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I. Introduction

For most of the last decade, the longest and largest United Nations Conference in history has negotiated more than three hundred articles of a treaty covering every aspect of ocean law.¹ At the end of the 1980 Conference session, the head of the United States delegation announced that a treaty would be ready for signature in 1981.² Shortly before the 1981 session, however, the Reagan Administration announced that it would review the United States approach to the Draft Convention on the Law of the Sea ("Draft Treaty" or "Treaty") because of concern that provisions of the Draft Treaty dealing with the mining of the deep seabed beyond national jurisdiction³—the so-called "common heritage of mankind"⁴—were unfavorable to American business interests.⁵ The purpose of this Comment is to propose a method for analyzing whether the provisions of the Draft Treaty applying to

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³ The type of mining currently contemplated is collection of so-called "manganese nodules," which potentially contain large amounts of nickel, copper, cobalt, and manganese. See generally CONGRESSIONAL RESEARCH SERVICE OF THE LIBRARY OF CONGRESS, OCEAN MANGANESE NODULES (Comm. Print 1975) (prepared at the request of Sen. Henry M. Jackson, Chairman, Sen. Comm. on Interior and Insular Affairs, 94th Cong., 1st Sess.).

⁴ Draft Treaty, supra note 1, art. 137(2) ("All rights in the resources of the [deep seabed] are vested in mankind as a whole . . . . These resources are not subject to alienation.") See also G.A. Res. 2749, 25 U.N. GAOR, Supp. (No. 28) 24, U.N. Doc. A/8028, para. 1 (1970) (Declaration of Principles Governing the Sea-Bed and the Ocean Floor and the Subsoil Thereof, beyond the Limits of National Jurisdiction) ("The sea-bed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as the resources of the area, are the common heritage of mankind.")

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private seabed mining companies should be an obstacle to ratification of the entire treaty.

This analysis assumes that the development of a private sector U.S. deep seabed mining industry is the U.S. goal in the deep seabed mining negotiations, and therefore focuses on whether the terms and conditions set out by the Draft Treaty are sufficient to attract potential U.S. seabed mining companies. One perspective from which to address this issue compares the terms and conditions of the Draft Treaty with the terms and conditions of terrestrial mining contracts between multinational hard mineral mining companies and developing countries. If the terms of the Draft Treaty are more burdensome than such mining contracts, then it is fair to assume that seabed mining companies will invest their money elsewhere. But if the terms of the Draft Treaty compensate for the added risk of mining undersea, then it will be fair to say that the Law of the Sea negotiations have accommodated the competing interests of developed and developing countries.

One virtue of the narrow focus of the proposed perspective is that it may mitigate the rancor engendered by the long negotiating process. As one of the major battlegrounds between the "North" (developed countries) and "South" (developing countries) on issues surrounding the "new international economic order," the Law of the Sea Conference has generated much ideological rhetoric. Advocates of every major economic and political system have espoused their causes; the resulting document represents a compromise falling somewhere between the extremes of these divergent systems.

There are those who feel that the provisions of the Draft Treaty applying to private seabed mining companies should preclude ratification of the entire Draft Treaty because those provisions do not comport in all respects with United States economic and political principles. An alternative view, at once pragmatic and sensitive to the pluralism inherent in the new economic order, focuses on the question whether a viable seabed mining industry can be expected to develop under the regime proposed in the Draft Treaty. This Comment adopts the latter


7. See, e.g., Suddenly, Heavy Weather for Talks on Law of the Sea, supra note 5 (remarks by Rep. J. B. Breaux). Much of the dispute has been over acceptable political and economic approaches to exploitation of the deep seabed's resources. E.g., Darman, The Law of the Sea: Rethinking U.S. Interests, 56 Foreign Aff. 373, 387 (1978). ("[T]he direction of the seabed negotiations must be deeply troubling for those who believe that the principles of governance affirmed by American experience are worthy of extension"). The instant approach, by adopting a more functional perspective, obviates the need to address these issues.
approach and compares the Draft Treaty to mining concession agreements between mineral extraction companies and developing countries.

II. The Draft Treaty v. Terrestrial Mining Concession Agreements

Because of the variety of hard mineral mining contracts in the developing world, precise comparisons between individual contracts and the Draft Treaty are beyond the scope of this Comment. The purpose here is to suggest an approach for dealing with the evident tension between the Draft Treaty and prevailing practice. Two contracts from the developing world will serve as illustrations: a model copper mining contract drafted by two American scholars, and a model hard mineral mining contract from Indonesia.

