters.<sup>230</sup> However, the fact remains that maritime ABNJ still represent some of the least protected regions on this planet, and estimates suggest that only 0.14 per cent of marine ABNJ are currently designated as an MPA, compared to 14.6 per cent of the global terrestrial land surface area.<sup>231</sup> The latest Global Biodiversity Outlook has accordingly noted that the objective of conserving 10 per cent of biologically significant coastal and marine areas (Aichi Biodiversity Target 11) is far from being achieved, and this is particularly so on the high seas waters.<sup>232</sup> This gap, between policy and law, can be explained in two ways. First, and more significantly, the designation of coherent and representative networks of MPAs on the high seas continues to be extremely controversial in some quarters due to the perceived limitations, particularly in respect of access, that such areas impose on the principle of the freedom of the high seas.<sup>233</sup> In this respect, and as can be recalled from section 3.3.1, the ‘developed North’ has historically advocated for the principle’s complete and unfettered application, and their opposition to any modes of restriction continues to affect the governance of these waters today.

And second, in the absence of a supranational institutional framework to oversee the governance of these waters, there is at present no global mechanism for the establishment of holistic, multi-purpose or multi-sectoral MPAs.<sup>234</sup> As it was noted in section 2.1.1.3, the protection and preservation of marine biological diversity in ABNJ is now taking place within an increasingly de-centralised and fragmented regulatory framework. The resulting ‘multiplicity of overlapping regimes’ has therefore presupposed that the prevailing approach to the governance of high seas waters is sectoral in nature, and this has engendered difficult questions concerning who possesses the underlying competence or jurisdiction to designate, and thereafter regulate, these protected areas.<sup>235</sup> In this respect, it moreover flows from the principle of the freedom of the high seas, and the correspondent principle of exclusive flag state jurisdiction, that at present the attendant restrictions or obligations that arise from the designation of an MPA will only be binding on those states, and those vessels that are bearing that state’s flag, that formed a part of the designation process.<sup>236</sup>

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<sup>230</sup> UNGA Resolution 66/288 (adopted 19 June 2012) UN Doc. A/RES/66/288, at [177].

<sup>231</sup> United Nations, *The Millennium Development Goals Report 2013* (United Nations 2013) 45.

<sup>232</sup> CBD, *Global Biodiversity Outlook 4: A Mid-Term Assessment of Progress towards the Implementation of the Strategic Plan for Biodiversity 2011-2020*, 16.

<sup>233</sup> CBD, *SBSTTA Study of Relationship between CBD and LOSC*, supra note 42, 23.

<sup>234</sup> Wright, Rochette and Druel, supra note 27, 276.

<sup>235</sup> Molenaar and Elferink, supra note 228, 5.

<sup>236</sup> Tladi, supra note 7, 267.

### 3.3.3 Environmental Impact Assessments

Environmental impact assessments (EIAs) have been acknowledged as constituting a further ‘key element in the suite of tools for biodiversity conservation,’ and their application to activities that adversely affect the marine environment has been explicitly endorsed in a range of international fora.<sup>237</sup> Such assessments have been defined as a ‘procedure for evaluating the likely impact of a proposed activity on the environment.’<sup>238</sup> And, in so doing, they facilitate the identification of the potential impacts of proposed activities, enabling policymakers to ‘explore alternative solutions and determine ways to prevent, mitigate and control environment harm.’<sup>239</sup> This identification takes on a particular significance in the context of the high seas, where new activities such as bioprospecting ‘continue to take place in a climate of uncertainty as to their long term impacts on the components of marine biodiversity.’<sup>240</sup>

International jurisprudence would appear to suggest that the obligation to conduct an EIA has now taken on a customary status under international law.<sup>241</sup> Nevertheless, it remains that, for many of the same reasons that served to explained the international community’s failure to establish coherent and representative networks of MPAs, the governance framework for the conduct of EIAs within the high seas waters continues to be relatively underdeveloped.<sup>242</sup> Within Part XII of the LOSC, Article 206 imposes a general obligation on states to conduct a prior impact assessment when having

reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment.<sup>243</sup>

This obligation under Article 206 is broad in scope, extending both to all ocean areas and parts of the marine environment, including those within the high seas. However, it fails to provide specific procedural methodologies, or guidance standards, as to how such an assessment should be carried out.<sup>244</sup> And unlike for other parts of the Convention, the specificities of this obligation have not yet been operationalised in a further international agreement. The absence of a

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<sup>237</sup> Warner, *supra* note 68, 292.

<sup>238</sup> Convention on Environmental Impact Assessment in a Transboundary Context (25 February 1991) 1989 UNTS 309, *entered into force 14 January 1998*, Article 1(vi).

<sup>239</sup> The Pew Charitable Trusts, ‘High Seas Environmental Impact Assessments: The Importance of Evaluation in Areas Beyond National Jurisdiction’ (2016) 1, available at [http://www.un.org/depts/los/biodiversity/prepcom\\_files/PEW\\_High\\_Seas\\_polbrief.pdf](http://www.un.org/depts/los/biodiversity/prepcom_files/PEW_High_Seas_polbrief.pdf) (last accessed 4 April 2018).

<sup>240</sup> Warner, *supra* note 68, 291.

<sup>241</sup> *SDC Advisory Opinion*, *supra* note 107, at [145].

<sup>242</sup> Wright *et al*, *supra* note 5, 25.

<sup>243</sup> LOSC, *supra* note 3, Article 206.

<sup>244</sup> Warner, *supra* note 68, 293.

coordinated global mechanism for prior assessments on the high seas therefore represents a ‘significant gap’ under the LOSC framework.<sup>245</sup>

Whilst some international institutions have taken their own steps to address this gap for particular sectoral activities under their jurisdiction, these are naturally unable to take into account the cumulative impacts of human activities on the marine environment.<sup>246</sup> And, moreover, the fragmentary nature of the high seas governance framework has also presupposed that for a wide range of human activities that take place on these waters including, significantly, bioprospecting, no specific requirement for the prior conduct of an EIA is even in place.<sup>247</sup> For these activities that lay outside of any regulatory framework, the implementation of the general obligation under Article 206 of the LOSC is therefore principally reliant on the ‘key panacea’ of the responsible flag state, ‘to regulate and enforce the activities of their flag vessels, including their impacts on the marine environment.’<sup>248</sup> Rather predictably, it has been observed that this obligation has been ‘sparsely and poorly implemented.’<sup>249</sup> However, the need to further elaborate and strengthen the implementation of Article 206 of the LOSC was identified as a point of convergence for states in the early stages of the BBNJ Process.<sup>250</sup>

### 3.3.4 Marine Scientific Research

One final aspect that warrants consideration in the context of the high seas is the conduct of marine scientific research (MSR). MSR has been identified as providing the ‘essential knowledge base for promoting understanding of the marine environment and its proper environmental management.’<sup>251</sup> In this regard, the freedom of scientific research is expressly enumerated as one of the freedoms of the high seas, and the right of all states ‘to conduct marine scientific research in the water column beyond the limits of the exclusive economic zone’ is explicitly confirmed in Article 257 of the LOSC.<sup>252</sup> This entails that the conduct of MSR on the high seas is, in principle, unrestricted.<sup>253</sup>

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<sup>245</sup> High Seas Alliance, ‘Key Components and Best Practices for Environmental Impact Assessments: Submission to PrepCom2’ (2016) 1, available at <http://highseasalliance.org/sites/highseasalliance.org/files/HSA%20EIA%20Brief%20for%20PrepCom2%20FINAL%20pdf.pdf> (last accessed 4 April 2018).

<sup>246</sup> Elisabeth Druel, ‘Environmental Impact Assessments in Areas Beyond National Jurisdiction’ (2013) IDDRI, No. 01/13, 32.

<sup>247</sup> Wright *et al*, supra note 5, 25.

<sup>248</sup> Warner, supra note 68, 305.

<sup>249</sup> Wright *et al*, supra note 5, 25.

<sup>250</sup> UNGA, ‘Chair’s Overview of the First Session of the Preparatory Committee’ (2016) Annex II, para 7, available at [http://www.un.org/depts/los/biodiversity/prepcom\\_files/PrepCom\\_1\\_Chair's\\_Overview.pdf](http://www.un.org/depts/los/biodiversity/prepcom_files/PrepCom_1_Chair's_Overview.pdf) (last accessed 4 April 2018).

<sup>251</sup> Hubert, supra note 153, 319.

<sup>252</sup> LOSC, supra note 3, Article 257.

<sup>253</sup> Hubert, supra note 153, 239.

This is, of course, not entirely the case. As a high seas freedom, the conduct of MSR in these waters must first be exercised under the conditions laid down by the LOSC, including those pertaining to the protection and preservation of the marine environment under Part XII, as well as other rules of international law. And second, such research is also made subject to Part XIII of the LOSC, which regulates all aspects of MSR under the Convention framework.<sup>254</sup> In this respect, Article 240 of the LOSC prescribes ‘general principles’ for the conduct of MSR, which stipulate that such research be conducted exclusively for peaceful purposes, utilise appropriate scientific methods and means, and not unjustifiably interfere with other legitimate uses of the oceans.<sup>255</sup> However, it has been observed that such principles require further operationalisation to render them effective and, in this regard, more detailed rules ‘remain to be written.’<sup>256</sup> MSR on the high seas thus takes place within a relatively liberal regulatory regime.

And, significantly, it is within this context that discussions concerning the relationship between MSR and bioprospecting have taken place. As it was noted in section 2.1.1.2, some have questioned whether a distinction between the two should be made, and it has been observed that the drawing of a clear line between the two remains ‘difficult from a practical point of view.’<sup>257</sup> However, for those that advocate that MGRs and their attendant methods of extraction fall within the legal regime governing the high seas waters under the freedom of the high seas, the attractiveness of their contention is clearly evident.

### **3.4 Concluding Observations**

The progressively elaborate restrictions that have been imposed on human activities within the high seas waters has led some to suggest that the principle of the freedom of the high seas, and its correspondent high seas freedoms, should increasingly be viewed as ‘freedoms under the law.’<sup>258</sup> Certainly, as this Chapter has served to illustrate, the high seas legal regime envisages the adoption of various measures to restrict the principle’s application in order to protect or preserve the marine environment, or to conserve and manage its living resources; including marine biological diversity. However, the fact remains that international efforts in this regard have done little either to protect the high seas marine environment, or to effectively conserve and sustain its living resources. Indeed, high seas fisheries are now acknowledged to be in a state of ‘serious crisis,’ with over thirty per cent of fish stocks now considered to be

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<sup>254</sup> LOSC, *supra* note 3, Article 87(1)(f).

<sup>255</sup> *Ibid*, Article 240.

<sup>256</sup> de la Fayette, *supra* note 13, 263.

<sup>257</sup> Jørem and Tvedt, *supra* note 185, 329.

<sup>258</sup> Anderson, *supra* note 171, 248.

exploited at ‘a biologically unsustainable level.’<sup>259</sup> This crisis has been exacerbated by the practice of IUU fishing, which continues relatively unabated and, moreover, has a particularly egregious impact on those developing states that rely on these harvests as their primary source of income.<sup>260</sup>

The issue of conservation and management, then, does not appear to be one of effort, but rather one of implementation and enforcement.<sup>261</sup> And in this context, it has been observed that the increasingly globalised nature of the high seas waters has ‘brought to the fore the limitations of the Grotian concept of common goods, and with it the principle of the freedom of the seas.’<sup>262</sup> An important factor that initially contributed to the classification of living resources as ‘common property’ was the understanding that such resources ‘have generally been so plentiful that the cost of asserting and defending exclusive rights exceeds the advantages to be gained.’ Indeed historically, the ‘first come, first served’ regime was understood to generally be ‘to everyone’s advantage.’<sup>263</sup> However, as the international community’s knowledge and understanding of the ecology of the high seas has evolved, this perception has dramatically changed.

Indeed, the principally unregulated access that all states enjoy to the high seas has led some to suggest that the principle of the freedom of the high seas effectively re-enacts Garrett Hardin’s ‘tragedy of the commons.’<sup>264</sup> Hardin’s ‘tragedy’ was an economic theory, under which it was posited that ‘individuals, acting alone and according to their own self-interest, will behave contrary to the long-term benefit of a larger stakeholder group by depleting a common resource to their own individual advantage.’<sup>265</sup> And, in this respect, the ability of states to act according to their own self-interest has been facilitated by the inadequate system of self-regulation under the principle of exclusive flag state jurisdiction, and exacerbated by the increasingly prevalent use of ‘flags of convenience.’ The ability of high seas actors to easily circumscribe their environmental obligations has created an element of ‘lawlessness’ on these waters, and this has had an attendant effect on high seas marine ecosystems; leading to the ‘destruction of habitats and loss of marine biodiversity.’<sup>266</sup>

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<sup>259</sup> FAO, *The State of World Fisheries and Aquaculture 2016: Contributing to Food Security and Nutrition for All*, 5-6.

<sup>260</sup> Adam Gertz, ‘Deadliest Catch: Towards a Framework for Combating Illegal, Unreported and Unregulated Fishing in Somali Territory,’ 408.

<sup>261</sup> de la Fayette, *supra* note 13, 251.

<sup>262</sup> Schrijver, *supra* note 176, 1254.

<sup>263</sup> Birnie, Boyle and Redgwell, *supra* note 188, 195.

<sup>264</sup> Tladi, *supra* note 7, 264.

<sup>265</sup> Vousden, *supra* note 18, 390.

<sup>266</sup> de la Fayette, *supra* note 13, 251.

This, therefore, raises serious alarms in the context of deep seabed MGRs, and should certainly cause those, that are advocating for an extension of the principle of the freedom of the high seas to these resources, to think long and hard before they commit to doing so. In this context, it has been submitted that

[w]e cannot today evoke the same concepts that Hugo Grotius used in the 17<sup>th</sup> century and give them the same intellectual and legal strength that Grotius gave them. To rely in an absolute way on the principle of [the freedom of the high seas] was perhaps justifiable in the circumstances existing in the past. But this is no longer possible.<sup>267</sup>

It is, moreover, suggested that the failings of this system are brought into an even sharper focus when directly compared to the comprehensive legal regime that has been developed under Part XI of the LOSC; a regime that has been underpinned, and empowered, by the ‘antithetical’ principle of the common heritage of mankind.

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<sup>267</sup> Tullio Scovazzi, ‘The Concept of Common Heritage of Mankind and the Genetic Resources of the Seabed beyond the Limits of National Jurisdiction,’ 22.

## 4. The Area

### 4.1 Spatial Scope

The legal regime for the deep seabed Area is prescribed under Part XI of the LOSC, and the implementing Part XI Agreement.<sup>268</sup> However, the geographical definition of the deep seabed Area is provided in Article 1(1) of the Convention, and encompasses ‘the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction.’<sup>269</sup> In this respect, the precise geographical limits of the Area are determined by each state in conformity with international law. Under Article 76 of the LOSC, coastal states enjoy the possibility of extending the jurisdictional scope of their continental shelf beyond the general 200 nautical mile boundary,<sup>270</sup> and the geographical extent of the legal regime for the deep seabed Area is therefore subject to the validity of any such jurisdictional claims.<sup>271</sup>

### 4.2 Common Heritage of Mankind

As it was first noted in section 2.1.3, the deep seabed Area, as well as its mineral ‘resources,’ are subject to a specific legal regime as the common heritage of mankind.<sup>272</sup> It has been suggested that the principle of the common heritage of mankind has ‘proven to be one of the most sweeping and radical legal concepts’ to have emerged in recent times, and that the legal regime for the deep seabed Area therefore represents the LOSC’s most far-reaching innovation.<sup>273</sup> The genesis of the ‘legal, political and ideological’ divide that has characterised the BBNJ Process can also be traced to the development and evolution of the common heritage of mankind within the international law of the sea framework. This evolution will therefore be briefly examined.

#### 4.2.1 The Evolution of the Common Heritage of Mankind – The Ideological Divide

Arvid Pardo, the former Maltese Ambassador to the United Nations, is universally acknowledged as being the founding father of the legal regime for the deep seabed Area, and its designation as the common heritage of mankind. However, this particular story begins with the discovery of polymetallic nodules on the deep ocean floor, towards the end of the nineteenth

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<sup>268</sup> Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (28 July 1994) 1836 UNTS 3, *entered into force* 16 November 1994 (Part XI Agreement).

<sup>269</sup> LOSC, *supra* note 3, Article 1(1).

<sup>270</sup> *Ibid*, Article 76(4)-(6).

<sup>271</sup> Tanaka, *supra* note 10, 178.

<sup>272</sup> LOSC, *supra* note 3, Article 136.

<sup>273</sup> Levan Imnadze, ‘Common Heritage of Mankind: A Concept of Co-operation in our Interdependent World?’ in Tadao Kuribayashi and Edward L. Miles (eds.), *The Law of the Sea in the 1990s: A Framework for Further International Cooperation*, 312.

century. Whilst it took until the middle of the twentieth century for attention to first be drawn towards the economic significance of these, by the mid-1960's technological developments had sufficiently advanced to make their exploitation 'a real and imminent possibility.'

At this time, a legal regime for the deep seabed area had yet to be established and, in this absence, three interpretations pertaining to the legal status of these resources could be made.<sup>274</sup> First, the 1958 Convention on the Continental Shelf presupposed that the ocean floor was effectively divided between coastal states, whose sovereign rights over the natural resources of their continental shelves could extend to those within the deep seabed area.<sup>275</sup> The second envisaged the deep seabed as being *res communis*, and subject to an open-access regime under the principle of the freedom of the high seas, whilst the third view countered that the deep seabed was in fact *res nullius*, or belonging to no-one, therefore enabling states to 'appropriate the ocean floor as well as its natural resources through occupation.'<sup>276</sup>

Nevertheless, each of these interpretations, it was considered, favoured the interests of those states that already possessed the technology necessary to engage in deep seabed mining. It was within this context that Pardo, in 1967, made a historic proposal to the UNGA that the deep seabed area be declared the common heritage of mankind.<sup>277</sup> Pardo's proposal envisaged the drafting of an international treaty to regulate all activities within the deep seabed area, and the establishment of an international agency to assume jurisdiction over the same.<sup>278</sup> This was intended to 'forestall either national appropriation of large tracts of the ocean floor, or a chaotic free-for-all of ocean resources that would favour the rich and exclude the poor.'

His vestige accordingly represented 'a broader vision for supranational governance of the seabed and ocean floor beyond national jurisdiction.'<sup>279</sup> Under the principle of the common heritage of mankind, access to the resources of the deep seabed could be guaranteed to all, and the benefits of these shared equally between the developed and developing states.<sup>280</sup>

#### 4.2.1.1 'Declaration of Principles'

Pardo's notion that the 'global commons' should be considered the common heritage of mankind was not a pioneering ideology. Indeed, it could be said to have simply reflected the

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<sup>274</sup> Tanaka, *supra* note 10, 178.

