
Sharing the Riches of the Sea: The Redistributive and Fiscal Dimension of Deep Seabed Exploitation

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Abstract

This article seeks to clarify how the principle of common heritage is being implemented and concretized by the fiscal regime of deep seabed mining. It first explicates the exploitation rationale underlying the common heritage principle. It argues that common heritage is a jurisdictional principle that lays the basis for the international allocation and administration of exploitation rights and, thus, for the effective economic exploitation of seabed minerals. This exploitation bias is strengthened by the perceived remoteness of deep seabed mining and the real institutional disembeddedness of the International Seabed Authority (ISA). To better understand the distribution conflicts that the law of deep seabed mining addresses, the article introduces two (competing) sets of public interest objectives: participation in exploitation and revenue generation pursued by newly independent (and, today, developing) states and access to raw materials pursued by industrialized states. The article then focuses on the different ways in which the 1982 United Nations Convention on the Law of the Sea and the 1994 Agreement on the Implementation of Part XI promote, reconcile and detract from the identified public interest objectives. It reveals how the participation objective has given way to a focus on market supply and revenue generation, and how the changes of the 1994 Implementation Agreement may be read as an attempt to dissolve the conflict between these competing public interest objectives, and to depoliticize the seabed regime. Third, the article turns to the ongoing work on a mining code for the deep seabed that, inter alia, must implement the ISA's mandates to generate revenue from deep seabed mining and to redistribute this revenue. It shows how the ISA's adoption of an individualist stakeholder orientation and its deference to commercial expectations of profitability, in the context of growing political attention to the oceans as a source of economic growth, are further transforming the notion of common heritage and benefit sharing and concomitantly undermine the regime's redistributive ambitions. It also clarifies how the sponsorship of deep seabed mining by small Pacific

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island states holds only little promise of significant public revenue generation for these states, but may work to undermine solidarity among developing states. The article ends with a call on international lawyers to recognize the designing of a mining code for the deep seabed as the making of political economy.

Fifty years after Maltese Ambassador Arvid Pardo's speech before the United Nations General Assembly's (UNGA) First Committee,¹ deep seabed mining once more takes a prominent place on the international agenda. The International Seabed Authority (ISA) has concluded, as of 31 December 2018, 29 15-year exploration contracts with private enterprises, consortia and state enterprises.² Currently, it is working on regulations (the 'mining code'³) to govern the large-scale exploitation of polymetallic nodules, polymetallic sulphides and ferromanganese crusts, the three mineral compounds that are the object of commercial interest and mining projects in the deep sea beyond national jurisdiction. A payment mechanism, including provisions on the financial terms of exploitation contracts, will form a crucial part of the mining code. It will determine how the ISA – designated by the United Nations Convention on the Law of the Sea of 1982 (UNCLOS) as the representative of humankind⁴ – is to partake in the financial gains from deep seabed mining. The payment mechanism also needs to address the sharing of the revenues that will accrue to the Authority from deep seabed mining. These fiscal provisions on payments due to the Authority and their distribution will concretize and give further meaning to the common heritage of mankind (CHM) principle – the legal foundation for the ISA's mandate to administer exploitation rights and provide for the equitable sharing of benefits from deep seabed mining. It is here, in the work on the fiscal regime, where it becomes most apparent how little is left of the redistributive ambitions pursued by many of the negotiators of UNCLOS.

In this article, I examine the relationship between the fiscal regime of deep seabed mining and CHM as well as its transformations over time. To do so, I first explicate, from a historical perspective, the exploitation rationale that informs CHM. I argue that CHM should be understood as a jurisdictional principle concerning the allocation of exploitation rights. As such, it makes possible the effective exploitation of seabed minerals. Effective exploitation, however, was not the only rationale for designating the seabed and its minerals as CHM. Designation as CHM was also motivated by the wish to prevent appropriation by individual states and to ensure that seabed minerals were to be extracted for the benefit of mankind as a whole. Disagreement existed, and

¹ A. Pardo, United Nations General Assembly (UNGA) 22nd Session, First Committee, 1515th Meeting, UN Doc. A/C.1/PV.1515, 1 November 1967.

² See Secretary-General, Report on the Status of Contracts for Exploration, Doc. ISBA/25/LTC/2, 11 January 2019.

³ In this article, I use the term 'mining code' to denote the secondary law (in particular, the regulations) on mineral exploitation. The International Seabed Authority (ISA) uses the term to also refer to the regulations and recommendations on prospecting and exploration.

⁴ See Convention on the Law of the Sea (UNCLOS) 1982, 1833 UNTS 3, Art. 137:2, cl. 1: 'All rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act'.

still exists today, between newly independent states (now designated as developing states) and industrialized states with respect to this latter dimension and, especially, to the role that international institutions should play in administering and extracting seabed resources as representatives of humankind. To clarify the controversy over the normative content of CHM and how the law is distributing benefits between industrialized and developing states, I introduce two (competing) sets of public interest objectives pursued by developing and industrialized states. While, in the 1970s, the latter were primarily interested in promoting access to raw materials, newly independent states aimed at the reduction of global inequality through effective participation in the exploitation of seabed minerals and the redistribution of revenue generated from exploitation. I end the first section with an observation on how the disembeddedness of the current international administration of seabed mining works to reinforce the exploitation bias of the legal regime of the Area (defined in Article 1:1(a) of UNCLOS as ‘the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction’).

In the second part, I focus on the different ways in which UNCLOS and the 1994 Agreement on the Implementation of Part XI (on the Area) (IA)⁵ promote, reconcile and detract from the two sets of public interest objectives: access to raw materials, on the one hand, and participation in exploitation and revenue generation, on the other. I reveal how the participation objective has given way to a focus on market supply and revenue generation, and how the changes of the IA may be read as an attempt to dissolve the conflict between these competing public interest objectives and to depoliticize the seabed regime by deferring to commercial interests as indicative of the needs of, and benefits to, humankind.

In the third section, I turn to the ISA’s ongoing work on the mining code. I intend to show how the ISA’s adoption of an individualist stakeholder orientation and its deference to commercial expectations of profitability in the context of growing political attention to the oceans as a source of economic growth are further transforming the notion of CHM and benefit sharing, and undermining UNCLOS’ redistributive objectives. I also clarify how the sponsorship of deep seabed mining by small Pacific island states holds only little promise of significant public revenue generation, but may work to undermine solidarity among developing states.

1 The Exploitation Bias of CHM: Extraction and Redistribution – Administered by a Disembedded ISA

It may not be immediately obvious how denoting the deep seabed, including its mineral resources, as CHM is linked to economic exploitation,⁶ given that, today, CHM is

⁵ Agreement on the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (IA) 1994, 1836 UNTS 3.

⁶ For this linkage, see also Mickelson, ‘The Maps of International Law. Perceptions of Nature in the Classification of Territory’, 27 *Leiden Journal of International Law (LJIL)* (2014) 621 (exposing the instrumental approach of international law to nature).

frequently associated with safeguarding natural wealth and notions of trusteeship.⁷ The latter understanding appears contrary to an interpretation that foregrounds the economic and monetary value of seabed riches that is to be realized through their commodification. I come back to this putative contradiction below to show that, while indeed an ecological understanding of CHM is gaining purchase, the increased attention to ecological concerns does little to detract from the exploitation rationale and all the more affects the redistributive dimension of CHM.

In the following discussion, I set out how, from its first introduction into international law, CHM has been associated with economic exploitation – first, in debates about the use of outer space and, then, in debates about the use of the deep seabed. Denoting outer space and the deep seabed as CHM served the purpose of enabling effective economic exploitation. I then concretize the objectives that state representatives pursued when engaging in negotiations on an international legal regime to operationalize CHM. The situatedness of states, either at the centre or the periphery of the global economy, clarifies and explains their differing stances with respect to the exploitation of seabed minerals – whether their focus lay on access to raw materials or on redistribution through effective participation in economic exploitation and revenue sharing. I conclude this part by indicating how the disembeddedness of today’s international administration of seabed resources enhances the exploitation bias of the seabed regime.

A CHM: Jurisdictional Basis for the Effective Economic Exploitation of the Deep Seabed

A bias for economic exploitation emerges clearly from the historical context of CHM in the law of outer space and the deep seabed. CHM, like permanent sovereignty over natural resources,⁸ is primarily a jurisdictional principle and, as such, forms the basis for the allocation of exploitation rights.⁹ When UNCLOS and the Moon Agreement denote the seabed and celestial bodies, including their natural resources, as CHM,¹⁰ they establish international jurisdiction. This international jurisdiction provides the basis for the international administration of exploitation rights. It thus paves the way for guaranteeing legal security as a precondition for effective economic exploitation – the

⁷ Karin Mickelson, in Mickelson, ‘Common Heritage of Mankind as a Limit to Exploitation of the Global Commons’, in this issue, conceptualizes common heritage of mankind (CHM) as a holistic principle with a strong ecological dimension; see also Tladi, ‘The Common Heritage of Mankind and the Proposed Treaty on Biodiversity in Areas beyond National Jurisdiction: The Choice between Pragmatism and Sustainability’, 25 *Yearbook of International Environmental Law* (2015) 113; Wolfrum, ‘The Principle of the Common Heritage of Mankind’, 43 *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht (ZaöRV)* (1983) 312.

⁸ Laid down, *inter alia*, in GA Res. 1806 (XVII) (1962).

⁹ For an elaboration of this argument with respect to permanent sovereignty over natural resources, see Feichtner, ‘International (Investment) Law and Distribution Conflicts over Natural Resources’, in R. Hofmann, S. Schill and Ch. Tams (eds), *International Investment Law and Sustainable Development* (2015) 256.

¹⁰ UNCLOS, *supra* note 4, Art. 136; Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement) 1979, 1363 UNTS 3, Art. 11:1.

legal security that economic actors require and demand before engaging in costly exploration and exploitation operations. With the ISA, such an international administration has been established for mineral mining in the deep sea.

1 *The End of the Colonial Period and Technological Progress*

The international debates on a law governing the mineral resources of the deep seabed and the use of outer space reveal that effective economic exploitation was a primary concern of governments. Denoting the deep seabed and outer space as CHM was – at the same time – to enable effective exploitation and to prevent a race for appropriation by states. It was to ensure that all states could share in the benefits from exploitation, without technologically advanced states having an undue advantage over poorer ones.

Debate among governments about activities in outer space and the deep sea in the 1950s and 1960s had been prompted by technological and scientific progress. It was a time of futuristic visions of people living on the moon and in underwater cities.¹¹ In this atmosphere of optimistic belief in the potential of technology, UNGA Resolution 1348 of 1958 on the '[q]uestion of the peaceful use of outer space', for instance, expressed the desire of governments 'to promote energetically the fullest exploration and exploitation of outer space for the benefit of mankind',¹² and UNGA Resolution 2172 of 1966 on the '[r]esources of the sea' optimistically suggested that 'the effective exploitation and development of these [ocean] resources can raise the economic level of peoples throughout the world'.¹³ However, this was also the end of the colonial period. While industrialized states were looking to secure access to raw materials and, thus, upon the news of plentiful mineral deposits in the deep sea,¹⁴ were eager to explore and exploit the deep seabed as a new source of raw materials, newly independent states feared being left behind in a neo-imperial race for the deep seabed.¹⁵ For the latter, participation in the economic exploitation of seabed minerals promised to be one avenue to decrease the inequality gap between them and industrialized states. While there existed increasing awareness at the time of the ecological dangers of dumping waste

¹¹ See, e.g., Pardo, *supra* note 1, in his speech to the UNGA envisioning cities for scientists on the ocean floor; see also Ranganathan, 'Ocean Floor Grab: International Law and the Making of an Extractive Imaginary', in this issue, 573, and Craven, "'Other Spaces": Constructing the Legal Architecture of a Cold War Commons and the Scientific-Technical Imaginary of Outer Space', in this issue, 547.