A. Governance

The Draft Treaty provides for a system of governance into which the home governments of multinational mining companies will have much more formal input than they have under the agreements governing mining in developing countries. This difference flows from the "common heritage" concept, which vests rights in the resources of the deep seabed in all mankind, whereas the rights to the resources in developing countries are, of course, vested in those countries. The introductory language in an illustrative hard mineral agreement from Indonesia is a typical expression of the latter principle: "All mineral resources contained in the jurisdictional territories of the Republic of Indonesia, including the offshore areas, are the national wealth of the Indonesian nation."

The unfettered sovereignty that developing countries have over their

9. M. Kusumaatmadja, Survey of Indonesian Economic Law 8 (1974). Indonesia is one of the leaders of the developing countries at the Law of the Sea Conference and is the site of considerable mining of copper and nickel, both of which are found in commercial quantities in manganese nodules. Moreover, many of the prospective investors in deep seabed mining are terrestrial hard mineral mining companies, and, hence, are familiar with prevailing terms in the developing world. See, e.g., Letter from Deepsea Ventures, Inc. to Henry A. Kissinger (Nov. 14, 1974), reprinted in 14 Int'l. Legal Materials 51, 56 (1975) (90% of stock of potential investor in nodule mining held by Tenneco Corp., and outstanding stock options held by steel and other mining enterprises).
10. See note 4 supra.
11. See, e.g., G.A. Res. 1803, 17 U.N. GAOR, Supp. (No. 17) 15, U.N. Doc. A/5217, para. 1 (1962) (permanent sovereignty over natural resources) ("The right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and of the well-being of the people of the State concerned.")
12. M. Kusumaatmadja, supra note 9, at 84.
resources has occasionally resulted in nationalizations, forced contract renegotiations and joint ventures, which multinational mining companies understandably consider undesirable. As one observer has stated with respect to forced renegotiations,

the signing of a concession agreement [with a developing country] is only the invitation to the ball. The dancing starts later, and the participants may find some fast fandangos interspersed in the stately quadrilles . . . [T]he foreign investor may feel at times that he has entered into a contract to make concessions rather than a concession contract.13

Several factors assure western multinational mining companies greater predictability and input in dealing with the proposed International Seabed Authority (the "Authority") than they have encountered in dealing with developing countries. Like the United Nations, the Authority will have two legislative organs, an Assembly in which each country has one vote,14 and a Council with a more limited membership.15 Although the Draft Treaty states that the Assembly "shall be considered the supreme organ of the Authority,"16 it is clear that the Council has important powers which protect the interests of various groups, including those of industrialized countries.

For example, western industrialized countries are guaranteed membership in the Council because they would be a member of two classes of nations which have an absolute right to Council membership: states parties to the Treaty which are among the biggest investors in deep seabed mining17 and states parties which consume more than 2% of the world's consumption of the minerals to be produced from the seabed.18 Furthermore, the voting procedures for the Council require greater than simple majority approval on certain issues, and require a consensus on some of the issues likely to be most important to the industrialized countries.19 "Consensus," which is defined as "the absence of any

14. Draft Treaty, supra note 1, art. 158 (establishes Assembly and Council) and art. 159 (composition, procedure, and voting of Assembly).
15. Id. art. 161 (composition, procedure, and voting of Council).
16. Id. art. 160(1).
17. Id. art. 161(1)(a).
18. Id. art. 161(1)(b).
19. See id. art. 161(7)(b), (c) for questions requiring super-majorities and 161(7)(d) for questions requiring a consensus. These latter questions include the adoption of recommendations made by the Economic Planning Commission on measures to protect developing countries from reductions in mineral prices caused by seabed mining; recommendations to the Assembly on rules for states to share benefits and make contributions to the Authority; and rules for the operation of the Authority and amendments to Part XI of the Treaty dealing with the establishment of the Authority. Id. art. 162(2)(1)(n).
formal objection,"20 comes very close to providing Council members with a veto. The consensus requirement should adequately assure that companies from industrialized countries will not be discriminated against in access to the deep seabed.21

The assurance of access would work in the following manner. An applicant wishing to mine the deep seabed would apply to the Legal and Technical Commission of the International Seabed Authority. This body is made up of qualified technical experts,22 whose job it would be to make a written determination of whether an applicant is qualified on the technical and financial grounds specifically set out in Annex III of the Treaty.23 Once the Legal and Technical Commission approves an application, it is deemed to be approved by the Council unless disapproved by a consensus of the Council.24 Since one western industrialized country can prevent a consensus, access to the deep seabed for companies from western countries is virtually assured. If an unsuccessful applicant feels aggrieved, it has recourse to the dispute settlement mechanisms set up by the Draft Treaty.25

Other significant powers of the Council include the power to propose to the Assembly a list of candidates for the office of Secretary General of the Authority,26 the power to adopt provisional rules and regulations for seabed mining,27 and the power to establish appropriate mechanisms for directing and supervising a staff of inspectors to assure that mining companies comply with their contracts and with the rules and regulations of the International Seabed Authority.28 Home countries of mining companies have no analogous powers in the countries where their companies invest.