<sup>275</sup> Convention on the Continental Shelf (29 April 1958) 499 UNTS 311, *entered into force* 10 June 1964, Article 1.

<sup>276</sup> Tanaka, *supra* note 10, 179.

<sup>277</sup> UNGA, 'Malta: Request for the Inclusion of a Supplementary Item in the Agenda of the Twenty-second Session' (17 August 1967) UN Doc. A/6695, at [3].

<sup>278</sup> Guntrip, *supra* note 160, 380.

<sup>279</sup> Warner, *supra* note 37, 40.

<sup>280</sup> de la Fayette, *supra* note 13, 267.

overriding spirit of the times, where an ‘intense interest in the materialisation of common interests’ had already been evinced in developments relating to international human rights, outer space, and Antarctica.<sup>281</sup> However, it remained that Pardo’s proposal still engendered a mixed reaction between the developed and developing states. For those in the ‘developing South,’ the common heritage of mankind presented a ‘means of rectifying their economic situation,’ and an opportunity to operationalise the principles embodied in the New International Economic Order.<sup>282</sup> The ‘developed North,’ on the other hand, had more to gain by simply maintaining the ‘status quo,’ and adapting the principle of the freedom of the high seas to the deep seabed area.<sup>283</sup>

In 1968, the Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the Limits of National Jurisdiction was established to consider Pardo’s proposal and to study the evident legal issues relating to the deep seabed area.<sup>284</sup> Pending the establishment of a legal regime to clarify these, the Committee imposed a controversial moratorium ‘on all activities of exploration of the resources of the area of the sea-bed and ocean floor, and the subsoil of, beyond the limits of national jurisdiction.’<sup>285</sup> And then, in 1970 and on the basis of the Committee’s work, the UNGA adopted the Declaration of Principles Governing the Seabed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction (‘Declaration of Principles’). The Declaration of Principles represented the international community’s first attempt to enumerate the legal principles governing the deep seabed area and, significantly, it was to declare that

[t]he seabed and the ocean floor and the subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as the area), as well as the resources of the area, are the common heritage of mankind.<sup>286</sup>

As Pardo had first envisaged, this classification was presumed to extend to both the living and non-living (mineral) resources of the deep seabed area.<sup>287</sup> And, moreover, any activities relating to the exploration of this area or the exploitation of these resources was to be

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<sup>281</sup> Michael W. Lodge, ‘The Common Heritage of Mankind,’ 733.

<sup>282</sup> UNGA Resolution 3201 (S-VI) (adopted 1 May 1974) UN Doc. A/RES/S-6/3201.

<sup>283</sup> Guntrip, *supra* note 160, 380.

<sup>284</sup> UNGA Resolution 2467 A (adopted 21 December 1968) UN Doc. 2467A (XXIII) at [1].

<sup>285</sup> UNGA Resolution 2574 D (adopted 15 December 1969) UN Doc. A/RES/2574(XXIV)A.

<sup>286</sup> UNGA Resolution 2749 (XXV) (adopted 17 December 1970) UN Doc. A/RES/25/2749, at [1] (‘Declaration of Principles’).

<sup>287</sup> de la Fayette, *supra* note 13, 268.

carried out for the benefit of mankind as a whole, irrespective of the geographical location of States, whether land-locked or coastal, and taking into particular consideration the interests and needs of developing States.<sup>288</sup>

Whilst the Declaration failed to resolve the ideological divide that had arisen between the ‘developed North’ and the ‘developing South,’ each of which subsequently contested its legal binding authority, it would nevertheless form the basis for the development of the deep seabed mining regime under Part XI of the LOSC.<sup>289</sup> Part XI would, accordingly, prove to be the most contentious aspect of negotiations at the LOSC III.<sup>290</sup>

#### 4.2.1.2 *Third United Nations Conference on the Law of the Sea and the LOSC*

The desire of the negotiators at the LOSC III to ‘develop the principles embodied in’ the Declaration of Principles was expressed both in the LOSC’s preamble, and also in the drafting of Part XI of the Convention.<sup>291</sup> Article 136 of the LOSC declared that ‘[t]he Area and its resources are the common heritage of mankind’ and, accordingly, that all ‘activities in the Area’ were to be ‘carried out for the benefit of mankind as a whole.’<sup>292</sup> However, one very notable emendation was made. In the process of negotiations at the LOSC III, Pardo’s comprehension of resources, encompassing both the living and non-living natural resources of the deep seabed, was refined to entail only ‘mineral resources *in situ*,’ as read in the Convention’s final text. And, as it was alluded to in section 2.1.3, this simple reformulation has subsequently had very significant implications for the legal status of deep seabed MGRs.

As Pardo *had* envisaged, the LOSC established an elaborate supranational governance regime to oversee the governance of the deep seabed’s mineral resources. At the head of this regime was the International Seabed Authority (ISA), which was to administer all activities within the deep seabed Area, to assume jurisdiction over the same, and to ensure that the distribution of profits derived from these resources were to be divided among states on the basis of equity and need, reaching ‘the objective of equal participation in the deep seabed mining regime through a system of distributive justice.’<sup>293</sup>

However, a number of the Part’s measures, which were intended to operationalise the ISA’s responsibilities, proved to be deeply unpopular with those within the ‘developed North.’ These states remained steadfastly committed to the application of an ‘open access regime’ to

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<sup>288</sup> ‘Declaration of Principles,’ supra note 286, at [7].

<sup>289</sup> Guntrip, supra note 160, 382.

<sup>290</sup> Warner, supra note 37, 42.

<sup>291</sup> LOSC, supra note 3, preambular para 7.

<sup>292</sup> *Ibid*, Article 136 and 140(1).

<sup>293</sup> Helmut Tuerk, *Reflections on the Contemporary Law of the Sea*, 41.

the deep seabed Area; based on an extension of the principle of the freedom of the high seas, and encompassing very limited international engagement.<sup>294</sup> The newly appointed Reagan Administration, operating under an open commitment to neoliberalist policies, was particularly vociferous in its rejection of Part XI as constituted, submitting that a regime based on the principle of the common heritage of mankind would deter the future development of deep seabed mining.<sup>295</sup> Further objections pertained to the perceived uncertainty that would be engendered by the empowerment of an international organisation to grant and award mining contracts, as well as the decision-making process that would determine these, which were to be conducted on a one vote, one member basis. This was intended to provide developing states with an equitable and authoritative voice in all aspects of deep seabed activities; a procedural approach that the United States of America proclaimed was both deeply unfair and unnecessary, given that such countries were likely to have ‘little or no investment in seabed mining operations.’<sup>296</sup>

The ‘developed North’ also raised concerns in respect of the Part’s compulsory transfer of technology provisions, designed to ‘enable developing States to engage in seabed mining,’ the anticipated substantial costs involved in establishing the ISA and its functioning organs, and the imposition of ‘production limitation policies on those [States] whose industries would bear the financial burden of exploration and exploitation without reaping the commensurate profits.’<sup>297</sup> Accordingly, and prior to the conclusion of the LOSC III, many of these states indicated that they would not sign the Convention as it stood. So whilst the LOSC was adopted in 1982, it remained that by the end of the decade, Iceland represented the only ‘developed state’ to have formally ratified it.

#### *4.2.1.3 Part XI Agreement*

Recognising that the Convention’s stated aim to establish a codified ‘legal order for the seas and oceans’ was contingent on attaining the support of the ‘developed North,’ and thus universal participation in the LOSC, in 1990 the United Nations Secretary-General convened informal consultations to identify and address those issues under Part XI that remained controversial.<sup>298</sup> These consultations resulted in the adoption of the Part XI Agreement, which admitted that ‘political and economic changes, including in particular a growing reliance on

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<sup>294</sup> Warner, *supra* note 37, 41-42.

<sup>295</sup> Guntrip, *supra* note 160, 384.

<sup>296</sup> Steven Molitor, ‘The Provisional Understanding Regarding Deep Seabed Matters: An Ill-Conceived Regime for US Deep Seabed Mining,’ 226.

<sup>297</sup> Warner, *supra* note 37, 42.

<sup>298</sup> Tuerk, *supra* note 293, 41.

market principles, have necessitated the re-evaluation of some aspects of the regime for the Area and its resources.<sup>299</sup> The Part XI Agreement, and Part XI of the LOSC, are now to be ‘interpreted and applied as a single instrument,’ with the Agreement taking precedence should any inconsistencies between the two arise.<sup>300</sup> Moreover, any subsequent accession to the Convention is to represent consent to be bound by the Agreement, and any state wishing to accede to the Agreement cannot do so without also adopting the LOSC.<sup>301</sup>

The Agreement made significant modifications to the original mining regime under Part XI of the LOSC, reworking those provisions to which the ‘developed North’ had stated their objections.<sup>302</sup> In so doing, the Agreement promoted ‘a more market oriented approach to the development of the deep seabed mining industry.’<sup>303</sup> The decision-making processes under the ISA were amended ‘to give technologically advanced States a stronger voice that fairly reflects their interests,’ and the mandatory transfer of technology provisions abolished, with focus instead on the promotion of international cooperation in this respect. The perceived production limitation policies, intended to limit the economic impact for land-based producers of mineral resources, were also removed.<sup>304</sup>

The Part XI Agreement came close to achieving the universal acceptance of the LOSC that its negotiators had so desired. And, as the previous paragraph served to illustrate, this universality was achieved at a relative cost to the ‘developing South,’ who ultimately had ‘to accede to the demands’ of the ‘developed North’ in order for the Agreement to be adopted.<sup>305</sup> However, these demands effectively pertained to amendments of the mechanisms by which the principle of the common heritage of mankind would operate, and not to its substantive content.<sup>306</sup> This distinction is important, and it enabled the ‘developing South’ to maintain the broader application of the principle’s constituent elements to the mineral resources of the deep seabed Area, as will be detailed in the next section 4.2.2.

In this respect, the Agreement explicitly reaffirmed 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.’<sup>307</sup> And, in so doing, the Part XI Agreement endorsed the common heritage of mankind as the ‘cardinal principle’ governing the deep seabed Area,

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<sup>299</sup> Part XI Agreement, *supra* note 268, preambular para 7.

<sup>300</sup> *Ibid*, Article 2(1).

<sup>301</sup> *Ibid*, Article 4.

<sup>302</sup> Louis Sohn, ‘International Law Implications of the 1994 Agreement,’ 696.

<sup>303</sup> Warner, *supra* note 37, 42.

<sup>304</sup> Tuerk, *supra* note 293, 42-43.

<sup>305</sup> Guntrip, *supra* note 160, 386.

<sup>306</sup> *Ibid*, 401.

<sup>307</sup> Part XI Agreement, *supra* note 268, preambular para 3.

bringing its tempestuous evolution to a satisfying conclusion.<sup>308</sup> To reinforce this point, moreover, Article 311(6) of the LOSC explicitly prohibits any amendments to the basic principle of the common heritage of mankind as it applies to the Area, and this can be seen as a reflection of the international community's understanding that a 'simple regime of non-appropriation,' qualified by the free use of its resources, would not have been appropriate for the mineral resources found within the deep seabed.<sup>309</sup>

In this context, it has been suggested that this desire, to move beyond the 'free use paradigm' of an open access regime, should now be reciprocated in the context of the biological resources of the deep seabed Area, and particularly as this pertains to deep seabed MGRs.<sup>310</sup> An examination of the substantive application of the principle of the common heritage of mankind, under Part XI of the LOSC and the Part XI Agreement, will now attempt to demonstrate why.

#### **4.2.2 Application of the Common Heritage of Mankind under the United Nations Convention on the Law of the Sea**

Whilst the adoption of the Part XI Agreement conveyed a uniform acceptance of the principle of the common heritage of mankind, as it applies to the mineral resources of the deep seabed Area, the fact of the principle's emergence from a 'North-South cleavage' has entailed that its substantive content has remained subject to, at times, distinct legal interpretations.<sup>311</sup> Indeed, much conjecture has been devoted 'to precisely defining the scope and content of the obligations and responsibilities that the phrase may encompass,' and the principle's perceived 'mystical' nature has been embraced by the 'developed North' as a means to vindicate its reluctance to fully accept its application.<sup>312</sup> It should be noted that these states, however, have a vested interest in undermining the principle's legal status,<sup>313</sup> and the common heritage of mankind has now, like other famously elusive 'concepts' (such as sustainable development), been increasingly acknowledged to exhibit certain constituent and normative elements. And, in this context, the application and implementation of these can serve to operationalise the principle's substantive content, and to give the principle some legal teeth.<sup>314</sup>

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<sup>308</sup> Tanaka, *supra* note 10, 184.

<sup>309</sup> LOSC, *supra* note 3, Article 311(6).

<sup>310</sup> Tladi, *supra* note 2, 124.

<sup>311</sup> *Ibid*, 114.

<sup>312</sup> Dire Tladi, 'The Common Heritage of Mankind in the Proposed Implementing Agreement' in Myron H. Nordquist, John Norton Moore and Ronán Long (eds.), *Legal Order in the World's Oceans: UN Convention on the Law of the Sea*, 78.

<sup>313</sup> Gbenga Oduntan, *Sovereignty and Jurisdiction in the Airspace and Outer Space: Legal Criteria for Spatial Delimitation*, 192.

<sup>314</sup> Guntrip, *supra* note 160, 387.

The first, and most symbolic of these, pertains to the notion of ‘mankind.’ Whilst this naturally presents more challenges in terms of precisely defining its scope and content, it is now generally understood that ‘mankind’ does not correspond to individual or groups of states.<sup>315</sup> The interests of ‘mankind’ accordingly comprise something greater, a ‘transcendent, separate and distinct collection of interests.’<sup>316</sup> The application of the principle can therefore be said to reflect a desire to ‘expunge national interests’ from the international governance of ‘global commons areas,’ and a reclassification of the role of states to one in which they act as the ‘representative agents of all mankind.’<sup>317</sup>

Significantly, in this respect, the notion of ‘mankind’ also introduces considerations of a transtemporal nature, through an encompassment of the interests of both present and future generations.<sup>318</sup> This element of inter-generational equity naturally envisages the adoption of measures to protect and preserve the resource or area to which the status of common heritage of mankind has endowed,<sup>319</sup> as

[t]o fail in the protection, conservation, preservation and prudential management of the region and its resources would breach the trust and legal obligation implicit in responsibly supervising the earth’s heritage for mankind in the future.<sup>320</sup>

The interests of ‘mankind’ are effectuated through the principle’s normative elements, on which a general agreement has now also been reached.<sup>321</sup> The principle of the common heritage of mankind is widely understood to possess four such elements, and each of these are embodied in Part XI of the LOSC. Under Part XI, the Convention sets forth the basic elements of the principle’s application to both the deep seabed Area and its mineral resources and, in this regard, it has been said that the legal status that the doctrine enjoys under the LOSC is unique.<sup>322</sup>

#### *4.2.2.1 Non-Appropriation*

Under Article 137 of the LOSC, no state is able to ‘claim or exercise sovereignty or sovereign rights over any part of the Area or its resources,’ and no such claims will be

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<sup>315</sup> Tladi, *supra* note 2, 125.

<sup>316</sup> Harminderpal Singh Rana, ‘The ‘Common Heritage of Mankind’ and the Final Frontier: Revaluation of Values Constituting the International Legal Regime for Outer Space Activities,’ 229.

<sup>317</sup> Christopher C. Joyner, ‘Legal Implications of the Concept of the Common Heritage of Mankind,’ 191.

<sup>318</sup> Tanaka, *supra* note 136, 14.

<sup>319</sup> Jennifer Frakes, ‘The Common Heritage of Mankind Principle and Deep Seabed, Outer Space, and Antarctica: Will Developed and Developing Nations Reach a Compromise?’ 413.

<sup>320</sup> Joyner, *supra* note 317, 195.

<sup>321</sup> John E. Noyes, ‘The Common Heritage of Mankind: Past, Present and Future,’ 450.

<sup>322</sup> de la Fayette, *supra* note 13, 267.

recognised.<sup>323</sup> Moreover, ‘all rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act.’<sup>324</sup>

The first part of Article 137 relates to the juridical status of the deep seabed Area, as lying beyond the limits of national jurisdiction and, in this respect, the principle of the freedom of the high seas is also based on an understanding that the high seas waters cannot be subject to claims of appropriation. However, the second part, entailing the vesting of the rights of the deep seabed’s mineral resources ‘in mankind as a whole,’ represents a radical divergence from the high seas legal regime.<sup>325</sup> And it is this second point that has proven to be highly contentious within the BBNJ Process, with the ‘developed North’ strongly protesting its application to deep seabed MGRs, as will be considered in greater depth in section 5.2.<sup>326</sup>

#### *4.2.2.2 Peaceful Use*

Article 141 of the Convention stipulates that the deep seabed Area is to be used ‘exclusively for peaceful purposes.’<sup>327</sup> Whilst the LOSC does not expand on which type of activity may be considered ‘non-peaceful,’ it is widely presumed to preclude military activity, or the stationing of weaponry on the deep seabed.<sup>328</sup>

#### *4.2.2.3 Sharing of Benefits*

The third element, relating to the equitable sharing of benefits, is perhaps ‘the most novel and most controversial feature’ of the principle of the common heritage of mankind. The element of benefit-sharing was a crucial component in Arvid Pardo’s advocacy for the application of the principle to the deep seabed Area, and is based on the desire for a more equitable legal framework, as envisaged through a model of ‘distributive justice.’<sup>329</sup> In this respect, the element of benefit-sharing can simply be said to reflect ‘the uncontroversial idea of the need to promote the development of developing countries,’ a sentiment that has underpinned a whole host of international instruments across a variety of legal fields.<sup>330</sup> However, the monetary aspect of an access and benefit sharing regime under the common heritage of mankind continues to illicit suspicion, particularly amongst those states in the ‘developed North’ that would stand to lose out under such a system.<sup>331</sup>

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<sup>323</sup> LOSC, supra note 3, Article 137(1).

<sup>324</sup> Ibid, Article 137(2).

<sup>325</sup> Noyes, supra note 321, 451.

<sup>326</sup> Tladi, supra note 2, 126.

<sup>327</sup> LOSC, supra note 3, Article 141.

<sup>328</sup> Tladi, supra note 2, 127.

<sup>329</sup> Noyes, supra note 321, 451.

<sup>330</sup> Tladi, supra note 2, 126.

<sup>331</sup> Alexandre Kiss, ‘The Common Heritage of Mankind: Utopia or Reality?’ 435.