¹² GA Res. 1348 (XIII) (1958), preamble, rec. 4.

¹³ GA Res. 2172 (XXI) (1966), preamble, rec. 2.

¹⁴ In 1965, geologist John L. Mero had published a book in which he estimated that only a tenth of the seabed's nodule deposits might satisfy mineral demands for thousands of years. See J.L. Mero, *The Mineral Resources of the Sea* (1965).

¹⁵ For an account of the position of developing states in the seabed regime negotiations, see R.P. Anand, *Legal Regime of the Sea-Bed and the Developing Countries* (1975), ch. 5; see also P.S. Rao, *The Public Order of Ocean Resources: A Critique of the Contemporary Law of the Sea* (1975), ch. 4; for a focus on the position of African states, see E. Egide, *Africa and the Deep Seabed Regime: Politics and International Law of the Common Heritage of Mankind* (2011).

into the oceans, the extraction of resources appeared to many as an easy way to generate wealth that would not result in significant environmental harm.¹⁶

2 CHM as the Jurisdictional Basis of Exploitation and Property Rights

In this context, CHM emerged from international debates as a new principle differing in significant respects from two other principles regulating jurisdiction with respect to territory and resources outside the jurisdiction of sovereign states – namely, *res nullius* and *res communis*.¹⁷ European international law doctrine of the 18th and 19th centuries had considered things or land not subject to the jurisdiction of a sovereign as *res nullius*. The principle entailed the right to establish title through appropriation on the basis of discovery and effective occupation. Not surprisingly, the principle had been drawn on to justify imperial appropriations.¹⁸ Qualification as *res nullius* – thus, the forceful warning of Pardo with respect to the ocean floor – might have opened the door for a neo-imperial scramble to effectively occupy and appropriate the deep seabed or celestial bodies.¹⁹

The other jurisdictional principle concerning spaces outside sovereign jurisdiction – and from which CHM was also distinguished – is *res communis*. Hugo Grotius famously considered the oceans to constitute *res communis*. As a consequence of this status, sovereigns were to be prohibited from establishing dominium over the seas.²⁰ Recognizing the oceans as *res communis* was to exempt the oceans from sovereign appropriation and, instead, to form the basis for freedom of use (*inter alia*, for navigation and fishing).²¹ Given the differences in technological capacity between states, the designation of mineral riches of the deep seabed as *res communis* (mineral exploitation in outer space in the 1960s still was the domain of science fiction²²) also did not appear as a desirable option to the growing number of newly independent states. Designation as *res communis* would have prevented states from establishing sovereign title; yet, in analogy to the freedom of use of the high seas, it would have supported arguments

¹⁶ See, e.g., Cooper, 'The Oceans as a Source of Revenue', in J.N. Bhagwati (ed.), *The New International Economic Order: The North-South Debate* (1977) 105; Pardo in his speech had highlighted the dangers of waste dumping.

¹⁷ Abi-Saab, 'Analytical Study', in Report of the Secretary General, Progressive Development of the Principles and Norms of International Law Relating to the New International Economic Order, UN Doc. A/39/504/Add. 1 (1984); Kiss, 'The Common Heritage of Mankind: Utopia or Reality?', 40 *International Journal* (1985) 423.

¹⁸ Kahn, 'Territory and Boundaries', in B. Fassbender and A. Peters (eds), *The Oxford Handbook of the History of International Law* (2012) 225.

¹⁹ Qualification as *res nullius* had been favoured, e.g., by C.H.M. Waldock. See Waldock, 'The Legal Basis of Claims to the Continental Shelf', 36 *Transactions of the Grotius Society* (1951) 115; on the various views on how to qualify outer space and celestial bodies, see Craven, *supra* note 11.

²⁰ Grotius, 'The Free Sea', translated by R. Hakluyt (1609), reprinted in D. Armitage (ed.), *The Free Sea* (2004) 1.

²¹ The appropriation prohibition and freedom of use were codified in Art. 2 of the Geneva Convention on the High Seas (Geneva Convention) 1958, 450 UNTS 11.

²² Yet, even though space mining was an even more distant scenario than seabed mining, scholars were formulating views as to the status of space resources and the legality of space mining. See, e.g., W. Jenks, *Space Law* (1965), at 275; for further references, see Craven, *supra* note 11.

that private economic actors were free to exploit mineral resources (although without affording them legal security of tenure).²³

Declaring the deep seabed and celestial bodies to be the CHM was meant to prevent both a scramble for sovereign appropriation and unauthorized resource exploitation by private actors. Like *res communis* (and contrary to *res nullius*), CHM was not to allow for appropriation and the establishment of sovereign title by states. Unlike *res communis*, however, it was not to establish freedom of use with respect to mineral resources.²⁴ The notion that all of humankind should benefit from CHM lent support to the claim – albeit a disputed one – that resource exploitation rights must be administered by an international body acting on behalf of humankind. The conception of CHM as a jurisdictional principle, thus, can be understood as having two components: first, it forbids states to establish sovereign jurisdiction and appropriate a territorial domain²⁵ and, second, it demands that if economic exploitation of resources is to take place, it must be administered by an international institution that grants exploitation rights²⁶ and establishes a regime for the equitable sharing of benefits.²⁷ The fact that CHM lay the ground for authorized exploitation that is secured by the allocation of exclusive exploitation rights is a feature that is sometimes neglected in accounts that stress non-appropriation and equitable benefit sharing as the main content of CHM. It is this feature, however, that facilitates effective economic exploitation.²⁸

While states could agree on designating the seabed beyond national jurisdiction as common heritage,²⁹ and also largely agreed that such designation should entail some equitable sharing of benefits, disagreement prevailed on the ‘international machinery’³⁰ to be established for the administration of exploitation.³¹ When

²³ The Geneva Convention, *supra* note 21, had left open whether minerals exploitation was covered by the freedom of the high seas.

²⁴ This implication of CHM is currently under debate with respect to asteroid mining. See Feichtner, ‘Mining for Humanity in the Deep Sea and Outer Space: The Role of Small States and International Law in the Extraterritorial Expansion of Extraction’, 32 *LJIL* (forthcoming).

²⁵ See Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction (Declaration of Principles), GA Res. 2749 (XXV) (1970), para. 2; UNCLOS, *supra* note 4, Art. 137; Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies 1967, 610 UNTS 205, Art. II; Moon Agreement, *supra* note 10, Art. 11:3.

²⁶ Declaration of Principles, *supra* note 25, paras 3, 4.

²⁷ *Ibid.*, paras 7, 9.

²⁸ For a contemporary critique of the exploitation of the oceans and the instrumentalization of the law of the sea for this purpose, see Graf Vitzthum, ‘Die Gleichschaltung von Land und Meer’, in W. Graf Vitzthum (ed.), *Die Plünderung der Meere: Ein gemeinsames Erbe wird zerstückelt* (1981) 49; Graf Vitzthum, ‘Die Bemühungen um ein Régime des Tiefseebodens. Das Schicksal einer Idee’, 38 *ZaöRV* (1978) 745.

²⁹ On the disputed legal question where national jurisdiction ends, see Ranganathan, *supra* note 11.

³⁰ For this terminology, see GA Res. 2574 (XXIV) (1969).

³¹ In regard to outer space, the 1979 Moon Agreement, *supra* note 10, provides for the establishment of an international regime for the administration of exploitation rights (Art. 11:5–7). Yet, as of 1 January 2018, it only has 18 state parties, including none of the space-faring nations; the low acceptance being explained mainly with the contentiousness of these provisions on resource exploitation and its international administration. On the disputed question whether Art. 11 of the Moon Agreement establishes a moratorium on space mining, see L. Viikari, *From Manganese Nodules to Lunar Regolith: A Comparative Study of the Utilization of Natural Resources in the Deep Seabed and Outer Space* (2002), at 121–122.

a majority of United Nations (UN) member states, with the adoption of UNGA Resolution 2574 (1969), sought to institute a moratorium on mineral exploitation in the deep sea until an international administration was established,³² the USA and a number of other industrialized states declared their opposition. They held the position that designating the seabed and its resources as CHM left states free to individually authorize mining activities, a position that eventually led to (and provided justification for) the so-called reciprocating states regime, with individual states unilaterally granting licenses and coordinating the resulting claims through international agreements.³³ Opposition to the establishment of an international authority was not categorical, however. Rather, disagreement related to the powers such an authority should have: whether it should have the power to engage in resource exploitation itself and to the exclusion of other operators, or whether it should only function as a licensing authority. The preferences of states as to the institutional design were closely related to their views on the objectives that an international law, and the organization of, deep seabed mining should promote.³⁴

B Competing Objectives of the Economic Exploitation of Seabed Minerals

While governments widely supported the economic exploitation of deep seabed minerals, they pursued different objectives in doing so. As already indicated, newly independent states were interested in participating in the economic exploitation of seabed resources as a way to reduce economic inequalities. Industrialized states heavily dependent on resource imports, by contrast, focused more on ensuring the supply of their industries with raw materials and the access of corporations to seabed minerals on the logic that supply was best guaranteed through commercial enterprise reacting to market demands.³⁵

1 Access to Raw Materials

With the end of the colonial period, newly independent states no longer wanted to serve, in the words of Mohamed Bedjaoui, ‘as a reservoir of raw materials and an outlet for finished products’ for the former imperial powers.³⁶ Thus, many newly independent states asserted authority and expanded governmental control over territorial resource extraction, trade and price developments through unilateral action, such as nationalizations, and through international cooperation, for example, on the basis of

³² GA Res. 2574 (XXIV) (1969).

³³ E.D. Brown, *Sea-bed Energy and Minerals: The International Legal Regime*, vol. 2: *Sea-bed Mining* (2001), at 244–291; S. Ranganathan, *Strategically Created Treaty Conflicts and the Politics of International Law* (2015), at 161ff.

³⁴ For an account of the different positions, see Anand, *supra* note 15; S. Nandan, M. Lodge and S. Rosenne, *The Development of the Regime for Deep Seabed Mining* (2002).

³⁵ While I am focusing here on the economic interests in resource extraction, scientific interests also played a significant role in the negotiations of a legal regime for ‘the Area’.

³⁶ M. Bedjaoui, *Towards a New International Economic Order* (1979), at 11.

commodity agreements. These developments prompted concerns in the often highly resource-dependent industrialized states regarding their industries' supply with raw materials.³⁷ In a political climate in which the liberalization of raw material markets, strongly promoted, for example, by Wilhelm Röpke,³⁸ could not garner much support, the prospect of vast mineral deposits in the deep sea thus held special appeal for industrialized states. For them, it was access to the resources detected in manganese nodules (copper, nickel, cobalt and manganese) that provided the main impetus for engaging in the negotiation of an international legal regime to facilitate extraction.³⁹

In West Germany in 1972, for example, the corporations Preussag, Salzgitter AG and Metallgesellschaft AG formed the Arbeitsgemeinschaft meeres-technisch gewinnbare Rohstoffe (Working Group on Technologically Extractable Resources from the Sea) to explore mineral extraction in the deep sea.⁴⁰ Later, this working group participated in a transnational consortium that conducted a first pilot mining test on manganese nodules extraction in 1978. While the German government was not willing to establish a state mining enterprise, as other states did, it provided substantial funding to these commercial seabed-mining activities. The USA also had a particular interest in exploiting manganese nodule deposits of the deep seabed, as illustrated by a report of the National Oceanic and Atmospheric Administration from 1976. Deep seabed mining, according to the report, promised independence from foreign suppliers and was held to be of particular relevance since – as the report notes – '[r]esource rich third-world nations are beginning to exert more control over their mineral resources'. The report further envisages that nodule extraction might turn the US payment deficit into a surplus if it made the USA a net exporter of minerals.⁴¹

Governments of industrialized states not only provided substantial support to seabed mining endeavours, but they also advocated for an international authority that would license mining by individual and consortia of enterprises and ensure security of tenure. Since mining projects entail the installation of costly equipment and frequently cover large areas, commercial viability requires non-interference with the mining operation. It also depends on the recognition of property rights in the mined minerals. While governments welcomed an international authority administering a licensing regime that would provide for such legal security, they were critical of restrictions on individual enterprise, for example, in the form of high payments to the

³⁷ See, e.g., Bergsten, 'The Threat from the Third World', 11 *Foreign Policy* (1973) 107.

