Environmental Issues of Deep-Sea Mining: A Law of the Sea Perspective

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Abstract Addressing the environmental issues raised by deep-sea mining may provide an example for the international community on how to implement correctly the unqualified requirement in the United Nations Convention on the Law of the Sea (LOSC) that "States have the obligation to protect and preserve the marine environment". This chapter offers an overview of how this could work.

Keywords Deep-sea mining · Marine environmental protection · States' obligation · LOSC

Addressing the environmental issues raised by deep-sea mining may provide an example for the international community on how to implement correctly the unqualified requirement in the United Nations Convention on the Law of the Sea[1] (LOSC) that "States have the obligation to protect and preserve the marine environment".[2] Correct implementation entails considering the marine environment as a whole, as the LOSC does. Jurisdictional, sectoral and resource divisions in the LOSC (which, alas, retains more of these divisions than would be expected in an instrument whose Preamble states that "the problems of ocean space are closely interrelated and need to be considered as a whole")[3] cannot be invoked to justify, qualify or otherwise create an exception to the LOSC's fundamental marine environmental protection obligation. This obligation not only applies throughout "ocean space", but it also

[1] United Nations Convention on the Law of the Sea (Montego Bay, 10 December 1982, in force 16 November 1994) 1833 *UNTS* 3 (LOSC). The LOSC is our world's "Constitution for the Oceans" (Koh, 1983). TTB Koh (1983) 'A Constitution for the Oceans. Remarks by Tommy T. B. Koh of Singapore, President of the Third United Nations Conference on the Law of the Sea.' In: United Nations Convention on the Law of the Sea, with Index and Final Act of the Third United Nations Conference on the Law of the Sea (United Nations Publication No. E.83.V.5, New York, NY) pp. xxxiii-xxxvii.

[2] LOSC Article 192.

[3] LOSC Preamble, 3rd paragraph.

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applies to the rest of our planet, both the land[4] and the atmosphere,[5] when activities conducted there either "result or are likely to result"[6] in adverse effects on the marine environment. Even the likelihood of adverse effects triggers the obligation to act.

Unfortunately, so far the international community has neither adequately considered the environmental consequences of its activities in terms of their likely and actual adverse effects on the marine environment as a whole, nor implemented the clear and unequivocal requirements set out in the LOSC to "prevent, reduce and control"[7] these effects accordingly.

For example, the scientific consensus on the demonstrably harmful effects of greenhouse gas emissions on the environment in general and on the marine environment in particular (e.g. ocean acidification, warming, deoxygenation) has still not yet triggered the mandatory actions unequivocally required by the LOSC. From the feeble international instruments promulgated so far under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC),[8] including the UNFCCC itself, it would appear that States continue to assume that they have a legal option on whether or not to prevent, reduce and control the production and emission of greenhouse gases. At least for the 167 States, and the European Union, that are party to the LOSC (as of 31.08.2018), this assumption is incorrect. The same erroneous assumption applies to the growing plague of plastics infesting the oceans.

Efforts at achieving legally binding marine environmental protection do exist and are growing, but they have also largely been characterized by fragmentation rather than integration. It is ever more starkly evident that the marine environment has no natural boundaries that correspond to any anthropogenic ones. Nevertheless, jurisdictional, sectoral, resource and other forms of partitioning approaches to addressing adverse effects on the marine environment from our activities persist. The most recent example, involving two partitions of the marine environment itself, is the decision by the United Nations General Assembly to develop an international legally binding instrument (ILBI) under the LOSC on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (ABNJ) (hereinafter as the BBNJ negotiations).[9] Setting a human-devised (ABNJ) and a biological (marine biodiversity) partition as the focus for the ILBI disregards the

[4] LOSC Articles 194, 207, 213.

[5] LOSC Articles 194, 212, 222.

[6] Note the precautionary language.

[7] See, e.g. LOSC Articles 194–196, 207–212, 213–222.

[8] United Nations Framework Convention on Climate Change (Rio de Janeiro, 9 May 1992, in force 21 March 1994) 31 *ILM* 849 (UNFCCC).

[9] UN General Assembly Resolution A/RES/72/249: 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 (hereinafter: BBNJ negotiations), available at http://www.un.org/depts/los/general_assembly/general_assembly_resolutions.htm; accessed 6 July 2018. The first round of BBNJ negotiations took place in September 2018.

stark physical realities of the marine environment and the pervasive nature of the increasingly mounting threats it faces. Whether this legally and scientifically flawed fragmented approach by the BBNJ negotiations to marine environmental protection will result in an ILBI that meets the LOSC's marine environmental protection requirements remains to be seen.[10]

Deep-sea mining, by contrast, is an emerging industry whose stakeholders have accepted the undeniably daunting challenge of developing an integrated approach to marine environmental protection. These stakeholders include the States Parties to the LOSC: the latter are all *ipso facto* members of the International Seabed Authority (ISA), the organization set up under the LOSC "through which States Parties shall, in accordance with this Part [LOSC Part XI], organize and control activities in the Area, particularly with a view to administering the resources[11] of the Area".[12] Minerals (i.e. resources recovered from the Area[13]) are, so far, the only example of a global resource under global intergovernmental management by a global intergovernmental organization (the ISA) established exclusively for this purpose. The ISA's member states emphasize the need for a global, multiregional approach to development and implementation of better environmental policy and operational frameworks for site-specific deep-sea mining and related activities.[14]

Unfortunately, the LOSC's own fragmented approach to the Area (defined as "the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction")[15] does not facilitate the task of the ISA, because the LOSC does not limit its marine environmental protection requirements[16] to the Area. For example, in the context of deep-sea mining, the scope of the ISA's marine environmental responsibilities extends to "the coastline", i.e. well beyond the Area and far into waters within national jurisdiction, and must include "prevention, reduction and control of interference with the ecological balance of the marine environment".[17] Political will can resolve the issues raised by the former obligation, but scientific information remains inadequate to offer confident guidance on how to achieve the latter at the level of operational sophistication required.

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[10] A detailed elaboration of these arguments is set out in Verlaan, P. (2018). The interface of science and law: A challenge to the privileging of 'marine biodiversity' over 'marine environment'. In R. A. Barnes, & R. Long (Eds.), *Frontiers in international environmental law: Oceans and climate challenges* (Brill, Leiden) in press.

[11] For purposes of LOSC Part XI, these are defined as "all solid, liquid or gaseous mineral resources in situ in the Area at or beneath the seabed". LOSC Article 133(a).

[12] LOSC Article 157. It is ironic that these same state parties are also participating in the BBNJ negotiations, which are being conducted on the opposite premise.

[13] LOSC Article 133(b).

[14] Lodge, M., & Verlaan, P. (2018). Deep-sea mining: International regulatory challenges and responses. *Elements* (in press).

[15] LOSC Article 1(1)(1).

[16] See LOSC Article 145, which is the governing article applicable specifically to "activities in the Area"; other marine environmental protection requirements for these activities are found elsewhere in the LOSC, including in Part XII, which is dedicated to the marine environment.

[17] LOSC Article 145(b).

Despite this uncertainty, the ISA must establish a comprehensive framework for sustainable – i.e. environmentally and commercially responsible – management of the emerging deep-sea mining industry. The present book, for which it is a signal honour and privilege to add these brief reflections, will make an invaluable contribution to assist the ISA, as the representative of the global community of stakeholders in sustainable deep-sea mining, in achieving this compelling mandate.

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