As it was noted in section 4.2.1.2, Article 140 of the LOSC prescribes that all activities in the deep seabed Area are to ‘be carried out for the benefit of mankind as a whole... taking into particular consideration the interests and needs of developing States,’<sup>332</sup> and Part XI of the Convention accordingly establishes a specific access and benefit sharing regime, for the distribution of any monetary or non-monetary benefits that are derived from these.<sup>333</sup> First, in the context of monetary benefits, Article 140(2) of the Convention empowers the ISA to

provide for the equitable sharing of financial and other economic benefits derived from activities in the Area through any appropriate mechanism, on a non-discriminatory basis.<sup>334</sup>

However, unexpected delays in the commercialisation of deep seabed mining, and the corresponding fact that no financial benefits have yet been accrued from such activities, has meant that, at present, an appropriate mechanism has yet to be developed.<sup>335</sup>

Second, elements of non-monetary benefit sharing are envisaged through the implementation of MSR in the deep seabed Area. States are required ‘to promote international cooperation’ in the conduct of such research, and Article 143(3) of the LOSC details two ways in which this is to be achieved. First, states are required to participate in the development of international research programmes, through the ISA or other international organisations, for the benefit of developing and technologically-less developed states. And second, states are also required to effectively disseminate and publish any results that have been obtained from their own conduct of MSR.<sup>336</sup> In this respect, the ISA has established the Endowment Fund for Collaborative Marine Scientific Research, which is intended to facilitate the ‘participation of qualified scientists and technicians from developing countries in relevant programmes, initiatives and activities’ relating to MSR in the deep seabed Area.<sup>337</sup>

Finally, whilst, as it was noted in section 4.2.1.3, the Part XI Agreement moved to abolish the compulsory transfer of technology provisions that were originally provided for under the LOSC, states are nevertheless still required to cooperate in the promotion of the transfer of technology and scientific knowledge, as it relates to the deep seabed Area.<sup>338</sup> This cooperation envisages the facilitation of access by developing states to relevant seabed technology, although the effect of this measure has now been qualified under the Part XI

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<sup>332</sup> LOSC, *supra* note 3, Article 140(1).

<sup>333</sup> *CBD, SBSTTA Study of Relationship between CBD and LOSC*, *supra* note 42, 31.

<sup>334</sup> LOSC, *supra* note 3, Article 140(2).

<sup>335</sup> Lodge, *supra* note 281, 738.

<sup>336</sup> LOSC, *supra* note 3, Article 143(3).

<sup>337</sup> ISA, ‘Endowment Fund: Collaborative Marine Scientific Research,’ 3, available at <https://www.isa.org.jm/files/documents/EN/efund/rev/FactSheet-rev1.pdf> (last accessed 8 April 2018).

<sup>338</sup> LOSC, *supra* note 3, Article 144(2)(a).

Agreement, which requires such access to be provided on ‘fair and reasonable commercial terms and conditions, consistent with the effective protection of intellectual property rights.’<sup>339</sup>

In this context, the development of a more equitable legal framework, through the prescription for free and open access to technology and scientific knowledge, can be limited by the imposition of measures serving to protect intellectual property rights.<sup>340</sup> In particular, a difficult balance has been observed between the LOSC and the World Trade Organisation Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which objects to protect and enforce intellectual property rights as a means of promoting technological innovation.<sup>341</sup> And, as it was noted in section 1.2.2.2, this is particularly concerning in the context of deep seabed MGRs, where the strict application of intellectual property rights, and the facilitation of a private monopolisation of commercial ‘secrets,’ is likely to exacerbate the prevalent disparities in the distribution of economic wealth between the ‘haves’ in the ‘developed North’ and the ‘have-nots’ in the ‘developing South.’<sup>342</sup>

#### *4.2.2.4 International Management*

The fourth and final element of the principle of the common heritage of mankind envisages that the area or resource endowed with that status is to be managed collectively on behalf of all mankind, through an international organisation.<sup>343</sup> The international management element has been observed to represent ‘the most essential characteristic of the concept of the common heritage of mankind’ and, as it was noted in section 4.2.1, was a formative element within Arvid Pardo’s broader vision for the supranational governance of the deep seabed and ocean floor beyond national jurisdiction.<sup>344</sup>

However, the international management element has also proven to be highly controversial and, as the contentious nature of the negotiations at the LOSC III served to illustrate, ‘the more formal and central the institutional arrangements for the management or administration of the common area are, the more likely the resistance to it, particularly from the states that have the capability to exploit the resources in the area.’<sup>345</sup> Nevertheless, and despite encountering fierce initial opposition from the ‘developed North,’ the LOSC proceeded to

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<sup>339</sup> Part XI Agreement, *supra* note 268, Annex, Section 5(1).

<sup>340</sup> Edwin Egede, *Africa and the Deep Seabed Regime: Politics and International Law of the Common Heritage of Mankind*, 97.

<sup>341</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights (15 April 1994) 1869 UNTS 299, *entered into force* 1 January 1995, Article 7.

<sup>342</sup> Vierros *et al*, *supra* note 38, 30.

<sup>343</sup> CBD, *SBSTTA Study of Relationship between CBD and LOSC*, *supra* note 42, 30.

<sup>344</sup> Kiss, *supra* note 331, 431.

<sup>345</sup> Tladi, *supra* note 2, 126.

establish the ISA as the ‘organisation through which States Parties shall, in accordance with this Part, organise and control activities in the Area, particularly with a view to administering the resources of the Area.’<sup>346</sup> And, significantly, ‘[a]ll rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act.’<sup>347</sup>

The Authority is, therefore, empowered with the exclusive authority to manage the mineral resources of the deep seabed Area on behalf of all mankind and, in this context, the ISA has been said to have ‘been successful far beyond the cautious expectations of its creators’ in undertaking this role.<sup>348</sup> The management regime that has been established under the ISA accordingly warrants a closer inspection.

#### **4.2.3 The International Seabed Authority**

The ISA is an autonomous international organisation, and is comprised *ipso facto* of all states parties to the LOSC.<sup>349</sup> Under Article 153(1) of the LOSC, all activities in the Area are to be ‘organised, carried out and controlled by the Authority on behalf of mankind as a whole in accordance with... the rules, regulations and procedures of the Authority.’<sup>350</sup> To enable the ISA to perform its function under Article 153(1), the LOSC accordingly empowers the Authority with both prescriptive and enforcement powers, meaning that the Authority is, in many ways, a unique international organisation within the law of the sea framework. And therein, it is posited, lies much of its success.<sup>351</sup>

##### *4.2.3.1 Prescriptive Powers*

First, the devolved prescriptive responsibilities that the ISA enjoys under the LOSC allows it to not only determine who is to have access to the mineral resources of the deep seabed Area, but also to determine the conditions upon which such access may be granted.<sup>352</sup> In this respect, any mining activities within the Area may only be carried out only by qualified entities ‘on the basis of a formal written plan of work,’ which has been approved by the Authority’s executive Council upon the review of its Legal and Technical Commission.<sup>353</sup> Qualified entities

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<sup>346</sup> LOSC, *supra* note 3, Article 157(1).

<sup>347</sup> *Ibid*, Article 137(2).

<sup>348</sup> Caitlyn Antrim, ‘The International Seabed Authority Turns Twenty,’ 193.

<sup>349</sup> LOSC, *supra* note 3, Article 157(1).

<sup>350</sup> *Ibid*, Article 153(1).

<sup>351</sup> Harrison, *supra* note 123, 57.

<sup>352</sup> Aline Jaeckel, ‘Deep Seabed Mining and Adaptive Management: The Procedural Challenges for the International Seabed Authority,’ 206.

<sup>353</sup> LOSC, *supra* note 3, Article 153(2).

encompass states parties, or state-sponsored enterprises, and this plan of work takes on the form of a contract between these and the ISA.<sup>354</sup>

The contractual relationship that is established between the Authority and the entity seeking to engage in the deep seabed mining of the Area's mineral resources is a distinct and unique feature of this regime.<sup>355</sup> The Authority is therefore empowered to evaluate external applications prior to the awarding of such contracts and, accordingly, to exercise complete control over those that are wishing to access the deep seabed's mineral resources.

This control is operationalised through an extension of the ISA's competence to determine the exact conditions under which deep seabed mining is to take place. And through the use of these law-making powers, the ISA has been able to develop an increasingly comprehensive regulatory regime for the prospecting and exploration of mineral resources in the deep seabed Area.<sup>356</sup>

This regime has been elaborated in three sets of Regulations, each of which prescribe the rules, regulations and procedures pertaining to the mining of the three mineral resources in which commercial interest has so far been shown. Significantly, these Regulations are automatically binding upon all of those that are engaged in deep seabed mining activities, including the ISA itself, without either the requirement for individual consent, or the possibility to opt out; a point that contrasts sharply with the position under the principle of the freedom of the high seas.<sup>357</sup> To facilitate the implementation of these rules, regulations and procedures, the ISA has also provided for its Legal and Technical Commission to, at times, issue Recommendations of a technical or administrative nature. These Recommendations are intended to guide contractors in their observation and application of particular regulatory aspects, and have thus served to enhance the effectiveness of the Authority's legal regime.<sup>358</sup>

The devolved prescriptive powers that the ISA enjoys has also provided a mechanism for the normative development of the deep seabed mining regime and, in this regard, the Legal and Technical Commission is required to keep the Authority's rules, regulations and procedures under periodic review.<sup>359</sup> It has been observed that this mechanism was made necessary by the international community's nascent understanding of the deep seabed Area at the time of the Convention's negotiation.<sup>360</sup> However, this scope for normative development remains equally

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<sup>354</sup> Ibid, Article 153(3).

<sup>355</sup> Michael Lodge, 'Protecting the Marine Environment of the Deep Seabed' in Rayfuse (ed.), supra note 7, 155.

<sup>356</sup> Warner, supra note 37, 158.

<sup>357</sup> Jaeckel, supra note 352, 206.

<sup>358</sup> Lodge, supra note 355, 163.

<sup>359</sup> LOSC, supra note 3, Article 165(g).

<sup>360</sup> Jaeckel, supra note 352, 206.

as crucial in the present day, and enables the Authority to address new environmental challenges as and when they arise. In so doing, moreover, it has the effect of pacifying the delicate tension that exists between science and law; a tension that is increasingly prevalent within the context of the deep seabed.

#### 4.2.3.2 Enforcement Powers

It is increasingly acknowledged that a regulatory legal regime is only as effective as the measures that can be invoked to enforce it, and an examination of the legal regime for the high seas waters certainly served to corroborate this conclusion in Chapter 3.<sup>361</sup> It is therefore significant that the ISA has also been granted with powers of enforcement, and the Authority, in this respect, has a fundamental role to play in ensuring that the rules, regulations and procedures that it prescribes under its Regulations are complied with by those that are operating within the deep seabed Area.<sup>362</sup> These enforcement powers are elaborated under Article 153(4) of the LOSC, which stipulates that

[t]he Authority shall exercise such control over activities in the Area as is necessary for the purpose of securing compliance with the relevant provisions of the this Part and the Annexes relating thereto, and the rules, regulations and procedures of the Authority.<sup>363</sup>

This extends to the right to take, at any time, measures that are necessary to ensure compliance with its provisions, and the exercise of its functions of control and regulation.<sup>364</sup> In this context, the Authority's executive Council is required to supervise and coordinate the implementation of Part XI of the LOSC, as well as to highlight instances of non-compliance.<sup>365</sup>

In furtherance of securing this compliance, the Authority also enjoys limited sanctioning powers in two circumstances. First, the exercise of a state party's rights and privileges through its membership to the ISA may be suspended upon the SDC, which adjudicates on all disputes pertaining to the deep seabed Area, finding that it has 'grossly and persistently violated' the provisions of Part XI of the LOSC.<sup>366</sup> And second, the ISA is authorised to suspend or terminate a contractor's mining rights where the contractor is considered to have 'conducted his activities in such a way as to result in serious, persistent and wilful violations of the fundamental terms

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<sup>361</sup> Lodge, *supra* note 355, 160.

<sup>362</sup> Robin Churchill, 'Compliance with the United Nations Convention on the Law of the Sea: Problems and Prospects' in Hans-Joachim Kock *et al* (eds.), *Legal Regimes for Environmental Protection: Governance for Climate Change and Ocean Resources*, 302.

<sup>363</sup> LOSC, *supra* note 3, Article 153(3).

<sup>364</sup> *Ibid*, Article 153(4).

<sup>365</sup> *Ibid*, Article 162(2)(a).

<sup>366</sup> *Ibid*, Article 185(1).

of his contract.’ In such instances, this sanction may entail the imposition of financial penalties.<sup>367</sup>

Whilst the ISA’s prescriptive and enforcement powers pertain only to the mineral resources of the deep seabed Area, and not to the Area as a whole, they do nevertheless extend to the protection and preservation of the marine environment.<sup>368</sup> Indeed, a key aspect of the Authority’s regulatory mandate is the requirement to ‘ensure effective protection for the marine environment from harmful activities that may arise from’ mining activities within the Area and, in this context, the devolved functional powers that the ISA enjoys has enabled it to develop a comprehensive code of environmental regulations, under which all mining operations within the deep seabed Area must take place.<sup>369</sup>

### **4.3 Marine Biological Diversity in the Area**

During the course of the informal consultations that preceded the adoption of the Part XI Agreement, there was a general agreement that ‘environmental considerations were of utmost importance and that the Convention already imposed high standards which could be further elaborated by the Authority.’ The question was therefore not seen to be one that ‘represented an obstacle in the way of ensuring universal participation.’<sup>370</sup>

In this respect, cognisance towards the potentially devastating effects of deep seabed mining activities on the surrounding marine environment has entailed that environmental concerns have always remained high on the list of the ISA’s regulatory priorities.<sup>371</sup> Estimates have suggested that benthic communities may take decades to recover from the associated impacts of commercialised mining operations, and the ISA has thus been borne with the primary responsibility for developing applicable international norms and standards to mitigate these.<sup>372</sup>

#### **4.3.1 Part XI of the LOSC**

This responsibility is prescribed under Article 145 of the LOSC, which requires the ISA to adopt appropriate rules, regulations and procedures for ‘the prevention, reduction and control of pollution and other hazards to the marine environment... and of interference with the ecological balance of the marine environment,’ as well as the

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<sup>367</sup> Ibid, Annex III, Article 18(1) and (2).

<sup>368</sup> Tanaka, *supra* note 10, 180.

<sup>369</sup> LOSC, *supra* note 3, Article 145.

<sup>370</sup> David H. Anderson, ‘Efforts to Ensure Universal Participation in the United Nations Convention on the Law of the Sea,’ 660.

<sup>371</sup> Jaeckel, *supra* note 352, 206.

<sup>372</sup> Warner, *supra* note 37, 43.

protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.<sup>373</sup>

In this respect, and whilst it is not explicitly referenced by name, the Secretary-General of the ISA has confirmed that the Authority's regulatory responsibilities extend to the protection of marine biological diversity within the deep seabed Area, and particularly as it pertains to the extreme biological communities that are associated with deep seabed polymetallic sulphides and cobalt-rich ferromanganese crusts.<sup>374</sup>

The ISA's responsibilities are defined in more detail, and linked to the operational aspects of deep seabed mining activities, in Annex III of the LOSC. Articles 17(1)(b)(ix) and (xii) require the Authority to adopt and uniformly apply rules, regulations and procedures for the 'prevention of interference with other activities in the marine environment,' and to develop relevant mining standards and practices, 'including those relating to operational safety, conservation of the resources and the protection of the marine environment.'<sup>375</sup> Pursuant to these, and as it was noted in section 4.2.3.1, the ISA has adopted three sets of Regulations pertaining to the prospecting and exploration for three mineral resources in which commercial interest has so far been shown. These Regulations will be examined in greater detail in the next section 4.3.2.

For now, two further provisions under Part XI of the LOSC are of note. First, Article 162(2)(w) of the Convention requires the Authority's executive Council, upon the recommendation of the Legal and Technical Commission, to 'issue emergency orders, which may include orders for the suspension or adjustment of operations, to prevent serious harm to the marine environment arising out of activities in the Area.'<sup>376</sup> A further element of this obligation envisages the disapproval of areas for exploitation in which evidence indicates a serious risk of harm to the marine environment is likely to occur.<sup>377</sup> And second, Part XI also places environmental responsibilities at the hands of states, requiring them to adopt national laws and regulations to prevent, reduce and control pollution of the marine environment, from activities undertaken by vessels, installations, structures and other devices bearing their flag, within the deep seabed Area.<sup>378</sup> Such laws must be no less effective than those that have been adopted by the ISA, and this enables the Authority to limit the national margin of discretion,

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<sup>373</sup> LOSC, *supra* note 3, Article 145.

<sup>374</sup> ISA, 'Report of the Secretary-General of the International Seabed Authority under Article 166, Paragraph 4, of the United Nations Convention on the Law of the Sea' (31 March 2004) UN Doc. ISBA/10/A/3, at [133].

<sup>375</sup> LOSC, *supra* note 3, Annex III, Articles 17(1)(b)(ix) and (xii).

<sup>376</sup> *Ibid*, Article 162(2)(w).

<sup>377</sup> *Ibid*, Article 162(2)(x).

<sup>378</sup> *Ibid*, Article 209(2).

and to therefore establish the regulatory benchmark for, environmental policymaking within the Area.<sup>379</sup>

#### 4.3.2 The ISA Regulations

The ISA's three sets of Regulations, pertaining to the prospecting and exploration for polymetallic nodules, polymetallic sulphides and cobalt-rich ferromanganese crusts, are designed to implement and operationalise the Authority's environmental obligations as detailed in section 4.3.1.<sup>380</sup> In this respect, the Regulations are comprehensive, encompassing 'all aspects of the prospecting and exploration phases of mineral development,'<sup>381</sup> and it has been observed that their adoption underlines 'the degree of confidence in the system as it has been developed through the Authority.'<sup>382</sup>

The Regulations define the 'marine environment' in a broad and integrated manner, which is said to comprise '[t]he physical, chemical, geological and biological components, conditions and factors which interact and determine the productivity, state, condition and quality of the marine ecosystem.'<sup>383</sup> And, in so doing, they have been said to implicitly acknowledge the fundamental interconnectedness of marine biological communities, including as this relates to both their living and non-living components.<sup>384</sup>

One further notable feature of the ISA Regulations is their active promotion of key environmental principles to the governance of deep seabed mining activities.<sup>385</sup> It has been observed that environmental principles have a 'valuable role to play in setting out normative frameworks for integrating various legal, economic, social and political considerations' into the development of environmental law.<sup>386</sup> And, given the various considerations that are in play within the context of the deep seabed Area, the Regulations' elaboration of environmental principles is therefore significant. Two of these, in particular, warrant further consideration.

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<sup>379</sup> Yoshifumi Tanaka, 'Reflections on the Conservation and Sustainable Use of Genetic Resources in the Deep Seabed Beyond the Limits of National Jurisdiction,' 135.

<sup>380</sup> Decision of the Council of the International Seabed Authority relating to Amendments to the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area and Related Matters (22 July 2013) UN Doc. ISBA/19/C.17 (Nodules Regulations); Decision of the Assembly of the International Seabed Authority relating to the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area (15 November 2010) UN Doc. ISBA/16/A/12/Rev. 1 (Sulphides Regulations); Decision of the Assembly of the International Seabed Authority relating to the Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area (22 October 2012) UN Doc. ISBA/18/A/11 (Crusts Regulations).