³⁸ W. Röpke *Internationale Ordnung* (1945), at 120ff.

³⁹ Nandan, Lodge and Rosenne, *supra* note 34, at 31; US House of Representatives, Sub-committee on International Organizations of the Committee on International Relations, Deep Seabed Minerals: Resources, Diplomacy and Strategic Interest, 1 March 1978, at 2.

⁴⁰ German industry not only seeks access to raw materials, but also has a particular interest in developing seabed-mining technology.

⁴¹ National Oceanic and Atmospheric Administration, Deep Ocean Mining Environmental Study: Information and Issues (1976), at 1, 2; reiterated in Robert Keller, Acting Comptroller General, Deep Ocean Mining: Actions Needed to Make It Happen, 28 June 1978. It should be noted that Australia and Canada as net exporters of the extractive resources in question held a different position, fearing competition to their own land-based extraction. See Nandan, Lodge and Rosenne, *supra* note 34, at 32.

licensing authority or production limitations. In particular, they were not willing to cede exploitation to an international mining enterprise as the only entity allowed to mine the ocean floor – a scenario envisaged by newly independent states.

Interest in the ocean floor as a source of raw materials waned, however, during the UNCLOS negotiations. The reasons are not merely of a technological and economic nature. Legal developments also contributed to a situation in which deep seabed minerals no longer figured prominently in industrialized states' resource politics. The re-privatization of extractive industries in developing states (not infrequently as a consequence of conditional loans by international financial institutions), as well as the emergence of a transnational economic law, would again secure industrialized states' access to raw materials in developing states.⁴² By the late 1970s, Stephen Krasner concluded that the USA could rely for its raw materials supply on foreign direct investment and international trade that were promoted and protected by this transnational economic law.⁴³

2 *Reduction of Global Inequality through Participation in Exploitation and Redistribution*

Newly independent states, by contrast, favoured a strong international authority, one that would itself engage in seabed mining and through which they could actively participate in, and shape, mineral markets as well as generate significant revenue for redistribution. As already indicated, reforms to the raw material sector, including enhanced governmental control and international interventions to stabilize raw material prices, were regarded as important for bringing about a New International Economic Order (NIEO).⁴⁴ With respect to the law of the deep seabed, the objective of newly independent states can be interpreted as twofold: encompassing revenue generation from resource extraction as well as the transformation of political economy in the larger context of the NIEO.

The latter objective – actively shaping the political economy of resource extraction – explains the insistence of the Group of 77 (G77) on establishing an international authority with its own operating arm, technology transfers and significant financial support to the authority, for example in the form of guaranteed loans by state parties. A powerful authority, moreover, was deemed necessary to counter the monopolization of seabed mining by technologically advanced states and private enterprises. Newly independent states were also conscious of the potential economic harm that seabed mining might cause those developing states that were themselves producers of the minerals to be extracted from the seabed, such as copper. They therefore favoured an authority with the power to regulate the volume of production.

⁴² Sornarajah, 'The Battle Continues: Rebuilding Empire through Internationalization of State Contracts', in P. Dann and J. von Bernstorff (eds), *The Battle for International Law: South-North Perspectives on the Decolonization Era* (forthcoming); Feichtner, 'International (Investment) Law and Distribution Conflicts over Natural Resources', in Hofmann, Schill and Tams, *supra* note 9, 256.

⁴³ S.D. Krasner, *Defending the National Interest: Raw Materials Investments and US Foreign Policy* (1978).

⁴⁴ B. Chimni, *International Commodity Agreements: A Legal Study* (1987).

The generation of revenue from resource extraction was the other objective forcefully pursued by newly independent states. Revenue from seabed mineral production not only was to support the independent functioning of the operating arm of the authority, but it also was to be redistributed to reduce global inequality. During the negotiations in the 1970s, the seabed did appear to many as a potential 'source of revenue'.⁴⁵ Writing in 1979, Ronald Katz, former deputy director of the Office of Law of the Sea Negotiations at the US Department of State, mentions the estimate that 'each of the 100 or so developing states could expect to receive approximately \$10m per year' in the form of redistributed income from deep seabed mining.⁴⁶ A report by the UN Secretary-General from 1971 clearly expresses the claim of newly independent states on revenue from deep seabed mining when it stresses that such revenue once generated and distributed 'should not be confused with foreign aid' as it rightfully belonged to developing states.⁴⁷

While plans for market intervention and active mining by an international mining authority were met with great scepticism by industrialized states,⁴⁸ the objective to turn ocean minerals into a source of funding for development was less contentious. Revenue generation to benefit the poorer states (as well as UN activities) from the outset played an important role in debates on the legal regime for the seabed.⁴⁹ Turning natural wealth into monetary wealth for redistribution seemingly offered an easy answer to demands for fiscal transfers in order to alleviate global inequality. Especially when viewed in connection with other wealth transfer initiatives pursued by newly independent states – progressive increases in official development assistance;⁵⁰ the establishment of a link between special drawing rights in the International Monetary Fund and development assistance⁵¹ or debt relief⁵² – the generation of public revenue from the oceans must have appeared as an attractive opportunity to industrialized states.⁵³ Distributing revenues from resource extraction in the deep sea to developing states would neither have affected the budgets of industrialized states nor entailed a consequential reconfiguration of the global economy.⁵⁴

⁴⁵ Cf. Cooper, *supra* note 16.

⁴⁶ Katz, 'Financial Arrangements for Seabed Mining Companies. An NIEO Case Study', 13 *Journal of World Trade Law* (1979) 209, at 211, n. 3.

⁴⁷ Report by the Secretary-General, Possible Methods and Criteria for the Sharing by the International Community of Proceeds and other Benefits Derived from the Exploitation of the Resources of the Area beyond the Limits of National Jurisdiction, Doc. A/AC.138/38, 15 June 1971, para. 47.

⁴⁸ Instructive on the debate about the Enterprise is E. Mann Borgese, 'The New International Economic Order and the Law of the Sea', 14 *San Diego Law Review* (1977) 584.

⁴⁹ See, e.g., Commission to Study the Organization of Peace, *17th Report: New Dimensions for the United Nations: The Problems of the Next Decade* (1966); US Draft Convention of 1970 submitted under the Nixon administration and providing for the collection of significant royalties to finance economic assistance for developing states.

⁵⁰ GA Res. 2626 (XXV) (1970), para. 43.

⁵¹ GA Res. 3362 (S-VII) (1975), s. II, para. 3.

⁵² *Ibid.*, para. 8.

⁵³ The Brandt report, too, envisaged deep seabed mining, and, more generally, revenues from the global commons, as a source of finance for development. See W. Brandt, *North-South: A Programme for Survival* (1980).

⁵⁴ A different question, raised by Ranganathan, *supra* note 11, is whether developing states might have purposefully been misinformed by governments of industrialized states as to the extent of the revenue to be garnered from seabed mining.

C *The Disembeddedness of Deep Seabed Mining and Its Administration*

With the entry into force in 1994 of UNCLOS, which to date has 168 parties (the USA not being among them), an international organization has indeed been established to administer and allocate rights to explore the deep seabed and exploit its mineral deposits on behalf of mankind as a whole. Article 156 of UNCLOS establishes the ISA, and Article 157:1 of UNCLOS specifies that it is ‘the organization through which State Parties shall, in accordance with [Part XI], organize and control activities in the Area, particularly with a view to administering the resources of the Area’; ‘activities in the Area’ being defined as ‘all activities of exploration for, and exploitation of, the resources of the Area’ (Article 1:1(3) of UNCLOS).⁵⁵ Before I lay out in more detail the powers of the ISA and the legal construction of the seabed mining regime in the next section, I wish to explain how the disembeddedness of seabed mining and its administration reinforces the exploitation bias of the international law of the seabed.

Deep seabed mining can be characterized as being disembedded in two different ways, both variants of disembeddedness having the effect of promoting the expansion of extraction into the deep sea. First, the activity of deep seabed mining is often presented as socially and ecologically disembedded. While early commentators assumed that seabed mining would take place in depths inimical to life and not cause any externalities,⁵⁶ today’s proponents of seabed mining stress the opportunities that social disembeddedness provides for drafting a mining code from scratch that ensures ‘green mining’ and minimizes environmental harm as compared to land-based mining.⁵⁷ Furthermore, seabed mining corporations need not fear (as much as their land-based competitors) that local resistance movements – threatened by mining projects with displacement and deterioration of their living conditions – will impede mining activities. The depiction of deep seabed mining as socially and ecologically disembedded may be unmasked as fiction. In particular, its presentation as ecologically disembedded is increasingly under revision as knowledge concerning oceanic ecosystems and endemic species populating the ocean floor and seabed minerals increases.⁵⁸ Nonetheless, from

⁵⁵ The term ‘resources’ here refers only to mineral resources (Art. 133(a) of UNCLOS).

⁵⁶ Cooper, *supra* note 16, at 111, in 1977 makes the point that, unlike fishing, seabed mining did not result in any externalities. The Secretary-General’s report of 1971, *supra* note 47, at para. 32, recognizes the risks of pollution – e.g., from oil spills – not, however, the potential harm to marine biodiversity from extraction itself. Marine biologists, however, already in the 1970s identified ways in which nodule harvesting might harm marine ecosystems. See Amos *et al.*, ‘Environmental Aspects of Nodule Mining’, in G.P. Glasby (ed.), *Marine Manganese Deposits* (1977) 391.

⁵⁷ The Deep Sea Mining Alliance (DSMA), a group of mining enterprises and research institutions that represents the interests of the industry, states in a recent publication: ‘Unlike other human activities, we have the opportunity to define the standards and establish the mechanisms before Deep-Sea Mining starts on a larger scale. ... While the “zero-waste philosophy” is a long-term goal, “green mining” with its minimising production methods remains a realistic challenge. A better environmental footprint than in land-based mining is necessary.’ DSMA, *Our Way Towards the Responsible Exploitation of High-tech Metals. Facts and Challenges of Deep-Sea Mining* (2018), at 16.

⁵⁸ See Vanreusel *et al.*, ‘Threatened by Mining, Polymetallic nodules are Required to Preserve Abyssal Epifauna’, 6 *Scientific Reports* (2016) 26808. On the increasing ecological awareness, also on part of the ISA, see Mickelson, *supra* note 7 and on social and ecological disembeddedness as a myth, see Ranganathan, *supra* note 11.

the perspective of mining interests, the remoteness of deep seabed mining sites from localized political struggles and human habitats promises to reduce 'political risk' and the opportunity of mining at a larger scale than within territorial jurisdictions.⁵⁹

Second, the administration of deep seabed mining by the ISA can be characterized as disembedded. The ISA is a disembedded administration in that, unlike national mining authorities, it hardly interacts through formalized procedures with other international institutions and administrations mandated with pursuing potentially conflicting objectives such as workers' safety, environmental protection or the undisturbed operation of submarine cables. The ISA, while having as its primary mandate the administration of deep seabed mining, at the same time, must 'ensure effective protection for the marine environment' as well as human life from harmful effects from seabed mining (Articles 145 and 146 of UNCLOS). While it does interact with international and non-governmental organizations (NGOs) – *inter alia*, by concluding memoranda of understanding and the granting of observer status (Article 169 of UNCLOS) as well as by holding joint events⁶⁰ – these institutions currently have no formal participation rights either in the promulgation of the mining code⁶¹ or in licensing procedures.⁶²

This institutional disembeddedness becomes even more apparent when contrasted with national mining administrations. In Germany, for example, the deep seabed mining law⁶³ designates a state agency for mining, energy and geology as competent to approve applications by enterprises for sponsorship,⁶⁴ while further agencies – namely, the Federal Maritime and Hydrographic Agency and the Federal Environment Agency, participate in the decision-making procedure, and the Federal Ministry for Economic Affairs forwards the application, if approved, to the ISA. The checks and balances that accompany this division of tasks among different government agencies is lacking with respect to the international administration of the deep seabed. The main burden to reconcile economic, social and environmental concerns here falls on the Legal and Technical Commission (LTC), a subsidiary organ of the ISA's Council. The LTC is currently engaged in drafting the mining code so that seabed mining can proceed from mere exploration

⁵⁹ Zalik, 'Trading on the Offshore: Territorialization and the Ocean Grab in the International Seabed', in K. Irvine and G. Fridell, *Beyond Free Trade: Alternative Approaches to Trade, Politics and Power* (2015) 173.