The substantial influence, described above, that the home countries of multinational mining companies will have upon the governance of the Authority will also help to reduce incidents—frequently reported in developing countries29—of corruption. Doing business in a corrupt environment imposes additional costs on companies as well as uncertain-

20. Id. art. 161(7)(e).
21. Guaranteed access to deep seabed hard minerals has been an American concern since the Kissinger era. See Suddenly, Heavy Weather for Talks on Law of the Sea, supra note 5.
22. Draft Treaty, supra note 1, art. 165(1).
23. Id. art. 165.
24. Id. art. 162(2)(j).
25. Id. art. 187(d). See part B, infra, on dispute settlement.
26. Id. art. 162(2)(b).
27. Id. art. 162(2)(n)(ii).
28. Id. art. 162(2)(y).
29. See, e.g., Andelman, Coping in Indonesia, N.Y. Times, Feb. 20, 1977, § 3 (Business), at 1, col. 1.
ties regarding their ability to compete solely on the basis of merit. If they do compete successfully, they cannot be certain that satisfactory performance will enable them to maintain the business they have procured. In extreme cases, multinational corporation executives find themselves facing criminal charges that withstand legal challenges only because the judge is corrupt.

Although it cannot be predicted that the proposed Authority will be completely free of corruption, the fact is that there is no evidence of widespread corruption in international organizations. If, as is likely, the system of governance of the Authority is not corrupt, that fact would give it a tremendous advantage over the bureaucracies in some developing countries.

From the above description, it appears that, under the Draft Treaty, multinational hard mineral mining companies would be doing business under a noncorrupt regime into which their "home" governments would have much more input than they have into the mining regimes in developing countries. In addition, while dealing with a large international bureaucracy may not be a prospect that multinational mining companies relish, it is virtually certain that this bureaucracy will not confront the companies with the kind of coercion they sometimes encounter in the developing world.

B. Dispute Settlement

The Draft Treaty provides seabed mining companies with a choice between two dispute settlement alternatives: adjudication by an inter-

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30. For American multinational companies the problem is exacerbated because they not only have to deal with corruption in developing countries, but they also can be prosecuted in the United States under the Foreign Corrupt Practices Act of 1977, 15 U.S.C. §§ 78dd-1, dd-2 (Supp. 1978), for activity abroad. For a discussion of the Act's significance, see W. Reisman, Folded Lies (1979).

31. For example, a U.S. citizen who was president of the Indonesian subsidiary of a multinational mining company in the mid-1970's faced such charges as the result of the dismissal of an employee. See Andelman, supra note 29.

32. Id.

33. Indeed, the least stable aspect of the Draft Treaty is Article 155, which provides that a conference to review the Treaty be convened fifteen years after seabed mining commences. If that conference does not come to a consensus within five years on how the Treaty should be changed, if at all, then a vote of two-thirds of the states parties can require that amendments to the Treaty be submitted for ratification to the states parties. If two-thirds of the states parties ratify such amendments, they are adopted, but they do not affect already existing contracts.

This unstable aspect of the Treaty is not without its equivalent in the developing countries, however. The illustrative contract in D. Smith & L. Wells, Jr., supra note 8, at 252-53, institutionalizes renegotiation of the contract at five-year intervals, a provision that merely recognizes the historical fact that renegotiation is in any event periodically going to be demanded by the host country.
national tribunal or commercial arbitration. In developing countries, the choice is usually between domestic courts or commercial arbitration, but these alternatives are sometimes illusory. Indeed, in cases of nationalization or forced renegotiation, these alternatives have proved totally unsatisfactory to multinational companies.

Typical contractual provisions for dispute settlement in developing countries provide that the law of the host country will govern the contract but that international arbitration may be substituted by the parties. Enforcement of international arbitration awards may be less than straightforward, however, as indicated by the Indonesian experience.

Indonesian courts are often reluctant to recognize judgments of foreign courts and they may be no more willing to enforce the awards of foreign or international arbitral tribunals. Arbitral tribunals provide an alternative of limited value when there is no practical alternative to enforcement through local Indonesian courts. It is not even clear whether Indonesia is a party to the Geneva Convention on the Execution of Foreign Arbitral Awards of 1927, or to what extent Indonesia would assert sovereign immunity as a defense to awards of the International Centre for the Settlement of Investment Disputes.