<sup>381</sup> Lodge, *supra* note 355, 157.

<sup>382</sup> Lodge, *supra* note 281, 738.

<sup>383</sup> Nodules and Sulphides Regulations, *supra* note 380, Regulation 1(3)(c); Crusts Regulations, Regulation 1(3)(d).

<sup>384</sup> Lodge, *supra* note 355, 158.

<sup>385</sup> *Ibid*, 155.

<sup>386</sup> Yoshifumi Tanaka, 'Principles of International Marine Environmental Law' in Rayfuse (ed.), *supra* note 7, 32.

#### 4.3.2.1 Precautionary Approach

First, the Regulations explicitly require all actors operating within the Area, including the ISA itself, to adopt a precautionary approach to the prospecting and exploration stages of deep seabed mining, ‘as reflected in Principle 15 of the Rio Declaration,’ and in order to ensure the effective protection of the marine environment from the harmful effects of mining activities.<sup>387</sup> Whilst the legal status of the precautionary approach under international law continues to be debated, the SDC has moved to hold that the increasing recognition of the principle within international jurisprudence, most of which upholds the principle as formulated under the Rio Declaration, reflects a ‘trend towards making this approach part of customary international law,’ and one that is moreover reinforced by its application under the ISA Regulations.<sup>388</sup>

In this respect, the SDC has also confirmed that the requirement to adopt a precautionary approach represents an ‘integral part’ of a state-sponsored entity’s ‘due diligence obligations’ under the ISA Regulations, and the discharge of this obligation is specifically anticipated in two ways.<sup>389</sup> First, the Regulations impose on each contractor an obligation to

take necessary measures to prevent, reduce and control pollution and other hazards to the marine environment arising from activities in the Area as far as reasonably practicable, applying a precautionary approach and best environmental practices.<sup>390</sup>

And second, the Regulations specifically envisage the adoption of a precautionary approach at the initial prospecting stage of mining activities, requiring that such activities not be undertaken if ‘substantial evidence indicates the risk of serious harm to the marine environment.’<sup>391</sup>

It has been suggested that the precautionary tone that underlies the ISA Regulations is a necessary corollary to ‘the multiple uncertainties inherent in’ deep seabed mining activities, and particularly as they occur in ‘locations of high biodiversity and fragile habitats.’<sup>392</sup> In this respect, the Legal and Technical Commission is required to monitor the implementation of the precautionary approach, and to make recommendations to the executive Council on how this can be enhanced.<sup>393</sup>

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<sup>387</sup> Nodules, Sulphides and Crusts Regulations, supra note 380, Regulation 2(2).

<sup>388</sup> *SDC Advisory Opinion*, supra note 107, at [135].

<sup>389</sup> *Ibid*, at [131].

<sup>390</sup> Nodules Regulations, supra note 380, Regulation 31(5); Sulphides and Crusts Regulations, Regulation 33(5).

<sup>391</sup> *Ibid*, Nodules and Sulphides Regulations, Regulation 2(2); Crusts Regulations, Regulation 2(3).

<sup>392</sup> Warner, supra note 37, 170.

<sup>393</sup> Nodule Regulations, supra note 380, Regulation 31(3); Sulphides and Crusts Regulations, Regulation 33(3).

#### 4.3.2.2 Environmental Impact Assessment

The precautionary tone that has been adopted in the context of the deep seabed Area is further reinforced by a ‘well developed framework of environmental assessment obligations’ under the ISA Regulations.<sup>394</sup> The SDC has acknowledged that the obligation to conduct an EIA for activities potentially having a significant adverse impact on the marine environment is ‘a general obligation under customary law,’ and the Regulations place responsibilities on both contractors and the ISA in this respect.<sup>395</sup> For contractors, this obligation is envisaged in three parts, with each of these to form the ‘primary inputs’ into the performance of EIAs for commercial mining activities within the deep seabed Area.<sup>396</sup>

First, contractors are required, as an element of their application for the approval of a plan of work, to submit ‘a preliminary assessment of the possible impact of the proposed exploration activities on the marine environment,’ including its impact on marine biological diversity, as well as their intended measures to prevent, reduce and control these.<sup>397</sup> Second, and as its activities progress, the contractor is required to gather environmental baseline data and to ‘establish environmental baselines against which to assess the likely effects’ of its activities on the marine environment, a process that requires the establishment of a monitoring programme to monitor and report on these. And finally, the results of this programme are to be submitted to the Authority on an annual basis.<sup>398</sup> Each of these obligations have subsequently been elaborated upon in 2013 Recommendations issued by the Authority’s Legal and Technical Commission, which are intended to enhance the implementation of these obligations.<sup>399</sup>

A second, significant element in the evaluation of environmental impacts envisages the setting aside of areas, on a cooperative basis between contractors and the ISA, to be ‘used exclusively as impact reference zones and preservation reference zones.’ ‘Impact reference zones’ comprise of areas that are to be used exclusively to assess the effect of activities on the marine environment, whilst ‘preservation reference zones’ take this process one step further, and pertain to areas in which ‘no mining shall occur to ensure representative and stable biota of the seabed in order to assess any changes in the biodiversity of the marine environment.’<sup>400</sup>

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<sup>394</sup> Lodge, *supra* note 355, 164.

<sup>395</sup> *SDC Advisory Opinion*, *supra* note 107, at page 75.

<sup>396</sup> ISA ‘Recommendations for the Guidance of Contractors for the Assessment of the Possible Environmental Impacts arising from Exploration for Marine Minerals in the Area’ (1 March 2013) UN Doc. ISBA/19/LTC/8 (LTC Recommendations), at [19].

<sup>397</sup> Nodules Regulations, *supra* note 380, Regulation 18(c) and (d); Sulphides and Crusts Regulations, Regulation 20(1) (c) and (d).

<sup>398</sup> *Ibid*, Nodules Regulations, Regulation 32(1) and (2); Sulphides and Crusts Regulations, Regulation 34(1) and (2).

<sup>399</sup> LTC Recommendations, *supra* note 396.

<sup>400</sup> Nodules Regulations, *supra* note 380, Regulation 31(6); Sulphides and Crusts Regulations, Regulation 33(6).

Finally, and on the basis of the information that it has received from the monitoring and reporting programmes that have been established by mining contractors, the ISA's Legal and Technical Commission is required to develop and implement procedures for determining, on the basis of the 'best available scientific evidence,' whether 'proposed exploration activities would have serious harmful effects on vulnerable marine ecosystems.' If such effects are identified as being likely to occur, the Commission is vested with the responsibility to manage these activities in such a way as to mitigate these effects, or to preclude them from being undertaken altogether.<sup>401</sup>

Each of these, it has been suggested, present a practical opportunity by which assess the environmental consequences of mining activities within the deep seabed Area, and demonstrate the strength of the regime that has been established by the ISA in this respect.<sup>402</sup> Two further approaches, through which the ISA has sought to give effect to its environmental mandate, will now be examined.

#### **4.3.3 Areas of Particular Environmental Interest**

The first of these pertains to the designation of Areas of Particular Environmental Interest (APEIs), as part of a broader marine environmental management plan (EMP).<sup>403</sup> In this respect, APEIs bear many of the same constituent qualities as MPAs, as were detailed in section 3.3.2 and, in 2012, the ISA approved an EMP for the Clarion-Clipperton Fracture Zone, an area encompassing approximately six million km<sup>2</sup> of the deep seabed within the Eastern Central Pacific Ocean.<sup>404</sup> This area is said to constitute a 'prime location for commercially viable deposits of polymetallic nodules,' and contracts for the exploration of these have now been granted to twelve qualified entities.<sup>405</sup>

Intended to protect the deep seabed's marine biological diversity and ecosystem functioning from the anticipated effects of increased mining activity, the EMP was adopted on the basis of extensive consultations between the ISA's Legal and Technical Commission, representatives from the mining sector, and experts from the scientific community. In this respect, the Plan has been said to reflect a novel 'partnership approach' to environmental

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<sup>401</sup> Ibid, Nodules Regulations, Regulation 31(4); Sulphides and Crusts Regulations, Regulation 33(4).

<sup>402</sup> Tanaka, *supra* note 380, 135.

<sup>403</sup> Aline Jaeckel, *The International Seabed Authority and the Precautionary Principle: Balancing Deep Seabed Mineral Mining and Marine Environmental Protection*, 210.

<sup>404</sup> ISA, 'Decision of the Council relating to an Environmental Management Plan for the Clarion-Clipperton Zone' (26 July 2012) UN Doc. ISBA/18/C/22 (Clarion-Clipperton EMP).

<sup>405</sup> Michael Lodge *et al*, 'Seabed Mining: International Seabed Authority Environmental Management Plan for the Clarion-Clipperton Zone, A Partnership Approach,' 66.

conservation.<sup>406</sup> However, the EMP's most significant and innovative element was its designation of nine APEIs, each of which cover an area that is roughly the same size as England.<sup>407</sup> Within these areas, and for a period of five years, the Plan prescribes that 'no application for approval of a plan of work for exploration or exploitation should be granted,' entailing that all mining activities and operations are to be strictly prohibited.<sup>408</sup>

The establishment of this network of APEIs within the Clarion-Clipperton Fracture Zone accordingly presents another mechanism by which the ISA has operationalised a precautionary approach to the protection and management of the deep seabed environment, as it is required to do under its mining Regulations.<sup>409</sup> The Plan also implicitly entertains the possibility of designating further APEIs and, in this regard, the executive Council has actively encouraged the development of EMPs in other ocean regions; particularly, those in which 'there are currently exploration contracts' in place.<sup>410</sup>

In this context, it has been suggested that the Clarion-Clipperton Fracture Zone EMP 'reflects the dynamic and flexible nature of the environmental regime established by the LOSC, the Part XI Agreement and the [ISA] Regulations.' This flexibility has enabled the ISA, particularly through its executive Council and Legal and Technical Commission, to 'go beyond a strict and limited interpretation' of its powers and functions, and instead to take a broad, purposive approach to the protection and management of the deep seabed marine environment.<sup>411</sup> This approach has had very evident effects.

#### **4.3.4 Marine Scientific Research**

One final element of the ISA's mandate to ensure effective protection for the marine environment pertains to the conduct of MSR within the deep seabed Area. That the general right of all states to conduct MSR extends to research that is carried out within the Area is confirmed in Article 143(3) of the LOSC.<sup>412</sup> However, this right is qualified by the relevant provisions of Part XI of the Convention, and entails that all deep seabed research is to be administered 'exclusively for peaceful purposes and for the benefit of mankind as a whole.'<sup>413</sup> As it was detailed in section 4.2.1.3, this element of the common heritage of mankind has been

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<sup>406</sup> Ibid, 68.

<sup>407</sup> Lodge, supra note 355, 166-167.

<sup>408</sup> Clarion-Clipperton EMP, supra note 404, at [6].

<sup>409</sup> Ibid, at [1].

<sup>410</sup> ISA, 'Decision of the Council of the International Seabed Authority relating to the Summary Report of the Chair of the Legal and Technical Commission' (23 July 2014) UN Doc. ISBA/20/C/31, at [9].

<sup>411</sup> Lodge, supra note 355, 167.

<sup>412</sup> LOSC, supra note 3, Article 238.

<sup>413</sup> Ibid, Article 143(3).

operationalised, for states, through the requirement ‘to promote international cooperation’ in the performance of such research.

Part XI of the LOSC also recognises the right of the ISA to conduct MSR in the Area, and in this respect the Authority is required to actively ‘promote and encourage the conduct of MSR,’ and to coordinate and disseminate the results of research and analysis.<sup>414</sup> As it was also noted in section 4.2.1.3, one way in which the ISA has given effect to this obligation is through the establishment of the Endowment Fund for Marine Scientific Research in the Area. Besides the Fund’s intended contribution towards a more equitable framework, it has been observed that the Authority’s promotion of MSR can serve to eliminate the prevalent knowledge gap that exists in respect of the deep seabed marine environment, and thus have a correspondingly positive effect on its ability to effectively protect and manage these areas.<sup>415</sup>

Nevertheless, one further point to be made concerns the difficult distinction between MSR and bioprospecting, as it was first considered in section 2.1.1.2. The comprehensive regulatory regime that is in place, under the ISA Regulations, for the prospecting of the deep seabed’s mineral resources entails that the distinction between these two activities is infinitely more complex within the Area, and reinforces the need for clarity on this point in the BBNJ Process.<sup>416</sup> However, it is also within this context that the distinction between the respective environmental obligations that prospectors or bioprospectors face, depending on whether they are operating either within the high seas waters or the deep seabed Area, becomes even more pronounced.

#### **4.4 Concluding Observations**

As the tempestuous evolution of the principle of the common heritage of mankind has served to demonstrate, the ‘developed North’ still has strong reservations as to its broader application in international law. However, it is suggested that these reservations simply mask a fear of the threat that the principle’s application poses to their economic order. Indeed, in many ways, the common heritage of mankind can be said to represent the ‘antithesis’ to the traditional principles that govern other parts of the LOSC and, in particular, to the principle of the freedom of the high seas, which have historically served these states so well.<sup>417</sup>

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<sup>414</sup> Ibid, Article 143(2).

<sup>415</sup> Emmanuella Doussis, ‘Marine Scientific Research: Taking Stock and Looking Ahead’ in Gemma Andreone (ed.) *The Future of the Law of the Sea: Bridging Gaps between National, Individual and Common Interests*, 88.

<sup>416</sup> Hubert, *supra* note 153, 328.

<sup>417</sup> Tanaka, *supra* note 10, 193.

The principle's relatively understated environmental aspirations, on the other hand, have always been far less controversial. And, as the analysis that was undertaken in section 4.3 has served to illustrate, the operationalisation of the principle's constituent elements under Part XI of the LOSC and the Part XI Agreement has proven to exhibit 'certain specific advantages for addressing issues of uncontrolled exploitation.'<sup>418</sup> At the centre of these is Arvid Pardo's broader vestige for the supranational governance of the deep seabed and ocean floor and, in this respect, the establishment of the ISA, as the organisation through which the international community is to organise, control and administer the mineral resources of the deep seabed Area, has been observed to have had a resoundingly positive effect on the protection and preservation of marine biological diversity within the deep ocean floor.

It should be noted, at this point, that the ISA has yet to elaborate Regulations relating to the actual exploitation of the deep seabed's polymetallic nodules, polymetallic sulphides and cobalt-rich ferromanganese crusts. This lacuna was identified by the ISA's executive Council as the 'most urgent task for the Authority in period up to 2016,' and the development of these is ongoing in this respect.<sup>419</sup> However, it remains that the comprehensive code of environmental regulation that is prescribed under the ISA's Regulations contrasts sharply with the 'relatively underdeveloped and fragmentary environmental protection regimes,' and the 'system of devolved flag State responsibility for environmental protection,' that has undermined conservation efforts pertaining to the living resources of the high seas.<sup>420</sup>

The 'antithetical' nature of the principle of the common heritage of mankind is also reflected in the provisions, under Part XI of the LOSC, for the equitable sharing of monetary and non-monetary benefits. Whilst the ISA has yet to give effect to its mandate to provide for the equitable sharing of financial and other monetary benefits derived from the exploitation of the deep seabed's mineral resources, Part XI of the LOSC still envisages the transfer of relevant seabed technology and scientific knowledge to the 'developing South.' And, in this context, it is highly significant that two of the ISA's first contracts for exploration were awarded to state-sponsored enterprises from Nauru and Tonga, suggesting that the Authority's endeavours have appeared, 'at first blush, to provide an avenue for equal participation' by the 'developing South' in deep seabed mining operations.<sup>421</sup>

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<sup>418</sup> *CBD, SBSTTA Study of Relationship between CBD and LOSC*, supra note 42, 30.

<sup>419</sup> Lodge, supra note 355, 157.

<sup>420</sup> Warner, supra note 37, 170.

<sup>421</sup> Lodge, supra note 281, 738.

The substantive application of the principle of the common heritage of mankind, under Part XI of the LOSC, the Part XI Agreement and the ISA Regulations, has accordingly demonstrated the possibility, at least in the context of the management of the deep seabed Area's mineral resources, of balancing and serving environmental and economic objectives contemporaneously. However, as the BBNJ Process has progressed, the international community's disposition to extend the common heritage of mankind to the governance of deep seabed's biological components has seemed to weaken, on the basis of which the real motives of those that are leading this process can certainly be questioned. Examining these motives, and challenging their logic, will underpin the writings of the final Chapter 5.

## **5. So will it be Freedom of the High Seas or Common Heritage of Mankind – or Neither?**

### **5.1 ‘The Process’**

The BBNJ Process has proven to be every bit as contentious as those that preceded the adoptions of the LOSC and the Part XI Agreement. As it was it was first noted in section 2.1.3, this process has engendered a divergence of views of a legal, political and ideological nature, concerning not only how the present laws should be understood, but also whether new laws are required and, moreover, what the content of these laws should be under a new international agreement.<sup>422</sup>

So whilst the UNGA’s decision, made on Christmas Eve of last year, to convene the forthcoming Intergovernmental Conference to elaborate the text of an international legally binding instrument ‘with a view to developing the instrument as soon as possible’ was, indeed, historic, it has been observed that negotiations remain ‘fraught with various uncertainties and frictions.’<sup>423</sup> Overcoming these, then, will perhaps represent an even greater accomplishment than was achieved with the initial adoption of the ‘Constitution for the Oceans.’

These negotiations have primarily taken place within the various institutional machinery of the United Nations. However, they have also, on occasion, ‘spilled over’ into other international fora.<sup>424</sup> The CBD has been one such forum, and it was, indeed, within the Convention’s framework that the international debate concerning the governance of MGRs first commenced.<sup>425</sup> The CBD’s contribution to the BBNJ Process will, accordingly, now be considered.

#### **5.1.1 Convention on Biological Diversity**

The CBD, in this context, has played a significant role in the global efforts to address the conservation and sustainable use of marine biological diversity. Adopted in 1992 at the United Nations Conference on Environment and Development, the Convention is the principal international legal framework for the conservation of biological diversity, and also the first to adopt a ‘holistic, ecosystem-based approach’ to its conservation and sustainable use.<sup>426</sup> It is guided by three primary objectives, namely

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<sup>422</sup> Tladi, *supra* note 7, 271.

<sup>423</sup> Rabitz, *supra* note 8, 142.

<sup>424</sup> Tladi, *supra* note 7, 265.

<sup>425</sup> Rabitz, *supra* note 8, 138.