⁶⁰ See International Institute for Sustainable Development, 'ISA-24 Part 2 Final', 25 (168) *Earth Negotiations Bulletin* 19 (listing a workshop jointly hosted with the International Cable Protection Committee and a seminar co-organized with the UN Economic Commission for Africa).

⁶¹ On stakeholder consultation, see section 3.A in this article.

⁶² Improved coordination, particularly with international institutions mandated with environmental protection, was demanded by a number of participants during the ISA's 24th session. At this session, the Netherlands submitted an 'Overview of Existing Measures, Means and Actions Relating to the Protection and Conservation of the Marine Environment in Areas beyond National Jurisdiction' (Doc. ISBA/24/C/15, 31 May 2018), and the Council requested the Legal and Technical Commission, as appropriate, to implement the submission's recommendations (Doc. ISBA/24/C/22, 23 July 2018, para. 5), which include one 'to use the information provided by the overview, as appropriate, when considering an application for the approval for a plan of work for exploration (and future exploitation)'.

⁶³ Gesetz zur Regelung des Meeresbodenbergbaus of 6 June 1995 (BGBl. I, at 778, 782), last amended on 18 July 2016 (BGBl. I, at 1666).

⁶⁴ Enterprises that seek a seabed mining license from the ISA must have a state sponsor. See section 2.A in this article.

to exploitation. Further functions of the LTC include the review of applications for exploration and exploitation rights, the supervision of exploration and mining activities as well as the assessment of the environmental impact of such activities (Article 165 of UNCLOS). The LTC currently consists of 30 members who are nominated by the state parties and elected by the Council (Article 163:2 of UNCLOS) and who shall have ‘appropriate qualifications in the area of competence of [the] Commission’ (Article 163:3 of UNCLOS). A recurring critique of the LTC is, apart from its lack of transparency, the weak representation of ecological expertise, which does not match its functions in safeguarding the environment.⁶⁵ In 2015, only two of the then 24 members were marine biologists.⁶⁶ The fact that each state can, at a maximum, nominate one member and the higher value that states place on concerns other than environmental protection, may explain the low number of nominations of biologists to the LTC.

2 Legal and Institutional Implementation of CHM: Turning Natural Wealth into Revenue for Redistribution

In the following discussion, I zoom in more closely on the legal and institutional implementation of CHM in UNCLOS as well as the IA to examine how this implementation takes account of the (partly) conflicting objectives pursued by governments. I focus on the allocation of exploration and exploitation rights as well as the provisions concerning benefit sharing and the financial terms of contracts. While we may make sense of UNCLOS – as it was adopted in 1982 – as a political compromise recognizing the different situatedness within the global political economy of newly independent and industrialized states, the modifications that the regime underwent in 1994 with the IA, by contrast, may be understood as an attempt to dissolve political conflict by presenting greater ‘market orientation’⁶⁷ as a win-win situation. The IA can be read as a turn towards individualized benefits to be derived by consumers from economic growth and away from a resource politics that recognizes distribution conflicts between differently situated states or transnational classes.

A Allocation of Exploration and Exploitation Rights: The Parallel System Compromise

One of the G77’s strongly held positions was that mining of the ocean floor’s mineral riches should be conducted by an international mining enterprise (or enterprises).⁶⁸ Mining by a public enterprise that possesses exclusive mining rights and may form

⁶⁵ See D. Johnson *et al.*, Periodic Review of the International Seabed Authority pursuant to UNCLOS Article 154: Interim Report, 15 May 2016 as well as the *Earth Negotiation Bulletin*’s report on the ISA’s 24th Session. International Institute for Sustainable Development, *supra* note 60; see also Mickelson, *supra* note 7.

⁶⁶ ISA Secretariat, Doc. ISBA/21/C/6, 22 May 2015.

⁶⁷ The preamble to the IA notes ‘the political and economic changes, including market-oriented approaches, affecting the implementation of Part XI’. IA, *supra* note 5, rec. 5.

⁶⁸ Mann Borgese, *supra* note 48.

joint ventures with other mining enterprises would have been an immediate way for newly independent states actively to participate in seabed mining and to generate public revenue for redistribution.⁶⁹ Since an international mining enterprise would only be able to effectively engage in mining if it had the technological and financial means to do so, G77 states further insisted on obligatory technology transfers and subsidization. The G77 were successful in that the 1982 text of UNCLOS provided not only for the establishment of an international public mining enterprise as the operating arm of the ISA – the Enterprise (Article 158:2 of UNCLOS) – but also for obligatory technology transfer and financing (Articles 144, 150(c), (d), 170:4 and Annex III, Article 5 of UNCLOS). Yet the industrialized states also got their way in that the Enterprise was not to be the sole mining enterprise allowed to engage in seabed mining but, rather, was to operate alongside other state and private mining enterprises.

The path for compromise had been paved by Henry Kissinger's site-banking proposal. In a policy statement rendered in April 1976, Kissinger had insisted on mining rights for enterprises of individual states.⁷⁰ At the same time, he had signalled a willingness on the part of the USA to accept the establishment of an international mining enterprise and understanding that 'the riches of the sea' should 'not be the exclusive preserve of only the most powerful and technologically advanced nations'.⁷¹ Kissinger's proposal became the basis for UNCLOS' parallel system (variously called site banking or dual system). Under this system, individual enterprises, either state owned or private, can apply for mining licenses under the sponsorship of a state party. In order to obtain a right to explore (and, at a later stage, exploit) minerals of the deep seabed, enterprises must submit to the ISA a plan of work; this plan of work is reviewed by the LTC for whether it meets the legal requirements of UNCLOS and the mining regulations.⁷²

The LTC submits a report with its assessment of the plan of work to the Council. Upon approval by the Council, a contract is concluded between the enterprise (then called a contractor) and the ISA (Article 153:3 and Annex III, Article 6:3 of UNCLOS; Annex, section 1:6 of the IA). While the contract imposes certain obligations on the mining enterprise, it also provides it with legal security. According to Article 153:6 of UNCLOS, contracts concluded between the ISA and enterprises for the exploration and exploitation of seabed minerals shall provide for security of tenure, and Annex III, Article 16 of UNCLOS states that the ISA shall 'accord to the operator the exclusive

⁶⁹ Establishment of national mining enterprises, operating in joint ventures with foreign mining companies was a preferred arrangement of many newly independent resource states. See C. Kirchner *et al.*, *Rohstofferschließungsvorhaben in Entwicklungsländern: Interessenrahmen, Verhandlungsprozess, rechtliche Konzeptionen* (1977), at 351ff; Smith and Wells, 'Mineral Agreements in Developing Countries: Structures and Substance', 69 *American Journal of International Law* (1975) 560.

⁷⁰ Secretary of State H.A. Kissinger, *The Law of the Sea: A Test of International Cooperation*, Address before the Foreign Policy Association, US Council of the International Chamber of Commerce and UN Association of the USA, 8 April 1976.

⁷¹ *Ibid.*, at 8.

⁷² To date, there exist Regulations on Prospecting and Exploration for Polymetallic Nodules (Doc. ISBA/19/C/17, 25 July 2013, Annex); Polymetallic Sulphides (Doc. ISBA/16/A/12/Rev. 1, 15 November 2010, Annex) and Cobalt-Rich Ferromanganese Crusts (Doc. ISBA/18/A/11, 22 October 2012, Annex).

right to explore and exploit the area covered by the plan of work in respect of a specified category of resources and shall ensure that no other entity operates in the same area for a different category of resources in a manner which might interfere with the operations of the operator'. Upon extraction, miners obtain property rights in the minerals (Annex III, Article 1 of UNCLOS).

What was to make the licensing of individual enterprises palatable to newly independent states was the requirement that, in their plans of work, enterprises indicate two mining sites 'of equal estimated commercial value' (Annex III, Article 8 of UNCLOS). Upon approval of the application and conclusion of a mining contract between the ISA and the respective enterprise, one of these sites is reserved for mining by the Enterprise, by developing states, or by enterprises sponsored by developing states. Thus, 'site banking' was to ensure that mining by enterprises from individual states could go ahead while making sure that commercial enterprises or state enterprises from technologically advanced states would not snatch away all of the commercially valuable mining sites to the detriment of the Enterprise or developing states. With respect to the reserved areas, the Enterprise was given the first right to decide whether or not to mine a reserved area (Annex III, Article 9:1 of UNCLOS). Despite access of the Enterprise to reserved areas as well as obligations of technology transfer and financing of the Enterprise, the parallel system has been harshly critiqued as undermining developing states' objective to actively participate in resource extraction. Elisabeth Mann Borgese scathingly called it an 'offering to pay for private profits with public funds', as public funds would have financed the Enterprise in exchange for the right of commercial enterprises to exploit seabed minerals in competition with the Enterprise.⁷³

The significant changes to UNCLOS Part XI made in 1994 by the IA also affect the parallel system. First, the contractual mining rights of individual mining enterprises have been strengthened as the ISA will not be allowed to impose production limitations in order to safeguard the interests of land-based producers.⁷⁴ Second, technology transfer commitments no longer are to form part of contracts concluded with the ISA, and obligations to fund the Enterprise are obsolete (Annex, section 2:3 of the IA). Third, the IA postulates that the Secretariat performs functions of the Enterprise, meaning that the Enterprise with UNCLOS' entry into force was not established as the ISA's operating arm (Annex, section 2:1 of the IA). If the Enterprise is to begin mining operations, it shall do so initially through joint ventures and 'in accordance with sound commercial principles only' (Annex, section 2:2 of the IA). In order for the Enterprise to become operational as a mining enterprise, a Council decision is required (Annex, section 2:2 of the IA).

In 2012, the Canadian seabed-mining corporation, Nautilus Minerals, had submitted a proposal for the exploration of reserved areas in a joint venture with the

⁷³ Mann Borgese, *supra* note 48, at 590.

⁷⁴ UNCLOS, *supra* note 4, Art. 151 and Annex III, Art. 7 deal with production limits and authorizations, yet most of these provisions have been rendered inapplicable and replaced by IA, *supra* note 5, Annex, s. 6. On production policies, see Brown, *supra* note 33, at 123ff.