Regardless of the technical aspects of the law, political considerations may dominate. As an American lawyer who counsels American clients with Indonesian interests has stated:

[Since the realities of doing business in Indonesia are so different from the niceties of formal legislation, and since dispute resolution is bound up with political risks and considerations, it may make little sense to give much weight to the relatively esoteric consideration of whether Indonesia's formal legal system will respond sympathetically to foreign adjudica-

34. See, e.g., M. Kusumaatmadja, supra note 9, at 105-07, 112; D. Smith & L. Wells, Jr., supra note 8, at 251-52. But see Schanze, Mining Agreement in Developing Countries, 12 J. World Trade L. 135, 170 (1978) (“Some developing nations, especially South American countries, try to avoid any international arbitration commitments, viewing them as impositions on their sovereignty and requiring investors to submit exclusively to local courts and to waive any diplomatic protection (‘Calvo Doctrine’).”)


36. Id. at 104-05. (“[B]efore a foreign arbitral award can be enforced in Indonesia under the convention, the party seeking enforcement must obtain the approval of the chairman of the district court in the district where the award is to be executed.” (Footnote omitted.))

37. Id. at 102-04. “Although there is some question under international law as to whether a successor state is subject to the treaty obligations of its parent state, with respect to Indonesia the better authority would seem to be that Netherlands Indies treaties which have not been repudiated are still valid, and that therefore the Geneva Convention remains in force.” Id. at 103-04. Indonesia is not a party to the 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards. 9 U.S.C. § 201 et seq. (1970).

38. Hornick, supra note 35, at 104-06.
tion. Once a commercial relationship in Indonesia backed only by Indonesian assets has deteriorated to the point of default and litigation, it will probably be difficult to obtain satisfaction irrespective of where the adjudication is held or what law governs—and to the extent it is not, it will be because of factors largely unrelated to the choice of law and forum.39

Such an assessment is not likely to apply to the provisions in the Draft Treaty for the settlement of disputes related to deep seabed mining. These provisions are a part of the complex set of dispute settlement mechanisms for the Treaty as a whole. Under the Draft Treaty, twenty-one members of an International Tribunal for the Law of the Sea are chosen by the states parties to the treaty on a one-nation-one-vote basis.40 The Draft Treaty provides that no two members of the Tribunal may be nationals of the same state and that there shall be no fewer than three members from each geographical group established by the General Assembly of the United Nations.41

The twenty-one members of the International Tribunal for the Law of the Sea elect eleven from their number to compose the Seabed Disputes Chamber.42 The Draft Treaty provides that selection for the Chamber must assure the representation of all the principal legal systems of the world and equitable geographical distribution among the geographical groups established by the General Assembly of the United Nations.43 The Seabed Disputes Chamber in turn forms an ad hoc chamber of three of its members to deal with any particular dispute, subject to approval of the parties to the dispute. If the parties

39. Id. at 107. This assessment is echoed by an American lawyer involved in an iron ore concession agreement in Liberia:
The negotiations and discussions of . . . matters . . . have all taken place under the umbrella of the basic Concession Agreement and are governed in the last analysis by the spirit in which that agreement was negotiated. Actual textual reference to the Concession Agreement is, however, relatively rare. A great deal more depends on the working relationships between the foreign investors and the representatives of the Government at all levels; on the ability of the foreign investors to remain in communication with those representatives, to understand and appreciate their needs and concerns; and on the maintenance at the same time of the integrity of the basic commercial enterprise without which the Concession becomes valueless to all parties. These goals cannot be achieved simply by pointing to the small print in the Concession Agreement or by resort to the provision for arbitration of disputes. Whatever differences of opinion may arise must be resolved between the parties before they ever reach the arbitration or litigation stage.

Powell, supra note 13, at 95.

40. Draft Treaty, supra note 1, Annex VI, art. 4.

41. Id. Annex VI, art. 3. These geographical groups are the African Group, the Arab Group, the Asian Group, the Eastern European Group, the Latin American Group, and the Western European and Others Group. The latter Group includes the United States.

42. Id. Annex VI, art. 36.

43. Id.
cannot agree on the composition of this ad hoc panel, then each party appoints one member of the panel from the Seabed Disputes Chamber, and these two members in turn appoint a third or, if the two members cannot agree, the third is appointed by the president of the Seabed Disputes Chamber.\textsuperscript{44}

Seabed mining companies are not limited to the use of ad hoc chambers in the settlement of their disputes. If the companies wish, they may submit their disputes to binding commercial arbitration.\textsuperscript{45} However, if the arbitral tribunal decides that an interpretation of the Law of the Sea Convention is necessary to its decision, it must then refer the issue to the Seabed Disputes Chamber.\textsuperscript{46}

While the complex dispute settlement mechanism of the Draft Treaty does not assure satisfactory decisions, the international context and choice of forum are factors not present in many developing countries and help to assure fairness. Moreover, the international context obviates the need for a separate procedure—often necessary in developing countries—for the recognition of foreign judgments.