<sup>426</sup> *CBD, SBSTTA Study of Relationship between CBD and LOSC*, *supra* note 42, 18.

the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

These are to be achieved through the granting of appropriate access to genetic resources, the transfer of relevant technologies, and the provision of funding.<sup>427</sup> This final objective has now been operationalised under the Convention's Nagoya Protocol on Access and Benefit Sharing, which will be considered in section 5.4.<sup>428</sup>

Like the LOSC, the CBD is global in scope, and addresses all genetic, species and ecosystem biological components.<sup>429</sup> And, whilst it does not specifically consider the uniqueness of the issues pertaining to the conservation and sustainable use of marine biological diversity, the Convention's broad definition of 'biological diversity,' as detailed in section 1.1.2, entails that the CBD's *ratione materiae* extends to the life within the ocean waters.<sup>430</sup> Indeed, it can be said that the conservation and sustainable use of deep seabed MGRs is fundamental to the achievement of the Convention's objectives, when considering the essential role that genetic variability plays in the functioning of biological components and processes.<sup>431</sup>

The CBD's various *in situ* obligations, pertaining to the 'conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings,' can certainly serve to advance the protection and preservation of marine biological diversity.<sup>432</sup> In this regard, the Convention requires its contracting parties to establish a 'system of protected areas or areas where special measures need to be taken to conserve biological diversity,' as well as to regulate or manage biological resources, important for the conservation of biological diversity, 'with a view to ensuring their conservation and sustainable use.'<sup>433</sup> The CBD's Conference of the Parties (COP) has been proactive in adopting programmes of work to give effect to this obligation, and the establishment of MPAs, as a 'key operational domain for the ecosystem approach,' has been a central element of its Jakarta Mandate on Marine and Coastal Biological Diversity.<sup>434</sup> Target 11 of the Aichi Biodiversity Targets, adopted under the Convention's framework, also envisages the establishment of 'ecologically representative and well-connected systems of protected areas' for ten per cent of

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<sup>427</sup> CBD, *supra* note 22, Article 1.

<sup>428</sup> CBD, 'Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Tenth Meeting: X/1. Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization' (adopted 29 October 2010) UN Doc. UNEP/CBD/COP/DEC/X/1 (Nagoya Protocol).

<sup>429</sup> Proelss and Houghton, *supra* note 122, 254.

<sup>430</sup> Narula, *supra* note 20, 69.

<sup>431</sup> CBD, *SBSTTA Study of Relationship between CBD and LOSC*, *supra* note 42, 20.

<sup>432</sup> CBD, *supra* note 22, Article 2.

<sup>433</sup> *Ibid*, Articles 8(a) and 8(c).

<sup>434</sup> Proelss and Houghton, *supra* note 122, 255.

coastal and marine areas by 2020 although, as it was alluded to in section 3.2.2, this objective is not being achieved.<sup>435</sup>

In this context, the CBD's ability to effectively conserve marine biological diversity within ABNJ is limited by the Convention's jurisdictional characteristics. Under Article 4 of the CBD, the Convention has jurisdiction over components of biological diversity, such as genetics, species and ecosystems, when these are 'within the limits of national jurisdiction.' However, within ABNJ, the implementation of the Convention's provisions is limited to biological processes and activities.<sup>436</sup> The Convention's *in situ* prescriptions, for example, cannot therefore apply to specific components of marine biological diversity within ABNJ, such as deep seabed MGRs, because its Contracting Parties do not enjoy jurisdictional or sovereign rights over these.<sup>437</sup> Whilst states may choose to regulate biological processes and activities that do remain under their control, the efficacy of the Convention's provisions remain contingent on the ability of the responsible flag state to effectively exercise its jurisdictional obligations.<sup>438</sup> And, as the analysis that was undertaken in section 3.2.3 served to illustrate, the principle of exclusive flag state jurisdiction does not inspire faith in the ability, or indeed willingness, of states to act proactively in this regard.

The role of the CBD, within the context of the broader objectives of the BBNJ Process, has therefore increasingly been limited to the provision of scientific and technological advice, under the Convention's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA).<sup>439</sup> The SBSTTA's principal contribution has been the articulation of scientific criteria for the identification of 'ecological or biologically significant areas in need of protection' in open waters and deep-sea habitats, termed 'ecologically or biologically significant marine areas (EBSAs).'<sup>440</sup> On this basis, a preliminary list of ESBAs was designated in 2012,<sup>441</sup> and the Convention will, through the work of the SBSTTA, continue to play a valuable supplementary role in the future conservation and sustainable use of marine biological diversity in ABNJ.<sup>442</sup>

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<sup>435</sup> *Global Biodiversity Outlook 4*, supra note 232, 14.

<sup>436</sup> CBD, supra note 22, Article 4(a) and 4(b).

<sup>437</sup> de la Fayette, supra note 13, 243.

<sup>438</sup> Rabitz, supra note 8, 134.

<sup>439</sup> Wright *et al*, supra note 5, 18.

<sup>440</sup> Long and Chaves, supra note 65, 218.

<sup>441</sup> CBD, 'Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Eleventh Meeting: XI/17. Marine and Coastal Biodiversity: Ecologically or Biologically Significant Marine Areas (adopted 5 December 2012) UN Doc. UNEP/CBD/COP/DEC/XI/17, Annex.

<sup>442</sup> Rabitz, supra note 8, 140.

### 5.1.2 ‘An International Legally Binding Instrument under the United Nations Convention on the Law of the Sea’

As it was first noted in section 2.1, the LOSC is today still widely acknowledged as representing the ‘Constitution for the Oceans,’ which aspires to establish a ‘legal order for the seas and oceans,’ and to therefore provide the legal framework under which all ocean activities must be carried out. And, based on its overarching competence for the progressive development and codification of international law, the UNGA has played a major role in furthering this objective.<sup>443</sup> Indeed, it has been observed that all previous consultations and negotiations pertaining to the international law of the sea, and to the LOSC in particular, have been conducted under the auspices of the UNGA; supported by the United Nations Division for Ocean Affairs and the Law of the Sea (DOALOS), which serves as the Secretariat to the Convention.

So whilst, as it was noted in section 5.1, the BBNJ Process has occasionally ‘spilled over’ into other international fora, the UNGA has been observed to represent ‘the only global political arena with a clear mandate to consider the question as a whole;’ and, significantly, one which can also provide for the participation of all concerned parties.<sup>444</sup> The UNGA has, then, become the ‘focal point’ for international discussions, and both the Assembly itself, and the CBD’s COP, have recognised its ‘central role’ in this respect.<sup>445</sup> And, once it was confirmed that the jurisdictional scope of the LOSC extends to the conservation and sustainable use of marine biological diversity in ABNJ, the UNGA collectively decided that the adoption of a new international agreement should necessarily take place within the Convention’s ‘constitutional framework.’<sup>446</sup> The BBNJ Process will now, accordingly, be considered. This can be broken down into the following three stages.

#### 5.1.2.1 *The Formal Beginnings – Ad-Hoc Open-Ended Informal Working Group*

The UNGA’s historic decision to convene the forthcoming Intergovernmental Conference represented the ‘culmination of a process’ that first began in 2004, when the Assembly established the Ad Hoc Open-ended Informal Working Group (UNGA Working

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<sup>443</sup> Charter of the United Nations (26 June 1945) 1 UNTS XVI, *entered into force* 24 October 1945, Article 13(1)(a).

<sup>444</sup> Wright *et al*, *supra* note 5, 27.

<sup>445</sup> UNGA, ‘Letter dated 30 June 2011 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly,’ (30 June 2011) UN Doc. A/66/119, at [15] (2011 Report of the UNGA Working Group); UNGA Resolution 67/78 (adopted 11 December 2012) UN Doc. A/RES/67/78, at [180]; CBD, ‘Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Tenth Meeting: Decision X/29. Marine and Coastal Biodiversity’ (29 October 2010) UN Doc. UNEP/CBD/COP/DEC/X/29, at [21].

<sup>446</sup> 2011 Report of the UNGA Working Group, *supra* note 445, at [15].

Group) to ‘study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction.’ The Group was given a broad operational mandate, under which it was to review the existing governance arrangements that were already in place for the conservation and sustainable use of marine biological diversity in ABNJ, to examine the scientific, technical, economic, legal, environmental and socio-economic aspects of these issues, and to identify ‘possible options and approaches to promote international cooperation and coordination’ moving forwards.<sup>447</sup> The Group convened on a total of nine times between 2006 and 2015, and it was here in which ‘much of the heavy lifting in moving the process forward’ was undertaken.<sup>448</sup>

This ‘heavy lifting’ can be said to pertain to the re-emergence of an ideological divide between the ‘developed North’ and the ‘developing South.’ Whilst the adoption of the Part XI Agreement had seemingly pacified some of the tensions between the ‘North’ and ‘South,’ this divide was to subsequently reappear at the UNGA Working Group’s very first meeting, and has pervaded the work of the BBNJ Process ever since.<sup>449</sup> As it was first noted in section 1.3, the ideological divide initially presented itself through two separate, but related, areas of contention. The first of these related to the adequacy of the existing governance arrangements that were already in place for marine biological diversity in ABNJ. The second, and legally most disputed, concerned the legal status of deep seabed MGRs.

#### 5.1.2.1.1 Implementation or Governance Gaps?

The review of the existing legal arrangements that were already in place for the conservation and sustainable use of marine biological diversity in ABNJ pertained to the identification, or otherwise, of implementation and governance gaps, on which two contrasting sentiments could be discerned.

The ‘developed North’ strongly contested the existence of governance gaps under the law as it stood, and was therefore fundamentally opposed to the negotiation of a new international agreement. For these, it was submitted that focus should instead be attended to eradicating the acknowledged gaps in implementation, and that the existing legal framework, if implemented correctly, would be ‘sufficient’ to address the conservation and sustainable use of marine biological diversity in ABNJ.<sup>450</sup> For the Norwegian and United States of American delegations, it was particularly felt that the elaboration of any new rules would likely undermine

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<sup>447</sup> UNGA Resolution 59/24 (adopted 17 November 2004) UN Doc. A/RES/59/24, at [73].

<sup>448</sup> Long and Chaves, *supra* note 65, 218.

<sup>449</sup> Wright *et al*, *supra* note 5, 27.

<sup>450</sup> IISD, ‘Summary of the Working Group on Marine Biodiversity Beyond Areas of National Jurisdiction,’ 4 (Earth Negotiations Bulletin 2006).

the application of the principle of the freedom of the high seas which, once again, they were resolutely committed to protecting.<sup>451</sup>

The European Union (EU), on the other hand,<sup>452</sup> contended that existential regulatory and governance gaps had been ‘aggravated by the lack of participation in, and implementation of, existing international instruments,’ and that this trend, moreover, had been exacerbated by an absence of effective compliance and enforcement for conservation measures. In this context, the EU has been the ‘leading proponent,’ throughout the BBNJ Process, of the need to adopt a new international agreement,

as the most effective option in order to provide an integrated regime and address in a comprehensive manner the multiplicity of challenges facing the protection and sustainable use of marine biodiversity in ABNJ,

and as a means by which to further specify and operationalise the LOSC’s general, framework provisions on the protection of the marine environment.<sup>452</sup>

For the ‘developing South,’ the ‘number one priority’ at this stage remained the need to address the legal status of deep seabed MGRs.<sup>453</sup> Indeed, the Group of 77 Developing States (G77) and China had insisted at this stage, as it was first noted in section 2.1.3, that any progress on the general issues of conservation and sustainable use would be contingent on progress first being made towards the clarification of this fundamental point.<sup>454</sup>

#### 5.1.2.1.2 Legal Status of Marine Genetic Resources?

The ‘Pandora’s Box’ pertaining to the legal status of deep seabed MGRs, and whether the principle of the freedom of the high seas, or the common heritage of mankind was to apply to these, was initially opened even before the UNGA Working Group had been established, and would quickly become an ‘indispensable feature’ of the BBNJ process.<sup>455</sup> This has now extended to questions concerning the regulation of bioprospecting, as the principal activity by which these resources are to be exploited and, accordingly the fundamental source of their commercial utilisation.<sup>456</sup>

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<sup>451</sup> Rabitz, *supra* note 8, 139.

<sup>452</sup> EU, ‘Presidency Statement to the Ad-Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction: Agenda Item 5(e) – Whether there is a Governance or Regulatory Gap, and if so, how it should be Addressed’ (30<sup>th</sup> April 2008) 3-4, available at [http://www.newyork.predstavnistvo.si/fileadmin/user\\_upload/dkp\\_13\\_mny/docs/EU\\_Presidency\\_Statements/6EU\\_closing\\_statement\\_AHWG\\_BBNJ\\_30.4.08.pdf](http://www.newyork.predstavnistvo.si/fileadmin/user_upload/dkp_13_mny/docs/EU_Presidency_Statements/6EU_closing_statement_AHWG_BBNJ_30.4.08.pdf) (last accessed 15 April 2018) (2008 EU Presidency Statement).

<sup>453</sup> Earth Negotiations Bulletin 2006, *supra* note 450, 8.

<sup>454</sup> Tladi, *supra* note 7, 268-269.

<sup>455</sup> Rabitz, *supra* note 8, 138.

<sup>456</sup> Vierros *et al*, *supra* note 38, 33.

The common position of the ‘developing South,’ led by the G77 and China, was initially to advocate that deep seabed MGRs, and any activities conducted in respect of the same, were to be governed under the principle of the common heritage of mankind. In this respect, the ‘developing South’ envisaged that the regulation of access to these resources ‘should be, in principle, like the mineral resources in the Area, subject to the sharing of benefits based on consideration of equity.’ An extension of the ISA’s mandate, applying also to the biological resources of the deep seabed Area, was considered as a possible solution in this regard.<sup>457</sup> In contrast, the ‘developed North,’ led by the United States of America and Japan, disputed the existence of ‘legal ambiguities’ under the LOSC, submitting that the regulation of deep seabed MGRs was already covered under Part VII of the LOSC, and that these were to be governed under the principle of the freedom of the high seas. And, in particular, these states stringently opposed any extension of Part XI of the Convention to the living resources of the deep seabed Area.<sup>458</sup>

The EU, in this context, was seemingly sat on the fence, and disinclined to endorse either of these positions.<sup>459</sup> On the one hand, it suggested that deep seabed MGRs should not be governed under the principle of the common heritage of mankind, and that such resources, moreover, fell outside the scope of the ISA’s jurisdictional competence.<sup>460</sup> On the other, however, the EU acknowledged that an extension of the open access, ‘first come, first served’ approach under Part VII of the LOSC to deep seabed MGRs would necessarily undermine the Working Group’s conservation and sustainability objectives.<sup>461</sup> Instead, the EU sought to adopt an intermediary role, from which it advocated for the pursuit of practical solutions as a means by which to avoid the controversy surrounding this ideological question.<sup>462</sup> And, in doing so, the EU would subsequently become a key political figure in the BBNJ Process, at times, seemingly, as the puppet-master of discussions. The implications of this will be considered in more detail in section 5.4.<sup>463</sup>

The EU’s attempts to alter the course of the negotiations were, nevertheless, initially unsuccessful, and the divergence of views between the ‘developed North’ and the ‘developing

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<sup>457</sup> UNGA, ‘Report of the Ad Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction (20 March 2006) UN Doc. A/61/65, at [29] (2006 Report of the UNGA Working Group).

<sup>458</sup> *Ibid.*, at [30].

<sup>459</sup> Earth Negotiations Bulletin 2006, *supra* note 450, 8.

<sup>460</sup> *Ibid.*, 5.

<sup>461</sup> IISD, ‘Summary of the Fourth Meeting of the Working Group on Marine Biodiversity Beyond Areas of National Jurisdiction,’ 3-4 (Earth Negotiations Bulletin 2011).

<sup>462</sup> Tladi, *supra* note 2, 117.

<sup>463</sup> Wright *et al.*, *supra* note 5, 32.

South’ was consistently reflected in the UNGA Working Group’s reports to the General Assembly.<sup>464</sup> At this stage, moreover, both the ‘North’ and ‘South’ had been relying on the law, as it stood, to justify their respective positions, and therefore seemingly in agreement that ‘the creation of new rules was unnecessary.’<sup>465</sup> Throughout the first few years of the Working Group’s operation, the potential adoption of a new international agreement accordingly seemed unlikely.

#### 5.1.2.2 *The ‘Package’ and Political Momentum*

These dynamics changed at the Working Group’s fourth convene in 2011 when, for the first time, the EU was able to acquire the support of the G77 and China, as well as other previously ambivalent states such as Australia, New Zealand and Mexico, on the need to address the conservation and sustainable use of marine biological diversity in ABNJ through the elaboration of a new international agreement.<sup>466</sup> In establishing a ‘powerful alliance,’ these states were able to isolate the entrenched positions of six states from within the ‘developed North;’ the United States of America, Japan, Canada, Russia, Norway and Iceland; and this was to have an immediate effect.<sup>467</sup>

The broad coalition between the EU, the G77 and China and others was established on the basis of an agreement between these to pursue a comprehensive ‘package deal approach’ to the conservation and sustainable use of marine biological diversity in ABNJ, in which environmental and economic considerations would be addressed ‘as part of a single undertaking.’<sup>468</sup> The Working Group accordingly identified a number of key issues, which it was to address ‘together and as a whole;’

marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, and environmental impact assessments, capacity-building and the transfer of marine technology.<sup>469</sup>

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<sup>464</sup> 2006 Report of the UNGA Working Group, *supra* note 457, at [29-31]; UNGA, ‘Letter dated 15 May 2008 from the Co-Chairpersons of the Ad Hoc Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction Addressed to the President of the General Assembly (16 May 2008) UN Doc. A/63/79, at [36]; UNGA, ‘Letter dated 16 March 2010 from the Co-Chairpersons of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly (17 March 2010) UN Doc. A/65/68, at [71]-[72]; 2011 Report of the UNGA Working Group, *supra* note 445, at [15]-[16].

<sup>465</sup> Tladi, *supra* note 7, 266.

<sup>466</sup> Wright *et al.*, *supra* note 5, 28.

<sup>467</sup> Tladi, *supra* note 7, 269.

<sup>468</sup> Rabitz, *supra* note 8, 131.

<sup>469</sup> 2011 Report of the UNGA Working Group, *supra* note 445, Annex, at [1](b).

These ‘package’ elements had the effect of focusing and shaping all subsequent negotiations within the UNGA Working Group.<sup>470</sup> And, following the conclusion of this meeting, the Group also recommended that ‘a process be initiated by the UNGA with a view to ensuring that the legal framework for the conservation and sustainable use of marine biological diversity in ABNJ effectively addresses those issues by identifying gaps and ways forwards’ which, significantly, and for the first time, was specifically envisaged through the ‘possible development of a multilateral agreement under the United Nations Convention on the Law of the Sea.’<sup>471</sup> This decision would prove to be a key breakthrough in the BBNJ Process and, in this respect, the ongoing work of the UNGA Working Group received further political approval at the United Nations Conference on Sustainable Development. Whilst a political consensus to open negotiations, immediately following the conclusion of the Conference, could not be reached, states nevertheless committed in the Conference’s outcome document, *The Future We Want*, to

address, on an urgent basis, the issue of the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, including by taking a decision on the development of an international instrument under the Convention on the Law of the Sea.