Enterprise.⁷⁵ The Council, however, concluded that it was premature for the Enterprise to function independently.⁷⁶ At the ISA's 24th session in 2018, endeavours to operationalize the Enterprise gained new momentum. Not only did Poland express interest in a joint venture with the Enterprise,⁷⁷ but the African Group also requested that the Council consider issuing a directive for the independent functioning of the Enterprise and, in the meantime, appoint an interim director-general for the Enterprise so that it may take part in the ongoing negotiations on the mining code as an independent stakeholder. The African Group further expressed the view, supported by the Latin American and the Caribbean States Group, that the exploitation regulations could not be finalized 'without independent inputs from the Enterprise'.⁷⁸

The inactivity of the Enterprise means that developing states cannot actively participate in resource extraction through the Enterprise and also that the Enterprise does not generate any revenue for redistribution to developing states. Developing states that wish to engage in seabed mining need to do so through the sponsorship of state or private mining enterprises. A sponsored enterprise must be incorporated in the sponsoring state (or be effectively controlled by it or its nationals) (Article 153:2(b) of UNCLOS). As long as the Enterprise is not activated, and thus cannot exercise its preferential right of access to reserved areas, enterprises sponsored by developing states enjoy direct access to the reserved areas. The parallel system, however, currently is only fully in place with respect to manganese nodules; the regulations governing the exploration of ferromanganese crusts and polymetallic sulphides foresee that, instead of designating a reserved area, applicants may elect to offer the Enterprise a future equity interest.⁷⁹

B Benefit Sharing and Financial Terms of Contracts: The Oceans as a Source of Revenue

While the objective to actively participate in deep seabed mining through the Enterprise largely has been thwarted by the 1994 IA, the objective to generate public revenue for redistributive purposes awaits legal implementation through the mining code. Whether and how it may be realized can only fully be assessed once regulations

⁷⁵ Doc. ISBA/19/C/4, 20 March 2013. The proposal met with strong opposition, in particular, by developing states, since – if successful – Nautilus would have gained access to eight of the remaining reserved areas.

⁷⁶ Statement of the President of the Council on the Work of the Council during the Nineteenth Session, Doc. ISBA/19/C/18, 24 July 2013, at 4.

⁷⁷ Report of the Secretary-General, Considerations Relating to a Proposal by the Government of Poland for a Possible Joint-Venture Operation with the Enterprise, Doc. ISBA/24/C/12, 25 May 2018.

⁷⁸ Statement by Algeria on Behalf of the African Group, Request for Consideration by the Council of the African Group's Proposal for the Operationalization of the 'Enterprise', 6 July 2018, available at www.isa.org.jm/document/statement-algeria-obo-african-group-1.

⁷⁹ Regulations 16 and 19 of the Regulations on Prospecting and Exploration for Cobalt-Rich Ferromanganese Crusts and for Polymetallic Sulphides, respectively, Doc. ISBA/18/A/11, 22 October 2012, Annex and Doc. ISBA/16/A/12/Rev. 1, 15 November 2010, Annex. To date, all but one of the 11 contractors holding exploration licenses for ferromanganese crusts and polymetallic sulphides have made use of this option. The ISA itself is unsure, however, how the equity interest is to be implemented once contractors proceed to exploitation. See Note by the Secretariat, Doc. ISBA/24/LTC/4, 6 February 2018.

concerning the financial terms of contracts as well as benefit sharing will have been adopted. What is clear, however, is that the law on the Area and CHM, even as modified by the IA, mandate collection and redistribution of revenue by the ISA.

1 *Redistribution through Benefit Sharing*

As indicated above, by designating the deep seabed and its resources as CHM, states also largely have agreed on an obligation to equitably share the benefits from exploitation. This redistributive dimension of CHM finds expression in Article 140:2 of UNCLOS. According to this provision, the ISA ‘shall 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’. During the ongoing work on a mining code, the obligations that seabed mining shall benefit mankind as a whole (Article 140:1 of UNCLOS) and that benefits be shared equitably (Article 140:2 of UNCLOS) have become a focal point, both for actors seeking to promote environmental concerns as well as for contractors pursuing commercial interests. Some critics of deep seabed mining stress that Article 140 of UNCLOS demands a comprehensive analysis of the costs, including environmental costs, and benefits, including benefits from leaving ecosystems intact, of deep seabed mining and that mining may only proceed if such an analysis yields a net positive result. Contractors, by contrast, seek to draw attention to benefits in the form of scientific and technological advances, capacity building, market supply with minerals and cheaper products in order to argue that the benefit-sharing obligation may be met even without the redistribution of financial revenue.

Both views detract from the redistributive objective and, to some extent, ignore the wording and the historical and systematic context of Article 140 of UNCLOS. Article 140:2 of UNCLOS provides for the equitable sharing of financial and other economic benefits. Not only does an interpretation that focuses exclusively on non-fiscal benefits contravene the wording of Article 140:2 of UNCLOS that expressly mentions financial benefits. It also ignores that UNCLOS includes specific provisions that deal with the sharing of scientific and technological benefits (Articles 143, 144, 273 and 274 of UNCLOS; Annex, section 5 of the IA). That Article 140:2 of UNCLOS seeks to address wealth inequality between states is clarified by its reference to Article 160 (2)(f)(i) of UNCLOS, which mandates the ISA to give particular consideration to the needs and interests of developing states.⁸⁰ While a previous version of a benefit-sharing provision had referred to the distribution of financial and other economic benefits among state parties,⁸¹ this specification was omitted in the final version so that states and entities that are not parties, including ‘peoples who have not attained full independence or other self-governing status’ (Article 162:2(o)(i) of UNCLOS), could also be considered as beneficiaries.⁸²

⁸⁰ Cf. Charter of Economic Rights and Duties of States, GA Res. 3281 (XXIX) (1974), Art. 29.

⁸¹ Proposal at Fourth Session (1976), Art. 9.

⁸² Brown, *supra* note 33, at 65ff; UNCLOS, *supra* note 4, Art 140:2 provides for an ‘appropriate mechanism’ for distribution. This has been interpreted to mean that the ISA can establish its own or use existing regional or global mechanisms. See S.N. Nandan, M.W. Lodge and S. Rosenne, *UN Convention on the Law of the Sea 1982: A Commentary* (2002), vol. 6, Art. 140, para. 140.15(b).

Reinterpretations that ignore the redistributive objective of Article 140:2 of UNCLOS, thus lack plausibility. Yet, even though Article 140:2 of UNCLOS must be interpreted as mandating a sharing of financial revenue from seabed mining, the provisions on financing of the ISA diminish the amount that will be available for redistribution. Article 173:2 of UNCLOS provides that revenue from seabed mining must first be used to cover the administrative expenses of the ISA.⁸³ Part of what remains thereafter will be used to meet the obligation to compensate land-based producers (whose interests no longer are protected by production limits) through an economic assistance fund (Article 151:10 of UNCLOS; Annex, section 7:1 of the IA).⁸⁴ The IA affects benefit sharing not only by shifting the focus to compensation of land-based producers,⁸⁵ but also by modifying the provisions on the fiscal terms of contract, which are addressed below. Benefit sharing is further impacted by the institutional changes introduced with the IA – in particular, the strengthening of the voice of industrialized states in the Council (Annex, section 3 of the IA). The Assembly, which is to adopt rules, regulations and procedures on the equitable sharing of benefits, can only do so upon a recommendation of the Council (Article 162:2(o)(i) of UNCLOS).⁸⁶

2 Financial Terms of Contracts

If commercial mining takes off, and as long as the Enterprise is not operational, revenue to the ISA will primarily accrue through payments by contractors. According to Annex III, Article 13:1 of UNCLOS, the ISA shall be guided by the objective of ensuring the ‘optimum revenues for the Authority from the proceeds of commercial production’. Annex III, Article 13 of UNCLOS further provided for a number of payment obligations to be included in the financial terms of mining contracts: first, an application fee to cover the administrative costs that the ISA incurs in processing an application; second, an annual fee that was to ensure effective exploitation and provide revenue to the ISA even before mining would generate proceeds. Finally, the main instrument through which the ISA was to generate revenue were royalties or a combination of royalties and profit shares with Annex III, Article 13 providing for detailed provisions on the calculation of such royalties and profit shares. This set of payments, like the parallel system, was the outcome of a compromise between the G77 states, favouring further upfront fees (in particular a contract bonus fee) as well as a ‘royalty-only’ arrangement, and industrialized states, which were opposed to payment obligations that might disincentivize commercial enterprises from engaging in extraction projects. According to commentators, the compromise was eventually brokered on the basis of a study on the economics of deep seabed mining conducted by the Massachusetts Institute of Technology (MIT). Katz describes it as a true compromise since both camps significantly departed from their own firmly held positions.⁸⁷

⁸³ See also Regulation 5.7 of the ISA’s Financial Regulations.

⁸⁴ Excess funds may also be used to fund the enterprise. UNCLOS, *supra* note 4, Art. 173:2(b).

⁸⁵ Vöneky and Höfelmeier, ‘Art. 140’, in A. Proelss (ed.), *United Nations Convention on the Law of the Sea: A Commentary* (2017), para. 12.

⁸⁶ UNCLOS, *supra* note 4, Art. 161(8)(d); the IA further provides that the Council and the Assembly take into account recommendations of the Finance Committee, IA, *supra* note 5, Annex, s. 9:7(f).

⁸⁷ Katz, *supra* note 46.

The IA significantly modifies parts of this compromise. It maintains the application fee, which is currently set at US \$500,000.⁸⁸ The annual fixed fee, the amount of which is to be determined by the Council, now is only payable by contractors once commercial production begins, and may be credited against other payments due to the ISA (Annex, section 8:1(d) of the IA). The IA abandons the formula for the determination of royalties and profit shares. Instead, it establishes a number of general principles that ‘shall provide the basis for establishing rules, regulations and procedures for financial terms of contracts’ by the ISA (Annex, section 8:1 of the IA). These principles require, *inter alia*, that the system of payments to the Authority be ‘fair both to the contractor and the Authority’ and that ‘the rates of payment shall be within the range of those prevailing in respect of land-based mining of the same or similar minerals in order to avoid giving deep seabed miners an artificial competitive advantage or imposing on them a competitive disadvantage’. Thus, the IA has deferred the question as to how exactly the Authority should share in the financial benefits from mining to the organs of the ISA. As indicated above, the LTC’s role in implementing these treaty provisions through the drafting of regulations and recommending their adoption to the Council is significant. I explain the way in which the LTC currently exercises this role by focusing on the interests of, and incentives to, private mining enterprises below where I discuss the ISA’s work on the payment mechanism.⁸⁹

C Transformation of the Objectives of Deep Seabed Mining

Given the partly conflicting objectives pursued by industrialized and newly independent states, the UNCLOS of 1982 can be read as the outcome of a political compromise. While it admitted commercial seabed mining by individual enterprises, it also provided for the establishment of an international mining enterprise, as well as the technological and financial conditions for its operation. Through the Enterprise, as well as the ISA’s organs, developing states might have taken an active role in shaping the political economy of seabed mining. The payment provisions were such that in case commercial mining would begin – and this, of course, by 1982 was a big ‘if’ – revenues would accrue to the ISA to fund the Enterprise as well as for redistribution.

This picture has changed significantly with the IA, negotiated mainly to bring the USA to ratify UNCLOS. The IA – as evidenced, *inter alia*, by the restrictions on the Enterprise as well as the modifications of the payments provisions – puts a strong emphasis on commercial interests. Instead of understanding it as skewing the political compromise of UNCLOS in favour of industrialized states’ interest in supply security and commercial mining, one may better read it as an attempt at depoliticization. The IA, it may be argued, does not seek to respond to a political conflict between different factions, between newly independent states and industrialized states, between resource-exporting states and resource-importing states, or between transnational

⁸⁸ The IA, *supra* note 5, had halved this fee. Yet, US \$250,000 proved insufficient to process applications and, thus, it was increased again to US \$500,000 in the prospecting and exploration regulations.

⁸⁹ See section 3 in this article.

classes. Rather, it reformulates the regime's objective and presents its 'market orientation' as a win-win situation. According to this reformulation, greater market orientation will ensure that effective exploitation takes place. Once commercial exploitation proceeds – thus, the reformulation may be continued – royalty payments (and possibly the sharing of profits) will generate revenue for redistribution. The reformulation can be taken a step further still. If the objective of revenue generation is replaced with a public interest in economic growth, then commercial and public interests coincide. If commercial activity flourishes, the economy grows and the public (mankind) will win as well (without any redistribution).