C. Financial Arrangements

The financial arrangements in the Draft Treaty for seabed mining companies are not markedly different from those for companies mining the same minerals\textsuperscript{47} in developing countries. Because there has never been mining of the deep seabed on a commercial scale, the Law of the Sea Conference has based the financial arrangements of the Draft Treaty on a model of the future seabed mining industry created by a team at the Massachusetts Institute of Technology.\textsuperscript{48} That model, which has been used as a basis for negotiations at the conference by developed and developing countries alike, provides a series of different internal rates of return based on various assumptions. The average internal rate of return based on this model is about 15%.

The Treaty sets up four charges to mining companies: an application processing fee; a fixed annual fee; a production charge; and a share of net proceeds.\textsuperscript{49} The processing fee is $500,000 or the actual cost to the

\textsuperscript{44} Id. Annex VI, art. 37. None of the members of the ad hoc chamber may be a national or in the service of any of the parties to the dispute. Regardless of which option—adjudication in the Tribunal or commercial arbitration—is selected, the parties may also agree to a decision \textit{ex aequo et bono}. Id. art. 293(2).

\textsuperscript{45} Id. art. 188(2)(a).

\textsuperscript{46} Id. art. 188(2)(b).

\textsuperscript{47} See note 3 supra.


\textsuperscript{49} At the option of the producer, this fourth charge may be eliminated in consideration
International Seabed Authority for processing the application, which-ever is less. Either amount would be a small percentage of the estimated billion dollar investment that it will take to start a seabed mining operation. Although called by a different name, this payment is comparable in kind and magnitude to “premium payments” made to developing countries in return for the grant of the concession. The Draft Treaty requires a fixed annual fee of $1 million per year. The contractor makes this payment to the International Seabed Authority as of the effective date of the contract, but payment of this fee may be postponed if commercial operations are postponed. Once commercial operations begin, mining companies need not pay the annual fee if the production charge that they pay to the International Seabed Authority exceeds $1 million. The fixed annual fee is, therefore, essentially equivalent to a security deposit or a bond for performance to insure that the mining company rapidly develops its operation. Such security deposits or performance bonds are common in mining contracts in developing countries.

The Draft Treaty also provides for a production charge of 2% for the time before the mining company has recovered its initial investment and a charge of 4% thereafter. This charge is generally less burdensome than the royalties that developing countries charge to mining companies.

The share of net proceeds that the Draft Treaty requires mining companies to pay the International Seabed Authority is graduated according to return on investment. During the period before the mining company has recovered its initial investment, it must pay the International Seabed Authority 35% of its net proceeds attributable to deep seabed mining if its return on investment is less than 10%, 42.5% of these net proceeds if its return on investment is between 10% and 20%, of a higher annual production charge. Draft Treaty, supra note 1, art. 13(5). This provision was designed for socialist countries. Katz, supra note 6, at 218. The following textual discussion will be limited to the option of paying a production charge and a share of net proceeds.

50. Draft Treaty, supra note 1, Annex III, art. 13(2).
51. See D. SMITH & L. WELLS, JR., supra note 8, at 234 (illustrative agreement).
52. Draft Treaty, supra note 1, Annex III, art. 13(3).
53. Id.
54. Id.
55. See M. KUSUMAATMADIA, supra note 9, at 90; D. SMITH & L. WELLS, JR., supra note 8, at 62, 234 (rates for various metals in selected countries); Schanze, supra note 34, at 158 (royalty rates vary from one to 15% of production value or gross revenues).
and 50% of these net proceeds if its return on investment is greater than 20%. Once the mining company has recovered its cost of investment, it must pay to the International Seabed Authority 40% of its net proceeds attributable to deep seabed mining if its return on investment is between zero and 10%, 50% of these net proceeds on a return between 10% and 20%, and 70% of these net proceeds on a return greater than 20%.58

These shares of net proceeds are not dissimilar to the income flow to developing countries from mining agreements, which usually include taxes additional to those mentioned above. In Indonesia, for example, the tax rate on mining companies is 35% of taxable income for the first 10 years of operation and 45% thereafter.59 In addition to this corporation tax, the mining company must bear property tax, dead rent, and stamp duties.60

On the whole, then, the financing fees the Authority is empowered to charge mining concerns are quite similar to those appearing in the hard mineral contracts that multinational mining companies have signed with developing countries. This aspect of the Draft Treaty should not, therefore, be an obstacle to ratification.61