In this context, a deadline was agreed, according to which this decision was to be made before the conclusion of the sixty-ninth session of the UNGA, to be held at the end of 2015.<sup>472</sup> Whilst this commitment did not, ‘in and of itself, create a mandate for the elaboration’ of a new international agreement, it did serve to endorse the process that the UNGA Working Group had undertaken thus far, and provided a political stimulus, and sense of urgency, to the Group’s work moving forwards.<sup>473</sup>

### *5.1.2.3 Towards a New International Agreement*

A year later, and in order to prepare for the decision that was to be taken at the UNGA’s sixty-ninth session, the Assembly convened three further meetings of the Working Group, after which the Group was to make recommendations ‘on the scope, parameters and feasibility of an international instrument under the Convention.’<sup>474</sup> One final point of contention would emerge at these meetings, pertaining to whether a new agreement would be legally or non-legally binding. The use of non-binding instruments has become a favoured approach in international environmental law-making, with their lack of formality making them ‘attractive as a short-cut’

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<sup>470</sup> Long and Chaves, *supra* note 65, 218.

<sup>471</sup> 2011 Report of the UNGA Working Group, *supra* note 445, Annex, at [1](a).

<sup>472</sup> UNGA Resolution 66/288, *supra* note 230, at [162].

<sup>473</sup> Tladi, *supra* note 7, 270.

<sup>474</sup> UNGA Resolution 68/70 (adopted 9 December 2013) UN Doc. A/RES/68/70, at [198]-[200].

in this respect.<sup>475</sup> And, whilst those representing the ‘developed North’ advocated for the adoption of a soft law instrument, the increasingly ‘powerful alliance’ between the EU, the G77 and China and others would ultimately prove to have the final word.<sup>476</sup> Indeed, with these meetings bringing the Working Group’s work to an end the Group, at its final meeting, made the decision to recommend to the UNGA that it

decide to develop an international legally binding instrument under the Convention on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

The Group further recommended that negotiations should address the substantive elements first identified in the 2011 ‘package,’ and that the new international agreement ‘should not undermine existing relevant legal instruments and frameworks and relevant global, regional and sectoral bodies.’<sup>477</sup>

The UNGA Working Group’s recommendations were formally adopted by the UNGA in June 2015. In doing so, the UNGA also decided to establish a Preparatory Committee, which would meet for four sessions across 2016 and 2017 with a view to making ‘substantive recommendations to the General Assembly on the elements of a draft text of an internationally legally binding instrument under the Convention,’ and which would build on the work that had been undertaken by the UNGA Working Group.<sup>478</sup> A Report of the Preparatory Committee, published in July 2017, outlined the proceedings of its four sessions, and divided its substantive recommendations into two parts. The first of these was comprised of ‘non-exhaustive elements that generated convergence among most delegations,’ whilst the second highlighted key areas in which a strong divergence of views remained present.<sup>479</sup>

It was therefore significant that the Report noted that ‘with regard to the common heritage of mankind and the freedom of the high seas, further discussions are required.’ And in the context of MGRs, including questions pertaining to the sharing of benefits, the Committee observed that

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<sup>475</sup> Peter H. Sand, ‘Lessons Learned in Global Environmental Governance,’ 239.

<sup>476</sup> Julien Rochette *et al*, ‘A New Chapter for the High Seas? Historic Decision to Negotiate an International Legally Binding Instrument on the Conservation and Sustainable Use of Marine Biodiversity in Areas Beyond National Jurisdiction,’ 3.

<sup>477</sup> UNGA, ‘Letter dated 13 February 2015 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly’ (13 February 2015) UN Doc. A/69/780, Annex, at [1](e), (f) and (g).

<sup>478</sup> UNGA Resolution 69/292 (adopted 19 June 2015) UN Doc. A/RES/69/292, at [1]-[3].

<sup>479</sup> UNGA, ‘Report of the Preparatory Committee established by General Assembly Resolution 69/292: Development of an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (31 July 2017) UN Doc. A/AC.287/2017/PC.4/2, at [38](a).

further discussions are required on whether the instrument should regulate access to marine genetic resources; the nature of these resources; what benefits should be shared; whether to address intellectual property rights; and whether to provide for the monitoring of the utilisation of marine genetic resources of areas beyond national jurisdiction.<sup>480</sup>

In short, then, the Committee acknowledged that a lot of work remained to be done. Nevertheless, it recommended that the UNGA ‘take a decision, as soon as possible, on the convening of an intergovernmental conference... to consider the recommendations of the Preparatory Committee on the elements and to elaborate the text of an international legally binding instrument under the Convention.’<sup>481</sup> And, as it was noted in section 5.1, this historic decision was made by the Assembly on Christmas Eve of last year, and the first session of the Intergovernmental Conference is scheduled to take place in September 2018.

As the substantive recommendations of the Report of the Preparatory Committee clearly show, the ideological divide between the ‘developed North’ and the ‘developing South,’ as it pertains to the governance of the deep seabed Area, simply refuses to go away. Recalling the intensive period of negotiations that preceded the adoption of the LOSC, this divide can again be said to reflect a simple distinction between those that are seeking an extension of the principle of the freedom of the high seas, and those that submit that deep seabed MGRs should be governed under the common heritage of mankind. However, this time, the stalemate that has been observed between these two has subsequently engendered increasing support for a third approach; one that, powered by European pragmatism, seeks to avoid ideological controversy.

Whichever path the international community chooses to go down at the forthcoming Intergovernmental Conference will have significant global implications, and it is therefore a decision that should not be taken lightly. This thesis will now examine the merits, or otherwise, of each of these three approaches, and the environmental and economic implications that each will likely give rise to in the context of the future governance of deep seabed MGRs. And, in doing so, it will attempt to provide a normative basis for the conclusion that these resources should, accordingly, be declared as the common heritage of mankind.

## **5.2 Freedom of the High Seas**

As it was first noted in sections 5.1.2.1.1 and 5.1.2.1.2, a small number of states representing the ‘developed North’ have steadfastly expressed a reluctance to engage in the BBNJ Process. These states have contested both the existence of governance gaps within the

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<sup>480</sup> Ibid, at page 17.

<sup>481</sup> Ibid, at [38](b).

existing legal arrangements for the conservation and sustainable use of marine biological diversity in ABNJ, as well as the perceived ‘legal ambiguities’ pertaining to the legal status of deep seabed MGRs.

In particular, these states have explicitly rejected any entertainment of the need to establish an international management regime to regulate access to MGRs; either to provide for their conservation and sustainable use or, principally, to prescribe for the equitable sharing of any monetary and non-monetary benefits that may be derived from their exploitation.<sup>482</sup> The ‘developed North’ then, effectively, favours a maintenance of the ‘status quo.’ And the ‘status quo,’ under their view, envisages that deep seabed MGRs fall outside the jurisdictional scope of Part XI of the LOSC, and that these resources are therefore, by default, to be governed under Part VII, and the principle of the freedom of the high seas.

The United States of America, characteristically, have remained the leading proponent of this position, despite still not having formally ratified the LOSC. The United States has also, significantly, sought to embellish the distinction between bioprospecting and MSR. So whilst the conduct of MSR within the high seas waters is, as a high seas freedom, subject to the relatively liberal conditions detailed in section 3.3.4, the United States have contended that commercially-based research is not to be subject to the same.<sup>483</sup> Indeed, the ‘developed North’ has consistently submitted that any elaboration of an international regime to manage deep seabed MGRs would prove to be burdensome, and an impediment to research and development within the bio-technology industry; echoing their objections towards the establishment of the ISA during the LOSC III.<sup>484</sup> However, it is the very absence of any international regulation, under the ‘status quo,’ that has enabled these states to assert a relative monopolisation over the nascent international patent market for bio-technologies or products derived from MGRs.

The ‘developed North’ therefore has a very vested interest in extending the principle of the freedom of the high seas to the governance of these resources, and the principally unregulated access that this would present.<sup>485</sup> It can, therefore, be suggested that its purported confidence in the propensity of the existing legal arrangements to effectively conserve and sustain marine biological diversity within the deep seabed Area would appear to be masking ulterior, and very patent, economic motives. And, as history has frequently shown, bowing to

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<sup>482</sup> de la Fayette, *supra* note 13, 260-261.

<sup>483</sup> Wright *et al*, *supra* note 5, 36.

<sup>484</sup> Earth Negotiations Bulletin 2011, *supra* note 461, 4.

<sup>485</sup> Rabitz, *supra* note 8, 148.

the stated desires of the ‘developed North’ often carries devastating consequences for the natural environment.

### **5.2.1 Environmental Implications**

As the analysis that was undertaken in Chapter 3 served to demonstrate, the principle of the freedom of the high seas, underpinned as it still is by Hugo Grotius’ archaic understanding of the ‘open’ oceans, is simply not designed to cope with the contemporary demands that are presented by the increasingly globalised nature of these waters. This is particularly so in the context of deep seabed MGRs, as the following points will serve to demonstrate.

First, and as it was observed in section 3.2.2, the freedom of the high seas envisages that each and every state is granted a free and equal right to engage in the range of lawful ocean activities that are prescribed under the LOSC. And, significantly, one of these rights pertains to the open, and in principle unregulated, access to the living resources of the high seas waters. As such, no state is permitted to take any unilateral action that would potentially lead to a curtailment of this right, and the imposition of restrictions is therefore contingent on the consent of a state to be bound by these.

Opportunities to collectively restrict this access are, therefore, limited. And, as it was noted in section 5.2, the ‘developed North’ has steadfastly refuted the possibility of any further international regulation of deep seabed MGRs; submitting that the complete implementation of existing legal arrangements would sufficiently, and effectively, provide for their conservation and sustainable use. However, as an examination of these arrangements in section 3.3 attempted to illustrate, the ‘developed North’s’ purported confidence in these can certainly be challenged.

Indeed, the international community’s attempts to collectively manage the living resources of the high seas waters, as they are required to do under Parts XII and VII of the LOSC, have not proven to be especially effective. The operationalisation of the Convention’s framework provisions, in this regard, has principally been undertaken in the context of high seas fish stocks, in which the protection and preservation of marine biological diversity represents a peripheral concern. And, whilst MPAs and EIAs, in particular, have been observed to represent two powerful tools through which to enhance the conservation of marine biological diversity, the propensity of these to restrict the complete and unfettered application of the freedom of the high seas has circumscribed their uniform acceptance and, subsequently, their implementation, within these waters.

Second, and as it was observed in section 2.1.1.2, regulatory gaps within the LOSC governance framework have entailed that not all human activities taking place in ABNJ are

addressed under the Convention. The principal deficiency in this respect pertains to bioprospecting and, as such, an extension of the principle of the freedom of the high seas to deep seabed MGRs would mean that the principal activity by which these resources are to be exploited would continue to remain unregulated. Bioprospectors would accordingly face no limitations ‘on the amount of genetic and biochemical material which can be removed from deep sea sites,’ or on the number of times to which they could return to the same site, inviting the attendant environmental pressures that, as it was detailed in section 1.2.2.1, are imposed by cumulative expeditions.<sup>486</sup> In the context of these legitimate concerns, then, it has been observed that it would represent a ‘significant anomaly’ if bioprospecting was to remain the only human activity not to be regulated within the deep seabed Area.<sup>487</sup>

Third, and it was observed in sections 3.2.2.3 and 3.3, the fundamentally ‘common’ and ‘open’ nature of the high seas has presupposed that the regulation of human activities within these waters has essentially been reduced to a system of state ‘self-regulation.’ Indeed, under the principle of exclusive flag state jurisdiction, it is the states themselves that are vested with the responsibility to ensure that any human activities undertaken within these waters conform to the attendant rights and obligations prescribed either under the LOSC, or under international law; including as these pertain to the protection of the marine environment, or to the conservation of the living resources of the high seas. However, the resultant ability of states to act primarily according to their own self-interest, and in the absence of stringent regulatory control, has presupposed a marine re-enactment of the ‘tragedy of the commons,’ and the devastating over-exploitation of these resources. The increasingly prevalent use of ‘flags of convenience’ has, moreover, served to reinforce an element of lawlessness upon the high seas; one in which environmental obligations can all too easily be avoided.

Fourth, it is submitted that each of these observations should be made, moreover, in the context of the high commercial expectations as to the great economic potential of deep seabed MGRs. And, on this basis, legitimate concerns can be raised as to whether a system of ‘self-regulation,’ in the absence of any existing legal restrictions on access, can reasonably be forwarded as a model on which to effectively realise the objectives of conservation and sustainable use. As it was noted in section 5.2, the ‘developed North’ has made very clear, through its favour for the maintenance of the ‘status quo,’ that it is predisposed to pursue a policy of maximum exploitation of deep seabed MGRs, at the expense of all other concerns. As such, the propensity of these states, within a principally ‘open access’ regime, to exercise any

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<sup>486</sup> Warner, *supra* note 37, 21.

<sup>487</sup> de la Fayette, *supra* note 13, 269.

degree of self-restraint in their interactions with these resources, or to devote any time or thought towards their protection and preservation, can seriously be questioned. Historical experience would, indeed, certainly suggest that faith should not be placed in their ability to do so.

Finally, it is submitted that each of these previous points must also be considered in the context of the unique biological characteristics that deep seabed MGRs have been proven to possess. As it was first observed in section 3.4, the existing arrangements pertaining to the conservation of the high seas' living resources have failed to secure the sustainable management of high seas fish stocks, leading to a 'serious crisis' within high seas fisheries. However, fish, and MGRs, possess fundamentally distinct biological characteristics. Whilst fish are both highly reproductive and inherently nomadic, deep seabed MGRs are often, as it was detailed in section 1.2.1, endemic, unique to one specific site, and exhibit very slow growth rates and low fecundity. The ecosystems within which they reside are characterised by their fragility and interconnectedness and, accordingly, even the most conservative of human interactions is like to have devastating, and potentially irreversible, environmental impacts.

It would, therefore, certainly not be an understatement to suggest that a replication of the 'tragedy of the commons' within the deep seabed Area could lead to the destruction of these ecosystems and potentially the extinction of deep seabed species, including MGRs.<sup>488</sup> This final point is particularly critical, and should not escape the minds of those at the forthcoming Intergovernmental Conference.

### **5.2.2 Economic Implications**

It has been observed that the fundamentally 'common' and 'open' nature of the high seas waters, and the absence of stringent regulatory control, envisages that deep seabed MGRs would, under the principle of the freedom of the high seas, essentially be 'free for all to capture.'<sup>489</sup> However, the relative inaccessibility of the deep ocean floor adds a layer of complexity to this conclusion and, in this respect, the following points can be put forward.

First, as it was noted in section 1.2.2.2, the nature of deep seabed MGRs, as lying in ABNJ, entails that there are no 'providers' of these resources; only 'users.' Their situation can, therefore, be distinguished from the concomitant legal regimes that have been established for those genetic resources that are found within the territorial jurisdiction of a sovereign state, such as under the FAO International Treaty on Plant Genetic Resources for Food and Agriculture

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<sup>488</sup> de la Fayette, *supra* note 13, 266.

<sup>489</sup> Heafey, *supra* note 53, 509.

(ITPGRFA). The ITPGRFA operationalises, on a multilateral basis, the requirement under Article 15(5) of the CBD, which prescribes that the provision of access to genetic resources within national jurisdiction ‘shall be subject to the prior informed consent’ of the resources’ ‘provider.’<sup>490</sup> However, for deep seabed MGRs, such consent can neither be requested or obtained.

Second, this presupposes that, at the present time, the only major barriers to the acquisition and utilisation of deep seabed MGRs are technology and expertise. Access to these resources is therefore contingent on a state possessing the requisite technological capacity to do so, and bioprospecting at hydrothermal vent sites, in particular, has been observed to be ‘all but impossible except for a handful of actors.’ This has created a simple distinction between the ‘haves’ and the ‘have-nots’ and, as it was also noted in section 1.2.2.2, an examination of the international patent market for bio-technologies or products that have been derived from the genetic material of MGRs has revealed that three countries, being the United States of America, Japan and Germany, now account for the ‘ownership’ of 70 per cent of this developing market. This would certainly explain why the United States and Japan, in particular, are so opposed to any curtailment of the ‘status quo.’<sup>491</sup>

The protection afforded by intellectual property rights can, moreover, serve to perpetuate this distinction. As it was first noted in section 4.2.2.3, the development of a more equitable legal framework can be limited by the imposition of measures intended to protect intellectual property rights and, in this respect, patents for bio-technologies or products derived from the genetic material of deep seabed MGRs grant the ‘innovator’ with a monopoly to ‘control the use, production and dissemination of the innovation.’<sup>492</sup> The strict application of these rights, then, and a facilitation of the monopolisation of commercial ‘secrets,’ places additional barriers on a market that, for the vast majority of states, and certainly all within the ‘developing South,’ is already effectively closed.

This development has, naturally, raised questions and concerns of equity, and the sharing of benefits; particularly from those within the ‘developing South.’<sup>493</sup> As it was first noted in section 3.2.2.1, under the principle of the freedom of the high seas, no demand for the sharing of benefits, deriving from the exploitation of the living resources that reside within these waters, can be made by other states. Intellectual property rights, moreover, do not, in and

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<sup>490</sup> International Treaty on Plant Genetic Resources for Food and Agriculture (3 November 2001) 2400 UNTS 303, *entered into force* 29 June 2004, Article 12(1); CBD, *supra* note 22, Article 15(5).

<sup>491</sup> Rabitz, *supra* note 8, 147.

<sup>492</sup> CBD, *SBSTTA Study of Relationship between CBD and LOSC*, *supra* note 42, 24.

<sup>493</sup> Blasiak *et al*, *supra* note 85, 1.

of themselves, require the ‘innovator,’ or ‘holder’ of the patented technology or product, to actively share the benefits that have been derived from their innovation. The role of the private sector then, and the potential ‘privatisation’ of products that have been derived from the genetic material of deep seabed MGRs, has accordingly raised further concerns.<sup>494</sup>

In this respect, it should be noted that Canada and Japan, comprising two of the very prominent ‘haves’ within the MGR market, have consistently submitted that, as deep-sea bioprospecting is a financially exorbitant scientific exercise that is predominantly undertaken by private enterprises, it should only be fair that the private sector be granted an appropriate slice of the cake. For these countries, then, it seems that the law should ‘prevent anyone except from the company discovering an organism from deriving any financial or other benefit from it.’ This, it is added, would ultimately be to the greater advantage of mankind, as the benefits derived from the private commercialisation of deep seabed MGRs would, eventually, ‘benefit humanity by a trickle-down effect.’<sup>495</sup>

However, and as a final point; for the ‘developing South,’ this is simply an all too familiar line that has been heard once too many times before. In this context, it has been observed that, far from purporting to benefit all mankind, the present distributive trends, pertaining to the ‘ownership’ of deep seabed MGRs, instead fit ‘the Paerto principle describing the ‘rich get richer’ distribution of wealth in society.’<sup>496</sup> The imposition of access and benefit sharing obligations will, therefore, handicap the ‘developed North,’ whilst a maintenance of the ‘status quo’ will only serve to enhance the existential ‘disparities in the distribution of global welfare and economic wealth;’ widening once again the divide between the ‘North’ and the ‘South,’ and between the ‘haves’ and the ‘have-nots.’<sup>497</sup>

It is submitted then, in this respect, that an extension of the principle of the freedom of the high seas to deep seabed MGRs can be considered to reflect ‘an unfortunate ethical and moral extrapolation of the biological Darwinian concept of ‘survival of the fittest.’<sup>498</sup> And, in this battle for survival, it would seem that neither the environment, nor the ‘realisation of a just and equitable international economic order,’ would stand much hope of winning.