Such a reformulation – made possible at the time not only by various factors such as the reigning economic ideology but also by the lowered stakes as states and commercial enterprises had lost interest in seabed mining⁹⁰ – renders support for the understanding of benefits and benefit sharing, presented above and promoted by contractors. This understanding focuses on a wide variety of benefits that may be entered into a cost-benefit calculation to determine the net benefit of seabed mining. Neglecting the redistributive ambitions and global inequalities between states that had informed the benefit-sharing dimension of CHM, it brings individual human beings into focus as consumers, who benefit from a decrease in prices resulting from increased mineral supply. While the door has been opened for such an understanding, what still stands in the way are the legal provisions that require, *inter alia*, 'the participation in revenues by the Authority' (Article 150(d) of UNCLOS); 'optimum revenues for the Authority from the proceeds of commercial production' (Annex III, Article 13:1(a) of UNCLOS) and the equitable sharing of such financial benefits (Article 140:2 of UNCLOS) as effectuation of CHM.

3 CHM's Fiscal Dimension in the Ongoing Design of the Mining Code: 'Making the Most of It'⁹¹

In 2014, the ISA began its work on a mining code for the deep seabed. Commercial, as well as political, actors have been pushing for the completion of this project.⁹² A number of mining enterprises are engaging in prospecting and exploration as well as pilot mining tests and claim to be getting ready to start exploitation. An important part of the mining code will be the concretization of the vague provisions in UNCLOS on the financial terms

⁹⁰ Edwin Egede adds absence of a unified position and lack of finance by African states as reasons for their acceptance of the IA. Egede, *supra* note 15, at 114–119.

⁹¹ 'Making the Most of Deep Seabed Mineral Resources in the Area' is the title of an ISA discussion paper. See ISA, Discussion Paper on the Development and Implementation of a Payment Mechanism in the Area for Consideration by Members of the Authority and All Stakeholders, March 2015, available at www.isa.org.jm/files/documents/EN/WorkingPapers/DiscussionPaper-FinMech.pdf.

⁹² The DeepSea Mining Alliance, e.g., was established as a lobbying platform of the seabed mining industry; the Bundesverband Deutscher Industrie (Organization of German Industry) sees deep seabed mining as an opportunity to reduce import dependency; in 2015, the Group of 7 called on the ISA to continue its work on a mining code. See G7 Leader's Declaration, G7 Summit, 7–8 June 2015.

of contracts and benefit sharing, sometimes designated as the payment mechanism. Arguably, the drafting of a mining code for the deep seabed is one of the most far-reaching contemporary international law-making projects. Its importance may stem less from the imminence of deep seabed mining; even today, the commercial and technological feasibility of large-scale seabed mining is still in doubt. Rather, its importance lies in the fact that the mining code co-constructs a political economy of seabed minerals that determines a great number of distributive questions affecting oceanic species and ecosystems, enterprises, governments, present populations and future generations.

Given the significance of the project in terms of shaping political economy as well as the operationalization of CHM, the law-making process merits close attention. While the mining code formally is to be adopted by the Assembly upon a recommendation of the Council, the LTC (and, potentially, the Finance Committee) plays a significant role in drafting it.⁹³ An important part of the wider law-making process are the preparatory studies, sometimes undertaken by consultants, expert workshops on specific issues, as well as stakeholder consultations. The pursuit of economic growth through minerals extraction in the deep sea coupled with the turn to experts, on the one hand, and to individuals through the stakeholder process, on the other, has the effect of further depoliticizing the exploitation of the seabed and – at least in regard to the payment mechanism – disproportionately gives voice to commercial interests and pays deference to competition and profit expectations. The legislative process, thus, continues in the direction indicated by the IA. It may produce an outcome that can neither be reconciled with the public interest of supply security nor the public interest of revenue generation and, least of all, the objective of reducing global inequality. To support this argument, I briefly present how the ISA's stakeholder process addresses 'anyone with an interest'; how the focus on profit expectations by commercial enterprises is beginning to shape the payment mechanism, and how developing states such as Nauru turn to seabed mining sponsorship in order to share in the fruits of deep seabed mining, thus following the logic of competition and further detracting from the redistributive objective.

A Wide and Varied Stakeholder Engagement

In the process of drafting the mining code, the ISA is seeking input from stakeholders. Curiously, especially when compared to stakeholder participation procedures that seek to identify and give voice to group interests in other settings,⁹⁴ the ISA does not define

⁹³ In this article, I only take account of developments up to (and including) the ISA's 24th session. So far, the Legal and Technical Commission (LTC) has submitted three successive drafts of exploitation regulations, the latest dating from 9 July 2018. See Draft Regulations on Exploitation of Mineral Resources in the Area (Draft Regulations), Doc. ISBA/24/LTC/WP.1/Rev. 1, 9 July 2018. With respect to the fiscal regime, these draft regulations only contain provisions on financial terms of contracts, not, however, on benefit sharing. The Finance Committee still has to begin its work on a benefit-sharing mechanism. IA, *supra* note 5, Annex, s. 9:7. Another issue that has not yet received much attention is the question of how to implement the equity interest offered to the Enterprise in a number of contracts for exploration of poly-metallic sulphides and ferromanganese crusts. See note 79 above.

⁹⁴ See, e.g., the major groups approach by the Commission on Sustainable Development or the representation of labour and industry interests at the Organisation for Economic Co-operation and Development through the Trade Union Advisory Committee and the Business and Industry Advisory Committee, respectively.

the concept of stakeholder. Rather, it formulates its understanding of who counts as a stakeholder for the purposes of drafting a mining code as follows:

For the purposes of this initial survey, the definition of a *stakeholder* is to be considered in its broadest sense. The activities in the Area will occur outside of areas of national jurisdiction. The list of potential stakeholders who have an interest or stake in deep sea mineral exploitation activities will be wide and varied. This survey is intended to be inclusive of all potential stakeholders to cover all potential interests.⁹⁵

In its brief on stakeholder consultation, which includes the passage just cited, the ISA addresses the reader – any reader – invites her to participate and encourages her ‘to forward this document to other persons who you consider may wish to participate’.⁹⁶

The invitation to everyone and to no one in particular is sometimes justified – as in this statement – with the disembeddedness of deep seabed mining, its occurrence in territories unpopulated by human beings and outside areas of national jurisdictions – sometimes with the designation of the seabed and its resources as CHM and thus as belonging to everyone.⁹⁷ Yet this expansive and individualistic understanding initially has not led to the participation of a wide array of actors. Rather, primarily those actors with an immediate commercial interest – namely, the contractors – have voiced their concerns and attempted to impact the law-making process in their favour.⁹⁸ This is particularly true for the consultation on the payment mechanism. A 2015 survey that exclusively addressed the ‘payment mechanism’ generated 13 responses, two from stakeholders designated as private (one of which was a company engaged in the seabed mining business), seven from contractors, one from a government (UK) and three from NGOs (one merely stating that its mandate did not cover responses to a survey of this kind).⁹⁹

This turn to ‘individual actors with interests’ who are ‘out there’ and might give valuable input can be interpreted as a further expression of the depoliticization that characterizes the present seabed regime. While the individualistic stakeholder processes may be regarded as being in line with the market approach favoured by the IA, it might also point to a further development. International law-making projects of the 1990s, including the IA, plausibly could be interpreted as an instantiation of an economic theory that holds that efficiently functioning markets will be welfare enhancing. In the course of the 2007 global financial crisis, policy-makers have increasingly

⁹⁵ ISA, Developing a Regulatory Framework for Mineral Exploitation in the Area. Stakeholder Engagement (2014).

⁹⁶ *Ibid.*, at 3.

⁹⁷ See Report on the Workshop on Enhancing Stakeholder Participation and Transparency in the ISA Process, 16 July 2016, available at www.isa.org.jm/files/documents/EN/Regs/DraftExpl/TransparencyRep.pdf.

⁹⁸ The ISA itself places particular emphasis on contractor input that it holds to be ‘critical to the development of a fair and effective financial regime’. See ISA, *supra* note 91, at 8. The voice of contractors is further enhanced by their inclusion in state delegations at ISA sessions.

⁹⁹ 2015 Payment Mechanism Survey, available at www.isa.org.jm/survey/2015-payment-mechanism-survey. The more recent surveys fare better as concerns the balance of government, commercial and societal input.

departed from such orthodoxy.¹⁰⁰ Yet, if international seabed resource politics is no longer guided by political cleavages between the G77 and high-income states, nor by a coherent economic theory of market perfection, then it might appear justified to ask ‘anyone with an interest’ for their input.¹⁰¹ So far, with respect to the work on the payment mechanism, this has resulted in a strong orientation towards the profit expectations of commercial mining enterprises.

B Profit Expectations as the Guiding Concern

First, it should be stressed that, to date, there is no market for deep seabed minerals such as manganese nodules. For a market to come into existence, it needs to be actively constructed, the mining code being one significant building block. Yet, despite the ISA’s participation in this market-building exercise, the debates on the payment mechanism treat the market (and the economy as such) not as something actively shaped and constituted by law and politics but, rather, as a subject of discovery. Participants in the law-making process underplay their own agency in regard to the form that the political economy of seabed mining eventually may assume. Second, and as a consequence, the work on the payment mechanism so far is predominately informed by profit expectations of the contractors. Third, the increasing concerns about detrimental impacts of seabed mining on the marine ecosystem, combined with deference to contractors’ profit expectations, lead to environmental protection being strengthened at the expense of the objective of redistribution.

1 The Economy as Subject to Discovery

When, after three years of work, the LTC submitted the first working draft for a mining code to stakeholder review, the draft had nothing to say on the question of how royalties or a profit share due to the ISA from contractors should be determined.¹⁰² The most recent draft of 2018 is a bit more specific, yet it still leaves the applicable royalty rate undetermined; it does not provide for profit sharing.¹⁰³ A discussion paper from March 2015 illustrates the difficulties the LTC has encountered in coming up with a proposal on how to implement the fiscal dimension of CHM.¹⁰⁴ Here, the tension between the requirement to optimize proceeds for the Authority as

¹⁰⁰ For an account of changing attitudes of policy-makers in the International Financial Institutions, see D. Rodrik, *The Globalization Paradox: Why Global Markets, States, and Democracy Can’t Coexist* (2012).

¹⁰¹ The ISA is aware of the critique of its stakeholder consultations. See ISA, Developing a Communications and Engagement Strategy for the International Seabed Authority to Ensure Active Stakeholder Participation in the Development of a Minerals Exploitation Code, Discussion Paper no. 3, April 2016 (recommending, *inter alia*, a ‘stakeholder mapping’).

¹⁰² Regulation 24:2 of the first working draft reads: ‘The Royalty shall be calculated as follows: [subject to further elaboration at future payment regime workshop(s)]’. See First Working Draft of the Regulations and Standard Contract Terms on Exploitation for Mineral Resources in the Area, February 2016, available at https://ran-s3.s3.amazonaws.com/isa.org/jm/s3fs-public/documents/EN/Regs/DraftExpl/Draft_ExplReg_SCT.pdf.

¹⁰³ Draft Regulations, *supra* note 93, Table 1.