D. Technology Transfer and Related Concepts

Because the developing countries negotiating the Law of the Sea Treaty want more than mere revenues from the common heritage concept,62 they have insisted on a "parallel system" of mining under which the international community would be able to develop a self-sustaining deep seabed mining company at the same time that private companies are mining the seabed. To accomplish this, the Draft Treaty contains provisions for the transfer of technology from seabed mining companies to the Authority,63 for the transfer of explored mine sites from seabed mining companies to the Authority,64 and for the training by the seabed mining companies of personnel from developing countries.65

58. Draft Treaty, supra note 1, Annex III, art. 13(6).
59. See M. Kusumaatmadja, supra note 9, at 98, 114.
60. Id. at 96, 114.
61. For a more detailed analysis of the financial arrangements for deep seabed mining companies in the Draft Treaty, see Katz, supra note 6.
62. See, e.g., Silberstein, Proprietary Protection for Deepsea Mining Technology in Return for Technology Transfer, 60 J. Pat. Off. Soc'y 135, 139 (1978) (developing countries "now realize that monetary payments alone can never adequately reimburse them for the exploitation of their non-renewable natural resources" (footnote omitted)).
63. Draft Treaty, supra note 1, Annex III, art. 5. Cf. id. arts. 144, 266, 269, 273 (secondary references to transfer of technology).
64. Draft Treaty, supra note 1, Annex III, art. 8.
65. Id. Annex III, art. 15. See Draft Treaty, supra note 1, art. 143(3)(6)(ii) (marine sci-
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These provisions have been among the most controversial in the United States domestic debate over the Draft Treaty. These requirements, however, may be no more burdensome than certain non-business expenses associated with hard mineral extraction in developing countries, where contracts often require more of mining companies than merely profit-sharing or the payment of fees.

1. The Draft Treaty

The Draft Treaty provides for a limited transfer of seabed mining technology, which it defines as "the specialized equipment and technical know-how, including manuals, designs, operating instructions, training and technical advice and assistance, necessary to assemble, maintain and operate a viable system and the legal right to use these items for that purpose on a non-exclusive basis." The transfer is a limited one primarily because the technology involved relates only to the actual mining of the seabed and not to any other activity—such as ore processing—of the mining company. Second, the Authority’s power to demand technology transfer lasts only for the first ten years the Authority is in operation. Furthermore, this technology is to be made available on "fair and reasonable commercial terms and conditions," and, if there is a dispute on what is fair and reasonable, the dispute "may be submitted by either party to binding commercial arbitration." The Authority can force a technology transfer only if it cannot obtain the same or equally efficient and useful technology on the open market on fair and reasonable commercial terms and condi-

66. See, e.g., Suddenly, Heavy Weather for Talks on Law of the Sea, supra note 5. See also Brown & Fabian, Toward Mutual Accountability in the Nonterrestrial Realms, 29 Int’l Organization 877, 879 (1975) ("Mining interests argue that only national governments can provide the security of license and title arrangements conducive to further progress by venturesome firms now developing the capability to extract hard minerals from the deep sea bed.")

67. See Farer, Economic Development Agreements: A Functional Analysis, 10 Colum. J. Transnat’l L. 200 (1971); M. Kusumaatmadja, supra note 9, at 100, 109-10 (provisions for training Indonesian nationals and infrastructure construction); D. Smith & L. Wells, Jr., supra note 8, at 97-98 (natural resource and economic development through contract relations to equalize trade terms); Schanze, supra note 34, at 136-40 (concession, work, and service contracts most common examples of contractual cooperation between investor and host states).

68. Draft Treaty, supra note 1, Annex III, art. 5(8).

69. Id. Annex III, art. 5(1) (“developers will inform Authority of equipment and methods to be used in the area”).

70. Id. Annex III, art. 5(7).

71. Id. Annex III, art. 5(3)(a).

72. Id. Annex III, art. 5(4).
Upon application to the Authority, a mining company must describe two explored sites of equal value. The Authority then grants the applicant one of these sites and keeps the other for itself. Developing countries may apply for the sites the Authority has retained, and developing countries awarded deep seabed sites may obtain technology from a seabed mining company on the same terms as the Authority. The country may not, however, transfer that technology to third parties and may use it only on that specific mine site. A developing country may also demand training for its personnel, as may the Authority.

2. Terrestrial Mining Agreements

Technology transfer provisions of the type found in the Draft Treaty have recently been increasingly common and important in resource exploitation agreements with developing countries. Terrestrial mining contracts, however, provide few of the safeguards found in the Draft Treaty and abuses have resulted such as unauthorized transfer of advanced technology to third parties.