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<sup>494</sup> *CBD, SBSTTA Study of Relationship between CBD and LOSC*, supra note 42, 24-25.

<sup>495</sup> de la Fayette, supra note 13, 261.

<sup>496</sup> Arnaud-Haond *et al*, supra note 84, 1521.

<sup>497</sup> G77 and China, ‘Intervention on Behalf of the Group of 77 and China by Ms. Prim Marinuan, Counsellor, on Marine Genetic Resources including Questions on the Sharing of Benefits at the 2<sup>nd</sup> PrepCom Meeting on Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction’ (26 August 2016), available at <http://www.g77.org/statement/getstatement.php?id=160826> (last accessed 29 April 2018).

<sup>498</sup> Vousden, supra note 18, 392.

### 5.3 Common Heritage of Mankind

As it was also noted in sections 5.1.2.1.1 and 5.1.2.1.2, and sitting on the opposing side of the ideological divide, the ‘developing South’ has uniformly advanced, as its basic position, that deep seabed MGRs are to be governed under the principle of the common heritage of mankind; as a ‘guiding’ legal principle, and as one that is acknowledged as forming ‘part of customary international law.’<sup>499</sup> In this respect, the principle’s leading advocates have been the G77; a coalition of seventy-seven developing states that articulates and promotes its collective negotiation position within the United Nations system, and China.<sup>500</sup>

In particular, these states have consistently recalled that the overall goal of the BBNJ Process should be, and continue to remain, ‘the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction.’ And, in this respect, the ‘developing South’ has moved to consolidate the position that, as it was noted in section 5.1.2.2, was first adopted by the EU; namely, that the extension of an open access, ‘first come, first served’ system of governance under the principle of the freedom of the high seas would be ‘counterproductive’ to the achievement of this goal.<sup>501</sup> Indeed, the ‘developing South’ has expressed legitimate fears that extending the application of the freedom of the high seas to deep seabed MGRs would effectively empower the ‘developed North’ to acquire and utilise these resources ‘without taking on a concomitant responsibility to protect the environment;’ a conclusion that section 5.2.1 served to corroborate.<sup>502</sup>

The ‘developing South’ has also conveyed concerns with respect to the ‘serious global economic and social implications’ that an extension of the principle of the freedom of the high seas will give rise to, and the propensity for a maintenance of the ‘status quo’ to increase the ‘disparities in the distribution of global welfare and economic wealth,’ as it was alluded to in section 5.2.2.<sup>503</sup> These states have therefore steadfastly opposed the entrenched position adopted by the ‘developed North,’ and submitted that the principle of the common heritage of mankind must ‘underpin the new regime governing [MGRs] of areas beyond national jurisdiction,’ and represent the ‘core’ of a new international agreement under the LOSC.<sup>504</sup>

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<sup>499</sup> IISD, ‘Summary of the Fifth Meeting of the Working Group on Marine Biodiversity Beyond Areas of National Jurisdiction,’ 3.

<sup>500</sup> The Group of 77 at the United Nations, ‘About the Group of 77,’ available at <http://www.g77.org/doc/> (last accessed 18 April 2018).

<sup>501</sup> 2011 Report of the UNGA Working Group, *supra* note 445, at [15].

<sup>502</sup> Wright *et al*, *supra* note 5, 36.

<sup>503</sup> 2011 Report of the UNGA Working Group, *supra* note 445, at [17].

<sup>504</sup> UNGA, ‘Chair’s Non-Paper on Elements of a Draft Text of an International Legally-Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine

As the normative foundation for its position, the G77 and China, in particular, have consistently defended the customary status of the 1970 Declaration of Principles; on this basis, the Group has submitted that the common heritage of mankind, as well as its constituent element pertaining to the fair and equitable sharing of benefits, should apply to both the mineral *and* biological resources of the deep seabed Area, as Arvid Pardo had originally envisaged.<sup>505</sup> In this context, the LOSC's stated desire 'to develop the principles embodied in' the Declaration of Principles can be said to substantiate this claim.<sup>506</sup>

For the 'developing South,' then, the application of the principle of the common heritage of mankind can accordingly present, as the 'antithesis' to the freedom of the high seas, a 'legal foundation for a fair and equitable regime of conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction;' and, moreover, for the balancing of environmental and economic objectives, particularly as these pertains to the governance of deep seabed MGRs.<sup>507</sup>

### **5.3.1 Environmental Implications**

The application of the principle of the common heritage of mankind's constituent elements, as it was first noted in section 4.4, has been proven to demonstrate 'certain specific advantages for addressing issues of uncontrolled exploitation,' and the 'developing South' has, therefore, sought to embellish the linkages between the common heritage of mankind and the protection and preservation of the deep seabed marine environment.<sup>508</sup> On this basis, and in the context of deep seabed MGRs, the following conclusions can be drawn.

The first pertains to the symbolic essence of the common heritage of mankind, as a principle that aspires to serve the collective interests of all 'mankind.' As it was first noted in section 4.2.2, the notion of 'mankind' can be said to comprise something greater, and transcendent to, the sum of the self-serving national interests that are naturally pursued by individual states; indeed, the application of the principle instead reflects a desire to eliminate these interests, as a means by which to ensure that the common interests of mankind, both of present and future generations, are appropriately defended. Significantly, this element of inter-generational equity envisages the adoption of measures to protect and preserve the resource or area to which the status of common heritage of mankind has been endowed; as a crucial element

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Biological Diversity of Areas Beyond National Jurisdiction' (28 February 2017) 23, available at [http://www.un.org/depts/los/biodiversity/prepcom\\_files/Chair\\_non\\_paper.pdf](http://www.un.org/depts/los/biodiversity/prepcom_files/Chair_non_paper.pdf) (last accessed 18 April 2018).

<sup>505</sup> 2011 Report of the UNGA Working Group, supra note 445, at [15].

<sup>506</sup> LOSC, supra note 3, preambular para 7.

<sup>507</sup> UNGA, Chair's Non-Paper on Elements of a Draft Text, supra note 504, 23.

<sup>508</sup> 2011 Report of the UNGA Working Group, supra note 445, at [17].

of the legal trust implicit in the environmentally responsible management of ‘the earth’s heritage for mankind in the future.’

These two idiosyncrasies of the common heritage of mankind then, being the expunging of national interests and the obligation to conserve the environment for the benefit of future generations, can serve to eliminate the short-term, and short-sighted thinking that otherwise pervades environmental decision-making. This, it is submitted, is especially significant in the context of deep seabed MGRs; considering both the ‘developed North’s evident predisposition to pursue a policy of maximum exploitation of these resources, at the expense of all other considerations, as well as the nature of the deep seabed marine ecosystems within which these activities are going to take place. The common heritage of mankind can, accordingly, eliminate these concerns.

The second point relates to Arvid Pardo’s broad vestige for the supranational governance of the deep seabed and ocean floor, and the establishment of an international organisation to ensure that the notional aspirations of ‘mankind’ are legally effected. As it was noted in section 4.2.2.4, the international management element of the principle of the common heritage of mankind has been observed to represent its ‘most essential characteristic,’ and the ISA, in its role as the custodian of the mineral resources of the deep seabed Area, has certainly reinforced this conclusion; a point that has been explicitly acknowledged by those within the ‘developing South.’<sup>509</sup> The notion of ‘mankind’ accordingly underpins all human activities pertaining to the Area’s mineral resources, and the SDC, in this respect, has confirmed that the role of individual states ‘is to realise the common interest of all States in the proper implementation of the principle of the common heritage of mankind.’<sup>510</sup>

This reclassification of the role of states, and its correspondent elimination of distinct national interests, has also been reflected in the greater responsibilities that have been devolved to the ISA under the LOSC. The Convention’s empowerment of the ISA, with prescriptive and enforcement powers, has enabled the Authority not only to operationalise its environmental mandate, but also, more importantly, to ensure that these environmental considerations are brought to the fore. The access of mining operators to the mineral resources of the deep seabed Area is, therefore, contingent on these effectively discharging their environmental responsibilities. And, particularly under its comprehensive code of Regulations, the ISA has also demonstrated the more natural possibilities that a centralised management system presents

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<sup>509</sup> Ibid, at [15].

<sup>510</sup> *SDC Advisory Opinion*, supra note 107, at [226].

in the ability to ensure that the greater environmental interests of mankind are appropriately recognised.

This possibility has, perhaps, been most clearly pronounced through the Authority's decision to designate nine APEIs within the Clarion-Clipperton Fracture Zone, within which all mining activities and operations are to be strictly prohibited. Significantly, and as it was noted in section 4.3.3, the Clarion-Clipperton Fracture Zone has been to said represent one of the most prime locations for commercial deposits of mineral resources, and the ability of the ISA to impose a complete prohibition on exploitation within this area, in order to protect the deep seabed's marine biological diversity and ecosystem functioning, underscores the immeasurably greater balance, between competing environmental and economic considerations, that can ultimately be achieved under the principle of the common heritage of mankind.

Third, and more specifically, it is submitted that an extension of the common heritage of mankind, to the biological resources of the deep seabed Area, can serve to mitigate the 'divergence' between law and nature that has been observed to arise under the LOSC's zonal management approach to environmental protection. It has often been suggested that the natural interconnectedness of the ocean waters necessitates the adoption of a holistic, ecosystem-based approach to the protection and preservation of marine biological diversity and, in this respect, it should be recalled that the CBD already implements such an approach for biological diversity that is found on land.

This would, moreover, be particularly apposite in the context of the deep seabed, in which a symbiotic relationship has been observed to exist between the mineral and biological resources of the ocean floor. Extending the application of the common heritage of mankind to deep seabed MGRs would, accordingly, envisage a homogenous system of governance for all human activities within the deep seabed Area; one that is more representative of ecological realities and one that would, furthermore, facilitate the integrated management of conflicts between, and the cumulative impacts of, the expanding and foreseeable range of deep seabed mining and bioprospecting activities.<sup>511</sup>

Finally, it is submitted that each of these previous points can be magnified in the context of the vested interest that mankind has, more generally, in the conservation and sustainable use of marine biological diversity; particularly as it lies in ABNJ. As it was first noted in section 1.1.2, mankind's very existence is dependent on the wide range of ecosystem services that

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<sup>511</sup> Karen N. Scott, 'Integrated Oceans Management: A New Frontier in Marine Environmental Protection' in Donald Rothwell *et al* (eds.), *The Oxford Handbook of the Law of the Sea*, 466.

marine biological diversity provides and it has, on this basis, been submitted that the protection and preservation of the ocean's biological components should represent one of the greatest community interests of all. Extending the principle of the common heritage of mankind to the biological resources of the deep seabed Area would then, very appropriately, manifest an acknowledgement of the responsibility that we all have, and the legal trust that is implicit in, ensuring that these vital services are secured for the benefit of all mankind; both now, and in the future.

### **5.3.2 Economic Implications**

As it was first observed in section 4.2.3, Arvid Pardo's advocacy for the application of the principle of the common heritage of mankind to the deep seabed and ocean floor was based in the desire for a more equitable legal framework, to be envisaged through a model of distributive justice. The present distributive trends pertaining to the 'ownership' of deep seabed MGRs, however, suggest that such considerations remain as salient as ever. And, in this context, the following points can be made.

First, in his seminal statement to the UNGA in 1967, Pardo suggested that the failure to implement a more equally distributed legal framework would lead to an

intolerable injustice that would reserve the plurality of the world's resources for the exclusive benefit of less than a handful of nations. The strong would get stronger, the rich would get richer, and among the rich themselves there would arise an increasing and insuperable differentiation between two or three and the remainder.<sup>512</sup>

As Pardo envisioned, the application of the common heritage of mankind would provide for equal participation within the nascent deep seabed mining industry, under which access to the mineral resources of the ocean floor could be guaranteed to all, and the monetary and non-monetary benefits derived from these shared equitably between the 'developed North' and the 'developing South.' The equitable sharing of benefits has, accordingly, comprised a core constituent element of the principle of the common heritage of mankind; particularly, in this respect, as it pertains to the governance of the deep seabed Area.

Second, it is suggested that this desire for a more equitable legal framework is, today, equally as strong as it was at the time of Pardo's statement to the UNGA. Indeed, Pardo's fear of an 'increasing insuperable differentiation between two or three and the remainder' has

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<sup>512</sup> UNGA, 'Agenda item 92: Examination of the Question of the Reservation Exclusively for Peaceful Purposes of the Seabed and the Ocean Floor, and the Subsoil thereof, underlying the High Seas beyond the Limits of Present National Jurisdiction, and the Use of their Resources in the Interests of Mankind' (1 November 1967) UN Doc. A/C.1/PV.1515, at [91] (Statement by Arvid Pardo to UNGA).

proven to be remarkably prophetic in the context of deep seabed MGRs and, as it was noted in section 1.2.2.2, and again alluded to in section 5.2.2, the technological constraints that still encumber the ‘developing South’ entails that the acquisition and subsequent utilisation of these resources continues to remain outside of their control.<sup>513</sup> These barriers, of technology and expertise are, as they were in 1967, distorting the playing field within the ocean floor, and preventing these states from accessing the great economic potential of deep seabed MGRs on terms that are equal to those enjoyed by their wealthier, and more technologically-capable neighbours.<sup>514</sup>

It is suggested then, in this context, that the unequal footing on which the ‘developed North’ and the ‘developing South’ will therefore be participating demands that a specific access and benefit sharing regime be established under the new international agreement. As it was noted in section 5.2.2, and as the G77 and China, in particular, have stringently asserted, a maintenance of the ‘status quo’ would increase the disparities in the distribution of global welfare and economic wealth,’ and serve to exacerbate the prevalent technological gap between the ‘haves’ and the ‘have-nots.’ And, on this basis, the ‘developing South’ has stipulated that provision should necessarily be made for the fair and equitable distribution any future monetary and non-monetary benefits derived from the exploration and exploitation of deep seabed MGRs.<sup>515</sup> Nevertheless, as the evolution of the common heritage of mankind within the LOSC framework has served to illustrate, the prescription for the equitable sharing of benefits has always proven to be one of the principle’s most controversial elements. This has been particularly so amongst those states within the ‘developed North’ who, standing to lose out under such a system, initially refused to ratify the LOSC on the basis of the Convention’s access and benefit sharing obligations.

The controversy, and focus of discussions concerning the implementation of access and benefit sharing obligations has, as it was first noted in section 4.2.2.3, often centred around the monetary aspects of these. However, in the context of the deep seabed Area, it is submitted that it is, in fact, the non-monetary elements of the access and benefit sharing regime, elaborated under Part XI of the LOSC, that have proven to deliver more tangible gains to those within the ‘developing South.’ Indeed, whilst the unexpected delays in the commercialisation of deep seabed mining have meant that these states have had ‘precious little to show’ under this regime in terms of direct financial reward, the Convention’s prescriptions pertaining to the transfer of

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<sup>513</sup> Rabitz, *supra* note 8, 148.

<sup>514</sup> *CBD, SBSTTA Study of Relationship between CBD and LOSC*, *supra* note 42, 31.

<sup>515</sup> G77 and China Intervention at the 2<sup>nd</sup> PrepCom Meeting, *supra* note 497.

relevant seabed technology, and scientific knowledge through the cooperative conduct of MSR, have nevertheless served to reduce the prevalent gaps in technology and expertise between the ‘developed North’ and the ‘developing South.’<sup>516</sup>

The significance of these non-monetary elements should, therefore, not be understated. And, moreover, it is also within this context that the ‘antithetical’ distinction, between the principles of the freedom of the high seas and the common heritage of mankind, again becomes marked in the context of deep seabed MGRs. So, whilst the former, and the concomitant use of intellectual property rights, envisages the possibility for private companies to monopolise the ‘use, production and dissemination’ of the commercial innovation derived from their conduct of bioprospecting investigations within the deep seabed Area, the latter requires such ‘results,’ for example, to be effectively disseminated and published so as to ‘serve the benefit of mankind as a whole.’ The effects of this distinction, at least with respect to the mineral resources of the deep ocean floor, appear to be promising. As it was observed in section 4.4, two of the ISA’s first contracts for exploration were awarded to state-sponsored enterprises from within the ‘developing South’ and, on this basis, a levelling of the playing field for these states, under the application of the common heritage of mankind, can certainly be envisioned.

The final point, and in an attempt to assuage a particular concern of the ‘developed North,’ pertains to a common misconception that is often held regarding the relationship between intellectual property rights and the equitable sharing of benefits; and, accordingly, with the principle of the common heritage of mankind.<sup>517</sup> The two, in this respect, are not necessarily mutually exclusive; on the contrary, and in the context of biological diversity, the CBD’s COP has observed that ‘[i]dentifying and allocating [intellectual property rights] will be an important part of controlling access to genetic resources and facilitating the fair and equitable sharing of benefits.’<sup>518</sup> It has, therefore, been suggested that the extension of the common heritage of mankind to deep seabed MGRs can provide ‘the normative grounds for attempting to link intellectual property claims to a benefit-sharing obligation towards the international community.’<sup>519</sup>

The ‘developing South’ has, for the most part, maintained that the elaboration of an appropriate access and benefit sharing regime is but one, substantive element within its broader

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<sup>516</sup> Lodge, *supra* note 281, 738.

<sup>517</sup> Heafey, *supra* note 53, 509.

<sup>518</sup> CBD ‘The Impact of Intellectual Property Rights Systems on the Conservation and Sustainable Use of Biological Diversity and the Equitable Sharing of Benefits from its Use’ (22 September 1996) UN Doc. UNEP/CBD/COP/3/22, at [19].

<sup>519</sup> Rabitz, *supra* note 8, 143.

advocacy for the extension of the principle of the common heritage of mankind to deep seabed MGRs, and the G77 and China have confirmed, in this regard, that the principle remains ‘central’ to these discussions.<sup>520</sup> However, as the adoption of the 2010 Nagoya Protocol on Access and Benefit Sharing has served to demonstrate, the application of the common heritage of mankind is ‘by no means a prerequisite for the establishment of benefit-sharing obligations.’<sup>521</sup> And, as the BBNJ Process has progressed, a number of key developing states have increasingly disclosed a willingness to concede the principle’s complete application provided that ‘tangible gains’ can be guaranteed under an appropriate, and independent, access and benefit sharing regime.<sup>522</sup>

This development has fed into the EU’s long-standing desire to adopt a ‘pragmatic’ approach towards the conservation and sustainable use of marine biological diversity in ABNJ, as a means by which to ensure that ‘progress in the negotiations is not dependent on the determination of the legal status’ of deep seabed MGRs.<sup>523</sup> A third approach then, and one that looks beyond the ideological questions concerning the legal status of deep seabed MGRs, has subsequently engendered increasing support within the BBNJ Process. This approach, and its correspondent implications, will now be considered.