¹⁰⁴ ISA, *supra* note 91.

formulated in UNCLOS Annex III, Article 13:1 and the (perceived) need to attract investment and technology emerges as a main difficulty. Since the ISA appears determined that mining should start soon and, given the uncertainty how the payment mechanism may affect contractors' willingness to engage in exploitation, the ISA advocates caution. Parameters of the fiscal regime should not be fixed prematurely 'as absolute terms potentially dampen appetite for investment'.¹⁰⁵ Rather, general principles should be formulated to provide investors with legal certainty and incentivize exploitation until the industry has 'demonstrated its commercial viability'.¹⁰⁶ In order to explore contractors' 'appetite' as well as the impact of royalty and profit-sharing options on commercial viability, the Authority expresses an intention to further consult with contractors.¹⁰⁷ While the Authority works under conditions of uncertainty now, it anticipates that in the future, once exploitation is in full swing, 'the real economics of the industry [will] unfold'.¹⁰⁸

It cannot be denied that seabed mining is fraught with uncertainty. Uncertainties abound as to the minerals to be found, their quality, their future usefulness, the impact of seabed mining on the ecosystem of the oceans, and the list could be continued. What is problematic, however, is the notion that an economy of seabed mining unfolds, that it can be observed to unfold, and that on the basis of this observation economic models can be established in order to determine the optimal share of the Authority – a share that does not disincentivize deep seabed mining and that is still fair both to the ISA and contractors as demanded by the IA. This approach misses the opportunity that this law-making process offers for deconstructing notions of competitiveness, commercial viability and value; it also does not take seriously the wide variety of commodity markets or, rather, the impacts of different institutional designs on the political economy of raw material markets.

A comparison of the fiscal regimes of land-based mining (as mandated by the IA) reveals many variations in the (national, regional and international) institutional frameworks of land-based mining that affect revenue generation, including, to name just a few, differences in licensing regimes, taxation, price reporting, subsidization, financial regulation, investment law and trading arrangements.¹⁰⁹ Moreover, the economy of mineral resources is determined by the wider social and political context in which it is embedded. Thus, for example, conditions of mining operations may be significantly affected by social protests; by the suppression of such protests by the

¹⁰⁵ *Ibid.*, at 20.

¹⁰⁶ *Ibid.*, at 7; the current Draft Regulations provide for two different royalty rates for a first and a second period of commercial production. See Draft Regulations, *supra* note 93, Appendix IV on 'royalty rate'.

¹⁰⁷ *Ibid.*, at 8.

¹⁰⁸ *Ibid.*, at 9.

¹⁰⁹ A study commissioned by the ISA not only observes variations that make comparison difficult, but also a trend towards governments seeking to enhance public revenue from mining as well as towards submitting the issue of profit sharing to public debate, an objective pursued by initiatives such as Publish What You Pay or the Extractive Industries Transparency Initiative. See *Developing Financial Terms for Deep Sea Mining Exploitation: Comparable Study of Mining Industry Fiscal Regimes*, February 2014, available at <https://rans3.s3.amazonaws.com/isa.org/jm/s3fs-public/documents/EN/Regs/FinTerms2014.pdf>.

police, military or a mining company's own security forces; by laws that oblige miners to bear the costs they cause to society and the environment, as well as opportunities for externalizing such costs, and by the availability of public or private insurance against so-called political and other risks. This incomplete sketch is merely to indicate that the notion of an 'unfolding economy' is a myth and that it is particularly misplaced in regard to the resource economy that is so strongly intertwined with politics, given that political communities consider natural resources their common heritage.

2 *Profitability as Guidance*

In 2018, researchers from the MIT presented a study on a payment mechanism to the Council, which had been commissioned by the ISA. Their presentation, which in many respects corresponds to the results of three expert workshops conducted previously on the payment mechanism, clarifies how the design of the payment mechanism is likely to become a function of the profit expectations of commercial contractors. The MIT presentation states: 'Investors will only take on project [sic] if discounted future revenues are large enough to provide a return on their investment that is competitive with other investment opportunities.'¹¹⁰ A return accrues to investors if the revenue from the sale of the minerals (discounted because – as is explained – dollars to be obtained in the future are less valuable than dollars held today), minus costs incurred (upfront and operating) for feasibility studies, equipment, on-shore metallurgic plants, energy, labour and so on, leaves investors with a profit. Profit is thus predominately dependent on prices, which in the resource sector are particularly difficult to predict. Since, to date, only pilot mining tests have been conducted, further uncertainty exists with respect to the extraction process itself and what extraction will yield. As a consequence, profits are fraught with uncertainties and risks.

High risk and uncertainty with respect to profits, the presentation continues, means that rates of return for investors also must be high. Given the high risks concerning the realization of profit, investors will only invest and lenders will only lend if the capital investment may yield a high rate of return. In terms of risk (concerning the realization of profits), the MIT researchers rank seabed mining somewhere between land-based mining – where moderately high rates of return ('typically above 15%') are required due to price and geological risk – and highly speculative venture capital investments – which require very high returns ('sometimes in excess of 100%'). Where exactly within this range of above 15 per cent and in excess of 100 per cent seabed mining is located the presentation does not specify. Yet it indicates that profit expectations would need to lie significantly above 15 per cent for commercial seabed mining to occur. Curiously, no account is taken of the supposedly cost-reducing effect of the remoteness of deep seabed mining and the advantages of scale it offers. On the basis of the expected rate of return for seabed mining, it may then be determined how much of their revenue deep seabed miners have to share with the ISA: 'Knowing the

¹¹⁰ The slides of the two MIT presentations held at the ISA's 24th session are available at www.isa.org.jm/document/mit-presentation-council and www.isa.org.jm/document/mit-presentation-council-july.

rate of return required by investors, revenue sharing mechanism rates can be calculated.' The revenue-sharing mechanism rates (i.e. the royalty rates), in turn, will determine the financial dimension of CHM. Thus, the monetary value of CHM becomes a variable dependent on the profit expectations of investors.

While UNCLOS provides for royalties or a combination of royalties and profit shares, the current draft expresses the LTC's preference for a royalties-only system.¹¹¹ Typically, two types of royalty are discussed. One is a quantity-based royalty; the other is a value-based royalty. A preference lies with the latter as it takes account of price variations: if prices go up, royalties do too; when prices go down, royalties go down as well. The difficulty with this type of royalty, however, is determination of value as well as the so-called point of valuation. Since, currently, nodules are not being bought and sold, nodules do not have a price that could be taken as indicative of value, and since it is expected that the production chain (from nodule harvesting to the sale of the mineral components) will be highly integrated initially, no market price might form for nodules even once extraction begins. Nonetheless, the draft regulations provide for a value-based royalty – yet, one that is based not on the value of the nodules themselves but, rather, on the value of their metal components.¹¹²

A disadvantage of a royalties-only system is that it does not translate increases in profit that are due to reduced costs and, thus, independent from price increases into higher revenue. Moreover, it does not allow the ISA to capture so-called windfall profits (due to extreme price hikes) that, according to some development economists, should be taxed at nearly 100 per cent.¹¹³ A profit-share component in the payment mechanism would remedy this shortcoming. The reasons why the current draft does not provide for one are based on the difficulties in administering profit shares and their susceptibility for circumvention. The IA demands that the 'system should not be complicated and should not impose major administrative costs on the Authority or on a contractor' (Annex, section 8:1(c) of the IA). At one workshop, it was stated that profit sharing required a degree of transparency that contractors could not be expected to provide.¹¹⁴ With respect to the administrative difficulties disembodiedness again comes into play (in its institutional dimension): the institutionally disembodied ISA does not have the means, as national administrations might have, to implement

¹¹¹ Draft Regulations, *supra* note 93, Regulation 62.

¹¹² Mineral value(s) is defined as 'the assumed gross value(s) ... calculated as the product of [the mineral] Average Listed Price and Average Grade' and valuation point as 'the point of first sale or transfer of the mineral-bearing ore by delivery onto a vessel transporting the ore from the Contract Area'. Draft Regulations, *supra* note 93, Appendix IV. The economic model and the royalty provisions based on this model, so far only take account of polymetallic nodules, not the other mineral compounds.

¹¹³ P. Collier, *The Plundered Planet: Why We Must – and How We Can – Manage Nature for Global Prosperity* (2010), at 88.

¹¹⁴ Report on the Workshop on the Draft Regulations for the Exploitation of Mineral Resources in the Area: Policy, Legal and Institutional Considerations (Report on the Workshop), 12–13 February 2018, available at <https://ran-s3.s3.amazonaws.com/isa.org.jm/s3fs-public/documents/EN/Regs/2018/RegsWShop.pdf>.

and enforce a profit-sharing mechanism – for example, through a separate supervisory agency or department.¹¹⁵

If the expert advice from MIT was followed, the payment mechanism would be determined by considerations of competitiveness and profitability.¹¹⁶ Profitability puts a ceiling on the share that can be demanded by the ISA – so as not to diminish the ‘required rate of return’. Yet the ISA may not share in ‘excess profitability’ since a profit share is deemed too complicated and burdensome to administer. This reasoning once more clarifies how sight is being lost during the process of drafting the mining code of the economy and market-shaping function of law. As indicated above, price formation – a central issue in the MIT researchers’ presentation – is not independent of the legal framework for trading mineral resources. Thus, if one were to probe deeper, one could reveal the different ways in which costs, risks, values and profits are dependent on legal norms and institutions.

The concept of value could also be questioned. The main reference point for the discussions on royalties currently is market value – that is, price – with the difficulties mentioned above. While these difficulties on the part of the ISA have prompted a ‘wait-and-see how the economy unfolds’ approach, one might also think about other ways to determine value. Value to a mining enterprise may not merely lie in profits generated from mineral sales; a point that was raised in relation to state enterprises during the expert workshops.¹¹⁷ Of value may also be the generation of minerals needed in downstream production.¹¹⁸ An even more fundamental reconsideration of value would have the further advantage of closing the increasing gap between value to commercial enterprises as measured in profit, on the one hand, and value to human beings, populations and future generations as the designated beneficiaries of CHM, on the other.¹¹⁹

¹¹⁵ Some argue that a future mining inspectorate might enable the ISA ‘to fully audit activities and therefore calculate incomes and costs adequately to properly administer the profit-share component’. See Institute for Advanced Sustainability Studies (IASS) and Federal Environment Agency (UBA), ‘A Benefit Sharing Mechanism Appropriate for the Common Heritage of Mankind’, Summary of the Expert Workshop at the IASS, Potsdam, 26–29 November 2018, at 13, available at www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-02-07_fb_workshop-tiefseebergbau.pdf.

¹¹⁶ The MIT model and presentations have not gone uncriticized; critique was voiced particularly strongly by the African Group and also by the German delegation demanding that alternative models be considered as well. See Statement by Algeria on behalf of the African Group: Request for Consideration by the Council of the African Group’s Proposal on the Economic Model/Payment Regime and Other Financial Matters in the Draft Exploitation Regulations under Review, 5 March 2018, available at www.isa.org.jm/document/statement-algeria-obo-african-group-2; Statement by the German Delegation at the 24th Session, 20 July 2018, available at www.isa.org.jm/document/statement-germany. In the meantime, an ad hoc working group of the Council with respect to the development and negotiation of the financial terms of contracts has been established.

¹¹⁷ Report on the Workshop on Mineral Exploitation in the Area, Singapore, 16–17 June 2015, available at www.isa.org.jm/legal-instruments/ongoing-development-regulations-exploitation-mineral-resources-area.

¹¹⁸ The assumption that resource extraction merely responds to demands for raw materials in production has been called into question in particular in the course of the financial crisis. See, e.g., UN Conference on Trade and Development, *Price Formation in Financialized Commodity Markets: The Role of Information*, June 2011.

¹¹⁹ For a proposal to use regeneration time as a measure of value, see Ruzzene, ‘Forms of Money Power and Measure of Economic Value: Time Based Credit for Care and Commons Economies’, 22 *International Journal of Community Currency Research* (2018) 39.