Developing country hard mineral mining contracts often require more training of indigenous personnel than does the Draft Treaty. In general, such clauses have become more common and of greater concern to developing countries in recent years. In Indonesia, for example, mining companies are required not only to train Indonesian technicians but also to “employ Indonesian personnel to the maximum extent practicable, so that not less than 75% of all positions in each employment classification . . . are held by Indonesian nationals within five years after the commencement of the Operating Period in question.” This obligation is dependent upon the availability of qualified Indonesian nationals as judged by the company, which may not exer-

73. Id. Annex III, art. 5(3)(a).
74. Id. Annex III, art. 8.
75. Id. Annex III, art. 9(4).
76. Id. Annex III, art. 5(3)(e).
77. Id. Annex III, art. 5(3)(e).
78. Id. Annex III, art. 15.
80. Id. at 567.
82. M. Kusumaatmadja, supra note 9, at 100. Cf. D. Smith & L. Wells, Jr., supra note 8, at 241-42 (illustrative agreement for Third World development project, provisions for employment and training of host country nationals).
cise this power unreasonably.\textsuperscript{83} Most mining companies operating in Indonesia are in compliance with this requirement.

Developing countries also sometimes require multinational companies to "buy local," a requirement that does not exist in the Draft Treaty.\textsuperscript{84} Such a requirement can force a company to buy more expensive or less satisfactory goods than those available elsewhere.\textsuperscript{85}

"Infrastructure clauses," entirely absent from the Draft Treaty, also impose additional expenses of a non-business nature on terrestrial mining operations in developing countries. Such clauses may require, for example, a mining company to establish processing, smelting, and manufacturing facilities in the host country if such facilities are economically feasible.\textsuperscript{86} The company may also be required to provide numerous facilities, including railroads, ports, roads, schools, hospitals, and dams, as "infrastructure" within the meaning of these contracts.\textsuperscript{87}

Such projects can be very expensive because there is often little existing infrastructure in developing countries. For example, 40\% of the cost of the LAMCO iron ore project in Liberia represented infrastructure development.\textsuperscript{88} Moreover, it is not uncommon for developing countries to require the companies to make their infrastructure available to third parties so long as such a requirement does not prejudice the operations of the company.\textsuperscript{89}

Whether the costs of provisions like infrastructure clauses are more burdensome than the technology transfer provisions of the Draft Treaty is a question that has not been analyzed to date. The functional approach proposed by this Comment suggests that such an analysis

\textsuperscript{83} M. Kusumaatmadja, supra note 9, at 100-01.
\textsuperscript{84} See, e.g., Andelman, supra note 29.
\textsuperscript{85} Id.
\textsuperscript{86} See M. Kusumaatmadja, supra note 9, at 109; D. Smith & L. Wells, Jr., supra note 8, at 223.
\textsuperscript{87} M. Kusumaatmadja, supra note 9, at 110 (company to co-operate with government to provide living accommodations and assist in maximizing economic and social benefits); D. Smith & L. Wells, Jr., supra note 8, at 239-40 (Illustrative Agreement For Third World mineral development project containing provision for "Additional Infrastructure And Other Facilities"); Adede, supra note 81, at 499-500 (modern natural resource contracts between African states and foreign companies contain provisions for training host country nationals, maintaining suitable working conditions, making available free medical services, constructing schools).
\textsuperscript{88} Powell, supra note 13, at 91.
\textsuperscript{89} D. Smith & L. Wells, Jr., supra note 8, at 240; Powell, supra note 13, at 92-95. Powell reports that in Liberia not only did local people unrelated to the company use the schools that the company had built, but also many "wards" came from all over the country to use these facilities. "When action was taken to restrict at least the attendance of these 'wards,' the Government advised that, under well-established Liberian customs, wards were to be treated equally with natural children, however tenuous their relationship might be."
should be made before a decision is reached on whether the technology transfer provisions of the Draft Treaty are an obstacle to ratification.

E. Production Limitation

Developing countries have been concerned at the Law of the Sea Conference to protect land-based mineral producers from the effects of a surge in production from the seabed, because a number of influential developing countries are dependent on revenues from land-based mining of minerals also found in the seabed.90 Proposals for protection of terrestrial producers have been highly controversial in the United States.91 The Draft Treaty contemplates a limitation on seabed production as a result of an international commodity agreement or, failing that, a production limitation.92

The possibility that the Authority might join an international commodity agreement does not set it apart from developing countries where multinational mining companies operate. OPEC93 countries, for example, certainly control the production of all companies within their jurisdiction. Although no cartel currently has effective control over prices or production of a hard mineral, there have been recent attempts to cartelize strategic hard minerals.94

Furthermore, developing countries have other policies that might affect the production level of a mining company. The Organization of African Unity boycott of South Africa is one example of political motivation to limit trade with certain states in a way that may affect total production.