#### **5.4 A Third Approach: ‘Pragmatism,’ or an avoidance of responsibility?**

The EU, as it was alluded to in section 5.1.2.1.1, has invariably been the ‘leading proponent’ of the process towards the negotiation and potential adoption of a new international agreement under the LOSC; as a means to operationalise the Convention’s general, framework provisions pertaining to the protection of the marine environment, and to establish an ‘integrated regime’ by which to address the ‘multiplicity of challenges facing the protection and sustainable use of marine biodiversity in ABNJ.’<sup>524</sup> However, as it was noted in section 5.1.2.1, the European position initially failed to elicit much international support, and the EU soon discerned that the potential adoption of a new international agreement would be contingent on it securing the political support of the increasingly prominent voice of the G77 and China.<sup>525</sup> In seeking to identify an acceptable compromise between the ideological ‘North-South’ divide,

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<sup>520</sup> G77 and China Intervention at the 2<sup>nd</sup> PrepCom Meeting, *supra* note 497.

<sup>521</sup> Wright *et al*, *supra* note 5, 35.

<sup>522</sup> Rabitz, *supra* note 8, 147.

<sup>523</sup> EU, ‘Written Submission of the European Union and its Member States: Marine Genetic Resources, Including Questions on the Sharing of Benefits’ (22 February 2017) 2, available at [http://www.un.org/depts/los/biodiversity/prepcom\\_files/rolling\\_comp/EU\\_Written\\_Submission\\_on\\_Marine\\_Genetic\\_Resources.pdf](http://www.un.org/depts/los/biodiversity/prepcom_files/rolling_comp/EU_Written_Submission_on_Marine_Genetic_Resources.pdf) (last accessed 19 April 2018) (2017 EU Submission).

<sup>524</sup> 2008 EU Presidency Statement, *supra* note 452, 3-4.

<sup>525</sup> Wright *et al*, *supra* note 5, 33.

the EU therefore identified the concept of access and benefit sharing as an appropriate median position, and a ‘bargaining chip’ by which it could seek to acquire the support of the ‘developing South’ for its own policy objectives.<sup>526</sup> And, in this context, the seed for the ‘developing South’s gravitation towards the elaboration of an independent access and benefit sharing regime had already been planted, as it was noted in the previous section 5.3.2, by the adoption of the 2010 Nagoya Protocol under the CBD.

Like the aforementioned ITPGRFA, the Nagoya Protocol is intended to operationalise the framework obligation under Article 15(5) of the CBD, although this time in the context of genetic resources. In this respect, the jurisdictional limitations of the CBD, as detailed in section 5.1.1, entail that the Protocol’s prescription for the fair and equitable sharing of benefits arising from the utilisation of genetic resources only extends to those resources that are ‘provided’ from within the national jurisdiction of a sovereign state.<sup>527</sup> However, Article 10 of the Protocol also envisages the establishment of a ‘global multilateral benefit sharing system’ for those resources that ‘occur in transboundary situations,’ or ‘for which it is not possible to grant or obtain prior informed consent.’<sup>528</sup> Upon the Protocol’s adoption, a number of states from within the ‘developing South’ therefore pushed for the elaboration of a multilateral access and benefit sharing regime, for MGRs found within ABNJ, under Article 10; on this basis, and in the absence of a ‘provider’ for these resources, no such consent could either be granted or obtained. Whilst this would ultimately prove to be a fruitless endeavor, the Nagoya Protocol nevertheless provided a stimulus for these states to advocate for the elaboration of an independent access and benefit sharing regime under the LOSC.<sup>529</sup> And, as it was noted in section 5.1.2.2, it was to presuppose the formation of a broad coalition between the EU, the G77 and China, and selected others.

Some have observed that the EU’s median position simply reflects a ‘pragmatic’ solution to a difficult, and potentially unanswerable question; one that ‘purports to give effect to the demands of the adherents of common heritage of mankind,’ but instead relies on the term ‘benefit-sharing’ as a means by which to avoid any ideological controversies.<sup>530</sup> And, increasingly it seems, the European pragmatism is being seen to have the desired effect. Whilst, as it was stated in the previous section 5.3.2, the G77 and China still submit, as their official position, that deep seabed MGRs are to be governed under the ‘guiding’ principle of the

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<sup>526</sup> Rabitz, *supra* note 8, 141.

<sup>527</sup> Nagoya Protocol, *supra* note 428, Article 5(1).

<sup>528</sup> *Ibid*, Article 10.

<sup>529</sup> Rabitz, *supra* note 8, 141.

<sup>530</sup> Tladi, *supra* note 2, 114.

common heritage of mankind, its individual members are now appearing to break ranks; softening their stance on the principle's faithful application and instead increasingly demonstrating an openness towards the adoption of a pragmatic solution. Nevertheless, this openness, and support for the European position, remains contingent on the prescription of a more equitable legal framework and, particularly, an appropriate access and benefit sharing regime.<sup>531</sup>

The fear, at this point, is that the greater motive that the principle of the common heritage of mankind is seen to represent again becomes, as it was ultimately to prove in the course of the negotiations that preceded the adoption of the Part XI Agreement, 'secondary to its strength as a bargaining tool.'<sup>532</sup> However, as it was noted in section 4.2.1.3, the demands that were acceded to by the 'developing South' in the adoption of the Part XI Agreement did not serve to amend the principle's normative content, and its constituent elements, crucially, were therefore retained. In the context of the BBNJ Process, nevertheless, a number of serious concerns can be raised. First, it has been observed that this pursuit of pragmatism fails to take into account the broader context within which the BBNJ Process is taking place.<sup>533</sup> The elaboration of an appropriate access and benefit sharing regime is but one small part of the 'package' of issues that the forthcoming Intergovernmental Conference has been mandated to address, and should certainly not divert attention away from the Conference's overall goal which is, and should remain, 'the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction.'

Second, it is suggested that, however much the EU may wish to avoid to doing so, a decision on the legal status of deep seabed MGRs will eventually have to be made. The LOSC establishes a comprehensive 'legal order for the seas and oceans,' under which all aspects of oceans governance, and all human activities, are to be regulated. And, as it was noted in section 2.1.2, the principal mechanism by which the Convention seeks to achieve this is through the division of the ocean waters into distinct jurisdictional maritime zones, with the Convention then prescribing the respective rights and obligations within each of these. Deep seabed MGRs cannot therefore simply operate within a *vacuum juris*, as to do so would run against the fundamental ethos of the Convention's objectives. The question, accordingly, simply cannot be avoided.<sup>534</sup>

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<sup>531</sup> Rabitz, *supra* note 8, 147.

<sup>532</sup> Guntrip, *supra* note 160, 383.

<sup>533</sup> Rabitz, *supra* note 8, 132.

<sup>534</sup> de la Fayette, *supra* note 13, 256.

And, finally, it is suggested that acknowledging that an appropriate access and benefit sharing regime will represent a necessary component of a new international agreement under the LOSC, and developing one as a means by which to compromise for the abandonment of the common heritage of mankind as a ‘guiding,’ governing principle, are two very different things. As the analysis that was undertaken in Chapter 4 and section 5.3.1 served to illustrate, the greater motive of the principle of the common heritage of mankind can now be said to be something more than a simple desire for a more equitable legal framework. In this respect, and as the delegation of South Africa eloquently pronounced to the UNGA in 2009, it is

just as much about conservation and preservation. The principle is about solidarity; solidarity in the preservation and conservation of a good we all share and therefore should protect. But also solidarity in ensuring that this good, which we all share, is for all our benefit.<sup>535</sup>

Accordingly, it has been observed that blindly following the third, ‘pragmatic’ route that has been carved by the EU carries with it very real risks that fundamental, constituent elements of the common heritage of mankind; the principle’s integration of the notion of inter-generational equity, the international management of an area or resource for the benefit of all mankind, elements that have proven to prescribe a ‘transcendent’ level of environmental stewardship; ‘may fall by the wayside if the common heritage of mankind principle disappears from the discussions without proper reflection.’<sup>536</sup>

On this basis, it is suggested that the elaboration of an independent access and benefit sharing regime, one that ‘adequately incentivises economic exploitation’ and, moreover, envisages the abandonment of core environmental guarantees, cannot in any way be considered a ‘pragmatic’ compromise.<sup>537</sup> Instead, it is an avoidance of the international community’s mandated responsibility to ensure the ‘conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction.’ The ‘developing South’ cannot demand for a greater share of the cake if there is in fact no cake to eat from and, only through the rational and environmentally responsible management of deep seabed MGRs, can their utilisation can serve ‘the benefit of all mankind.’<sup>538</sup> This is a crucial point, and it should not be forgotten.

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<sup>535</sup> UNGA, Statement by the South African Permanent Mission to the United Nations General Assembly on Oceans and the Law of the Sea (4 December 2009). Reproduced in Tladi, *supra* note 2, 129.

<sup>536</sup> Tladi, *supra* note 2, 123.

<sup>537</sup> UNGA, Submission of Mexico, ‘Scope, Parameters and Feasibility of an International Instrument under the United Nations Convention on the Law of the Sea: Informal Working Document compiling the views of Member States, compiled in accordance with General Assembly Resolution 68/70, Paragraph 201’ (4 December 2014) 18, available at [http://cpps.dyndns.info/cpps-docs-web/circulares/2015/003.Circular%20003-2015\\_Videoconferencia%20del%20GT-CPPS-B-RGM.pdf](http://cpps.dyndns.info/cpps-docs-web/circulares/2015/003.Circular%20003-2015_Videoconferencia%20del%20GT-CPPS-B-RGM.pdf) (last accessed 19 April 2018).

<sup>538</sup> de la Fayette, *supra* note 13, 269.

## 5.5 Concluding Observations

The dark oceans were the womb of life: from the protecting oceans life emerged. We still bear in our bodies – in our blood, the salty bitterness of our tears – the marks of this remote past. Retracting the past, man, the present dominator of the emerged earth, is now returning to the ocean depths. His penetration of the deep could mark the beginning of the end for man, and indeed for life as we know it on this earth: it could also be a unique opportunity to lay solid foundations for a peaceful and increasingly prosperous future for all peoples.<sup>539</sup>

When the international community undertook Arvid Pardo's proposal to declare the deep seabed Area as the common heritage of mankind, it represented a paradigm shift in the international governance of the ocean waters; a departure from the traditional Westphalian model of international law, bounded by vested state interests, and a desire to move past the entrenched 'free use' paradigm that had, until that point, underpinned the regulation of ocean activities. The evolution of the international law of the sea has been characterised by such landmark occasions, in which the international community has reached a point of collective understanding that the application of Hugo Grotius' principle of the freedom of the high seas to a particular ocean area, or to the governance of a particular natural resource, would threaten to destabilise the peaceful order upon these waters. And, in providing an answer as to the legal status of deep seabed MGRs at the forthcoming Intergovernmental Conference, the international community will be faced with making this decision once again.<sup>540</sup>

This decision, as this Chapter has served to illustrate, will require a choice to be made between three presented options; an extension of either the principles of the freedom of the high seas, or the common heritage of mankind, as the 'guiding' legal principle under which the governance of deep seabed MGRs is to be directed; or, indeed, a third, 'pragmatic' approach, as one that seeks to avoid ideological controversy. However, upon an examination of the merits, or otherwise, of each of these three approaches within sections 5.2, 5.3 and 5.4, and the environmental and economic implications that each will likely give rise to in the context of the future governance of deep seabed MGRs, it is submitted that only one of these options can reasonably be put forward as an effective means by which to achieve the forthcoming Intergovernmental Conference's primary objective; being the 'conservation and sustainable use of marine biological diversity beyond national jurisdiction.'

Moreover, at this point it also seems appropriate to recall the fundamental objectives that have been observed to underpin the LOSC. As it was first noted in section 2.1, the

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<sup>539</sup> Statement by Arvid Pardo to UNGA, *supra* note 512, at [7].

<sup>540</sup> Scovazzi, *supra* note 267, 22.

Convention's stated aim is to establish a comprehensive 'legal order for the seas and oceans,' by which it will promote the 'equitable and efficient utilisation of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment.' These objectives are, furthermore, considered to represent an integral component in the 'realisation of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries.'

It has therefore been observed that, in order for the fundamental ethos of the LOSC to be upheld, deep seabed MGRs cannot continue to be reserved for the appropriation and exclusive use 'of a few wealthy, technologically advanced industrialised states.'<sup>541</sup> Doing so, as history suggests, would leave these resources under a constant threat of over-exploitation, at the mercy of those whose interests lie in their direct exploitation; and, moreover, whose principally unregulated access to these would also serve to further enhance the disparities in economic wealth between the 'developed North' and the 'developing South.'

As it was noted in section 5.4, it is only through the environmentally responsible management of deep seabed MGRs, and through the protection and preservation of these unique biological components, that the international community can aspire to ensure that their utilisation serves 'the benefit of all mankind.' And, in this context, it has been suggested that the principle of the common heritage of mankind can represent 'the thread that binds' each of these crucial elements together; presenting an opportunity to avoid, as Pardo forewarned, 'the end of man' and, instead, to lay the foundations for a 'peaceful and increasingly prosperous future.'<sup>542</sup> With its historical champion seemingly willing to abandon it, and the 'developed North's' evident predisposition to bleed every last ounce of economic potential from the deep ocean floor, it is submitted that this need to do so is now greater than ever.

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<sup>541</sup> de la Fayette, *supra* note 16, 269.

<sup>542</sup> Tladi, *supra* note 2, 131.

## Conclusions

Later this year, the international community will assemble in New York for the first of four Intergovernmental Conference's that have been scheduled to take place over the next twenty-four months. Convened to elaborate the text of an international legally binding instrument under the LOSC on the conservation and sustainable use of marine biological diversity in ABNJ, the Conferences are likely to represent some of the most significant gatherings in international environmental-law making this century. However, the 'long and winding road' that has led to this point has been fraught with friction and uncertainty, and characterised by an ideological divide between the 'developed North' and the 'developing South.' This division has underpinned the development of the international law of the sea for now over half a century, and the BBNJ Process has, in many ways, echoed the intensive period of negotiations that preceded the adoption of the LOSC.

A great number of obstacles, then, remain to be overcome. The largest of these pertains to the legal status of deep seabed MGRs, and the attendant question as to which legal principle should underpin the governance of these under a new international agreement. This question has proven to be highly contentious, and it remains subject to fundamentally irreconcilable interpretations on the part of the 'developed North' and the 'developing South.' However, each of these interpretations have been based on an examination of the law as it is presumed to stand under the LOSC, and it is suggested that, in attempting to provide an answer to this question, the international community should now look beyond an interpretative analysis; the forthcoming Intergovernmental Conference, accordingly, presents a generational opportunity to decide what the law *should be*.

In doing so, the international community should have recourse to the two principal factors that have underpinned the BBNJ Process; first, the deteriorating health of the oceans, and the alarming loss of marine biological diversity that has ensued; and second, the increasingly commercial interest in deep seabed MGRs. These factors, moreover, correlate with the fundamental objectives and principles that underpin the LOSC which, today, remain as apposite as they were at the time the Convention was adopted. Indeed, whilst the BBNJ Process was initially precipitated by an acknowledgement of the need to more comprehensively address the conservation and sustainable use of marine biological diversity in ABNJ, the high commercial expectations as to the great economic potential of deep seabed MGRs has entailed that questions of equity, and the sharing of benefits, have become increasingly distinguished as the process has unfolded. The answer to this question should, accordingly, address both of these

concerns and, on this basis, it is submitted that deep seabed MGRs should be declared as the common heritage of mankind.

As the analysis that was undertaken in Chapter 3 and section 5.2 served to illustrate, extending the application of the principle of the freedom of the high seas to deep seabed MGRs cannot, in this respect, claim to address either of these. To formalise the ‘status quo,’ and to facilitate the principally unregulated access to these resources within an ‘open access’ regime would leave these constantly facing the threat of over-exploitation. And, in consideration of the unique biological qualities that these resources exhibit, an extension of the ‘tragedy of the commons’ to the ocean floor could conceivably lead to the destruction of marine ecosystems, and the extinction of deep seabed species, including MGRs. This is, quite simply, not an option.

The resultant ‘free for all’ under the freedom of the high seas would, furthermore, envisage that access to the great economic potential of these resources would remain, as Arvid Pardo forewarned, reserved for ‘the exclusive benefit of less than a handful of nations,’ and monopolised by those within the ‘developed North’ that possess the requisite technology and expertise to do so. The strong would get stronger, the rich would get richer, and the disparities in the distribution of economic wealth between the ‘haves’ and the ‘have-nots’ would continue to widen. Both of these outcomes, environmental and economic, are therefore fundamentally at odds with the basic objectives and principles of the LOSC.

The principle of the common heritage of mankind has, on the other hand, been observed to represent the ‘antithesis’ to the principle of the freedom of the high seas. Extending the application of the common heritage of mankind to deep seabed MGRs would, accordingly, reflect an understanding of the fact that the very goals of equity, and the desire for a more equitable legal framework, are founded in the effective protection and preservation of these resources. So whilst, under the freedom of the high seas, the achievement of one goal is seen to be the detriment of the other, the common heritage of mankind instead seeks to integrate the two; recognising that environmental and economic considerations are in fact complimentary, and mutually reinforcing.

As the analysis that was undertaken in Chapter 4 and section 5.3 proceeded to demonstrate, the application and implementation of the principle’s constituent elements, and particularly those pertaining to the international management of the resource or area to which the status of common heritage of mankind has been bestowed, and to the equitable sharing of monetary and non-monetary benefits, serves to operationalise the principle’s substantive content. And, in the context of the deep seabed’s mineral resources, these have accordingly exhibited a more substantive commitment to environmental objectives, and a more natural

possibility to expel distinct, self-serving interests when these are presumed to be to the detriment of the interests of greater mankind. Equal participation in deep seabed mining, and a levelling of the ocean's playing field has also been envisioned and, in extending the principle of the common heritage of mankind to the biological resources of the deep ocean floor, the international community can prescribe for the same tangible gains to be enjoyed in the context of deep seabed MGRs; ensuring that the benefits derived from the exploitation and subsequent utilisation of these are no longer reserved in the hands of a few, and that these, instead, serve to benefit all mankind. Both now, and in the future.

It is, therefore, time to set the record straight. Over half a century ago, the international community made the paradigm-shifting decision to set aside Hugo Grotius' archaic understanding of the oceans, and to declare the deep seabed Area as the common heritage of mankind. Now, the international community has the fate of the deep ocean floor in its hands one again. The players remain the same, the stakes remain the same; accordingly, the result must be the same. Make a wrong step this time, and it may not get a third chance.

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