3 Strengthening Environmental Protection at the Expense of Redistribution

Not only do the benefits from CHM that are to be shared (according to Article 140:2 of UNCLOS) become dependent on the profit expectations of commercial miners. Moreover, the increasing realization that the marine ecosystem is in need of protection from harmful impacts of seabed mining further detracts from the objective of redistribution. As awareness of these potential impacts rises, environmental risks and costs figure as additional factors in the calculation of investor profits. Institutions such as environmental bonds and an environmental liability fund¹²⁰ most likely will impose additional costs on contractors that diminish the profits they can expect from deep seabed mining. Thus, they affect the royalty rates that are considered feasible (so as not to deter investors by undercutting their expected rate of return). As a result, environmental safeguards directly reduce the share accruing to the ISA for redistribution.

As indicated above, redistribution is being called into question even more fundamentally through reinterpretations of Article 140 of UNCLOS. Contractors attempt to delink the concept of CHM from the payment regime, stating, for example, that UNCLOS did not require 'returns to the CHM' or 'compensation to the CHM'.¹²¹ Advocates for the environment who propose comprehensive cost-benefit analyses on the basis of Article 140 of UNCLOS reduce redistribution and environmental protection alike to fungible (and monetized) items in the calculation of net benefits.¹²²

C Developing States Seeking to Join in the Profits from Seabed Mining by Becoming Sponsoring States

Given the frustrations of the redistributive objective, it is not surprising that developing states seek to partake more directly in the profits from seabed mining by becoming sponsoring states. This development is best understood when regarded in the context of political initiatives that turn to the oceans in the endeavour to revive economic growth rates and advocate the economic exploitation of the oceans as a path to economic prosperity for developing states. While Third World solidarity during UNCLOS negotiations in the 1970s had helped to forge strong redistributive elements of the seabed-mining regime, the transformations that the regime is undergoing are promoting a further integration of developing states into an economic order that is characterized by competition and has all but lost its redistributive ambitions.

¹²⁰ Draft Regulations, *supra* note 93, Regulation 52 provides for the establishment of an Environmental Liability Trust Fund. The Seabed Disputes Chamber of the International Tribunal for the Law of the Sea had suggested an environment liability fund in order to close what it saw as a 'liability gap' in the law of seabed mining. See Seabed Disputes Chamber, *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, Advisory Opinion, 1 February 2011, para. 205; ISA, *Enforcement and Liability Challenges for Environmental Regulation of Deep Seabed Mining*, Discussion Paper no. 4, June 2016.

¹²¹ See Report on the Workshop, *supra* note 114, at 13.

¹²² Proposals for cost-benefit analyses, taking into account ecological value, were discussed at the international Expert Workshop at the IASS. IASS and UBA, *supra* note 115. For a convincing argument that CHM cannot be reduced to benefit sharing and that it should be interpreted as integrating redistribution (international solidarity) and ecological preservation (intergenerational solidarity), see Tladi, *supra* note 7.

When states, the European Union (EU) and international organizations are turning once more in recent years to deep seabed mining, the focus is not on the oceans as a source of riches to be equitably shared, but rather on the ocean's growth potential. The EU Commission is promoting economic exploitation of the oceans under its Blue Growth Initiative, which detects growth potential in five 'focus areas', one of them being seabed mineral resources.¹²³ The policy handbook of the United Nations Economic Commission for Africa on Africa's Blue Economy states: 'If fully exploited and well managed, Africa's Blue Economy can constitute a major source of wealth and catapult the continent's fortunes',¹²⁴ and the African Union is promoting a Blue Economy, as the 'New Frontier of African Renaissance'.¹²⁵

Nauru is one of four small Pacific island states that have used the opportunity offered by the parallel system to become sponsoring states. Because of the preferential access to reserved areas that developing states enjoy, they become attractive sponsoring states to commercial mining enterprises. A potential further asset, in the eyes of a commercial mining enterprise, may be the reduced costs of operating under the sponsorship of a developing state. On 10 April 2008, Nauru Ocean Resources Incorporated (NORI), then a subsidiary of the Canadian corporation Nautilus Minerals, submitted an application to the ISA – sponsored by the Republic of Nauru where NORI is registered – for approval of a plan of work for exploration.¹²⁶ The application concerned a reserved area of 74,830 square kilometres that had been designated in the joint application for an exploration license by the German Federal Institute for Geosciences and Natural Resources, Yuzhmorgeologiya and the Interoceanmetal Joint Organization.¹²⁷ The Council eventually approved the application,¹²⁸ and NORI and the ISA concluded a contract taking effect on 22 July 2011.

¹²³ Information on the Blue Growth Initiative, available at https://ec.europa.eu/maritimeaffairs/policy/blue_growth_en.

¹²⁴ United Nations Economic Commission for Africa, *Africa's Blue Economy: A Policy Handbook* (2016), at x.

¹²⁵ Nkosazana Dlamini Zuma, Chairperson of the African Union Commission, Key Note Address: Launch of the 2015–2025 Decade of African Seas and Oceans and the Celebration of the African Day of the Seas and Oceans, 25 July 2015.

¹²⁶ Nauru Ocean Resources, Application for Approval of a Plan of Work for Exploration, Doc. ISBA/14/LTC/L. 2, 21 April 2008.

¹²⁷ Legal and Technical Commission, Report and Recommendations to the Council of the International Seabed Authority Relating to an Application for the Approval of a Plan of Work for Exploration by Nauru Ocean Resources, Doc. ISBA/17/C/9, 11 July 2011.

¹²⁸ Council, Decision Relating to a Request for Approval of a Plan of Work for Exploration for Polymetallic Nodules Submitted by Nauru Ocean Resources Inc., Doc. ISBA/17/C/14, 19 July 2011. Other Pacific island states – namely, Tonga, Kiribati and the Cook Islands – also sponsored successful applications for exploration licenses in reserved areas. See Council, Decision Relating to a Request for Approval of a Plan of Work for Exploration for Polymetallic Nodules Submitted by Tonga Offshore Mining Limited, Doc. ISBA/17/C/15, 19 July 2011; Council, Decision Relating to a Request for Approval of a Plan of Work for Exploration for Polymetallic Nodules Submitted by Marawa Research and Exploration, Doc. ISBA/18/C/25, 26 July 2012; Council, Decision Relating to a Request for Approval of a Plan of Work for Exploration for Polymetallic Nodules Submitted by the Cook Islands Investment Corporation, Doc. ISBA/20/C/29, 21 July 2014. The other two states who have sponsored applications relating to reserved areas are China and Singapore.

While Nauru's developing state status facilitates NORI's access to exploration (and exploitation) rights, it does not affect Nauru's responsibilities as a sponsoring state. The Seabed Disputes Chamber of the International Tribunal for the Law of the Sea issued an advisory opinion in 2011 that clarifies that developing and developed states have the same obligations and responsibilities when they act as sponsoring states; these include the due diligence obligation 'to ensure compliance by sponsored contractors with the terms of the contract and the obligations set out in the Convention and related instruments'.¹²⁹ At the same time, the Seabed Disputes Chamber recognized the difficulties developing states might incur in complying with their obligations, and proposed as a remedy that they 'receive necessary assistance'.¹³⁰

Assistance was offered to Nauru by the EU, which in 2011 had started collaborating with the members of the Pacific Community in the 'Deep Sea Minerals Project'. The project's objective was formulated as 'helping Pacific Island countries to improve the governance and management of their deep-sea minerals resources in accordance with international law, with particular attention to the protection of the marine environment and securing equitable financial arrangements for Pacific Island countries and their people'.¹³¹ With respect to Nauru, the EU assisted in the drafting of Nauru's International Seabed Minerals Act, which was adopted in October 2015 and aims to 'establish a legal framework for the sponsorship, and for the effective control, by Nauru of contractors to undertake Seabed Mineral Activities'.¹³² Thus, through its sponsorship by Nauru, NORI not only gains access to areas reserved for exploration and exploitation by developing states, but it also is the indirect beneficiary of development assistance by the EU aimed at enabling Nauru to meet its obligations as a sponsoring state.

The International Seabed Minerals Act will determine how Nauru shares in the profits from NORI's seabed mining activities. Yet the prospects are bleak. The Act provides for a sponsorship application fee of merely US \$15,000 and an annual administration fee of US \$20,000 as well as seabed mineral recovery payments to be based on a percentage (yet to be determined) of the latest market value of the metal content of the mined substances. It further establishes a Seabed Minerals Fund that is mandated to manage revenues for the benefit of current and future generations of Nauru.¹³³ Given that, under its mining code, the ISA will also collect royalties as well as the competition among (potential) sponsoring states in attracting seabed-mining companies (which resulted in the favourable conditions for the sponsored mining enterprises), it is unlikely that Nauru will be able to collect significant payments.

¹²⁹ Seabed Disputes Chamber, *supra* note 120, para. 242.

¹³⁰ *Ibid.*, para. 163.

¹³¹ SPC-EU Deep Sea Minerals Project, About the SPC-EU Deep Sea Minerals Project, available at <http://dsm.gsd.spc.int/>.

¹³² International Seabed Minerals Act 2015, available at http://ronlaw.gov.nr/nauru_lpms/index.php/act/view/1150.

¹³³ International Seabed Minerals Bill, Part 7 Fiscal Arrangements.

Not only is it unlikely that Nauru will reap significant revenue from deep seabed mining, but developing state sponsorship may also further affect the political economy and ecology of seabed mining. As developing states, supported in their endeavours by development programmes,¹³⁴ become sponsors of commercial seabed mining, their incentives to support financial redistribution through the ISA wane, since royalties and other payments collected by the ISA reduce the scope for sponsoring states to impose payment obligations of their own. Moreover, the danger exists of a downward competition between states in regard to the imposition of other restrictions – in particular, environmental restrictions – on mining enterprises. The ISA already is subject to severe criticism for its lack of environmental expertise and insufficient implementation of legal safeguards against environmental harm. It is questionable whether sponsoring states can and will make up for an international protection deficit, especially if they seek to generate revenue from deep seabed mining. They encounter a real conflict of interest given their fiscal interest in generating hard currency and their role in safeguarding as sponsoring states the ‘common interest of all States in the proper implementation of the principle of the common heritage of mankind’.¹³⁵

4 Constructing Political Economy with the Law of the Sea

In this article, I have referred to political economy to understand how the legal framework for resource exploitation in the deep sea came about; to read UNCLOS as a compromise between industrialized states seeking access to raw materials and developing states aiming at revenue generation and greater economic equality; to interpret the IA as the outcome of a changed political economy (*inter alia*, through transnational economic law and liberalized capital markets) and to read it as a successful reformulation of the previous distributional conflict into a win-win scenario in which commercial and competitive extraction is presented to benefit all of humanity.

I also have critiqued the current law-making process in the ISA on the basis of the current political economy: a political economy in which states do not formulate public interests in terms of social justice but, rather, one in which governments compete for growth (without attempting to specify the societal benefits to be derived from economic growth); where no one can formulate a coherent concept of politics-economy relations and, therefore, everyone may offer his or her opinion in stakeholder consultations; where the benefits from CHM to humankind become a dependent variable of the profit expectations of commercial investors; and where more of environmental protection means less revenue available for redistribution.

Finally, I have pointed out how the making of a mining code appears as a unique opportunity for international lawyers to recognize that here a political economy is

¹³⁴ The World Bank, in the meantime, has voiced doubts with respect to the potential of deep seabed mining to promote the economic development of Pacific island states. See World Bank, *Pacific Possible: Long-term Economic Opportunities and Challenges for Pacific Island Countries* (2017), at 69ff.

¹³⁵ Seabed Disputes Chamber, *supra* note 120, para. 226.

being co-constructed with law; to question what constitutes value in seabed mining and to offer alternative valuations and procedures for public debate on what might be a 'fair share'. International lawyers should take up the ISA's invitation and make their voices heard. At the same time, the developments and turns that the seabed regime has taken might make us realize the futility of attempting to remedy a situation of global inequality that stems from colonial exploitation by expanding commercial extraction into the global commons.