With respect to production limitations absent a commodity agreement, the Draft Treaty prohibits seabed mining companies from producing more than 60% of the growth of the nickel market in any given year for the first twenty-five years that the Treaty is in effect.95 This provision has no parallel in terrestrial mining contracts, but there is little doubt that a developing country could unilaterally limit production in a similar manner if it expected to benefit from doing so, such as

90. See Darman, supra note 7, at 389 (noting the conflict between these countries and other more ideologically “pure” members of the “Group of 77”).
91. See Suddenly, Heavy Weather for Talks on Law of the Sea, supra note 5.
92. Draft Treaty, supra note 1, art. 151. The Draft Treaty also has a floor: an assumed annual nickel market growth rate of 3%. Id. art. 151(2)(b)(iv).
93. Organization of Petroleum Exporting Countries.
94. The most recent example of an international hard mineral cartel was the organization and operation of the international uranium cartel. For an extended analysis of the cartel and its effect on U.S. policy, see J. TAYLOR & M. YOKELL, YELLOWCAKE: THE INTERNATIONAL URANIUM CARTEL 57-119, 141-59 (1979). But see Darman, supra note 7, at 389 (“[T]he State Department . . . arguf[ed] that the prospects of land-based cartelization in [hard] minerals are neither analogous to OPEC nor likely to prove consequential.”)
95. Draft Treaty, supra note 1, art. 151(b)(ii).
when current prices of a mineral were low and the developing country thought its resources would have more value if left in the ground.

In adopting a position on the production limitations continued in the Draft Treaty, the United States should consider whether, as drafted, the limitations will have any practical effect upon multinational mining companies. The State Department has consistently maintained that the production limitations in the Draft Treaty permit sufficient production to accommodate all potential seabed miners for the twenty-five years of the provision's operation. If the State Department is correct, the mere fact that the Draft Treaty contains a production limitation should not present an obstacle to United States ratification of the entire Treaty.

III. Conclusion

The deep seabed mining provisions of the Draft Treaty represent the carefully, indeed painstakingly, negotiated position of more than 150 nations. Given the widely divergent interests and philosophies of many of those nations, it is hardly surprising that the resulting text is not in every respect favorable to United States interests and aspirations. It may be valuable, therefore, to evaluate the Draft Treaty provisions functionally rather than ideologically.

To determine whether the Draft Treaty provisions regarding deep seabed mining are sufficiently responsive to American business interests, the United States should look to other potentially high-risk situations in which there has been successful investment. Hard mineral concession agreements between western mining corporations and developing countries are offered as most closely analogous.

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96. Aldrich, Law of the Sea, DEP'T STATE BULL., Feb., 1981, at 56, 58 (address before National Association of Manufacturers, San Francisco on Dec. 9, 1980, by Acting Special Representative of the President for the Law of the Sea Conference) ("As now formulated, the production ceiling is not likely to bar access for any qualified miner."); Richardson, Seabed Mining and Law of the Sea, DEP'T STATE BULL., Dec., 1980, at 60, 62 (address before American Mining Congress, San Francisco on Sept. 24, 1980 by Special Representative of the President for the Law of the Sea Conference) ("[M]arket forces, not the production limitation formula, will determine how much nickel, and, therefore, how much copper, cobalt, and manganese will be produced by the first generation of seabed mining projects.")

97. Indeed, though ideologically not in accord with free enterprise, production limitations are not unknown in the United States. For example, the Texas Railroad Commission for years sat each month to set the output of most Texas oil wells. See C. TUGENDHAT & A. HAMILTON, OIL 274-75 (1975); R. SULLIVAN, THE HANDBOOK OF OIL AND GAS LAW 311-15 (1955).

This Comment has attempted briefly to illustrate both the value of a functional approach and the insights such an approach might yield with regard to the seabed mining provisions of the Draft Treaty. Ultimately, a pragmatic analysis of the proposed deep seabed mining regime must take into account the same factors another commentator has suggested are essential to the success of mining operations in developing countries.

Maintaining the partnership relationship established by the Concession Agreement involves much more than simply operating an efficient mine at a profit, and resolving routine problems on a day to day basis. The economic and human aspirations of a developing country and its people are inextricably involved and must be recognized and encouraged. Communication, cooperation and, above all, concern for those aspirations, are the keys to success.99

The Draft Treaty represents a compromise between the aspirations of the developed and developing countries of the world. In considering the importance of those aspirations during its review of the Draft Treaty, the United States may wish to evaluate them from several different perspectives. At least one of those perspectives, however, should be the actual effect “common heritage” provisions are likely to have upon opportunities for American businesses to extract deep seabed minerals.

N.Y. Times, Apr. 10, 1981, at A30, col. 4 (letter to editor from John R. Stevenson, former Department of State Legal Adviser, arguing that Draft Treaty provisions on seabed mining are more favorable to United States than absence of treaty).

99. Powell, supra note 13, at 95.