REPORT OF THE COMMITTEE ON THE PEACEFUL USES OF THE SEA-BED AND THE OCEAN FLOOR BEYOND THE LIMITS OF NATIONAL JURISDICTION

GENERAL ASSEMBLY

OFFICIAL RECORDS: TWENTY-SEVENTH SESSION

SUPPLEMENT No. 21 (A/8721)

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New York, 1972

NOTE

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

/Original: English/

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INTRODUCTION

1. Under paragraph 2 of resolution 2750 C (XXV) of 17 December 1970, the General Assembly decided to convene in 1973, in accordance with the provisions of paragraph 3 of that resolution, cited in paragraph 2 below, a conference on the law of the sea which would deal with the establishment of an equitable international régime - including an international machinery - for the area and the resources of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction, a precise definition of the area, and a broad range of related issues including those concerning the régime of the high seas, the continental shelf, the territorial sea (including the question of its breadth and the question of international straights) and contiguous zone, fishing and conservation of the living resources of the high seas (including the question of the preferential rights of coastal States), the preservation of the marine environment (including, inter alia, the prevention of pollution) and scientific research.

2. In the same resolution the Assembly decided to review, at its twenty-sixth and twenty-seventh sessions, the reports which it instructed the Committee to make on the progress of its preparatory work with a view to determining the precise agenda of the conference on the law of the sea, its definitive date, location and duration, and related arrangements; if the Assembly, at its twenty-seventh session determined the progress of the preparatory work of the Committee to be insufficient, it might decide to postpone the conference.

3. Under resolution 2881 (XXVI) of 21 December 1971, the General Assembly noted with satisfaction the encouraging progress of the preparatory work of the Committee towards a comprehensive conference on the law of the sea, in conformity with its mandate contained in resolution 2750 C (XXV), in particular with regard to the elaboration of an international régime and machinery for the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction.

4. The General Assembly also noted the consideration by the Committee of the reports submitted by the Secretary-General 1/ pursuant to resolutions 2750 A and B (XXV) and of the study of possible methods and criteria for the sharing of benefits derived from the exploitation of the resources of the area (A/AC.138/38 and Corr.1) undertaken in accordance with the Committee's request of March 1970.

5. In paragraph 4 of the same resolution, the Assembly decided to add to the membership of the Committee China and four other members to be appointed by the Chairman of the First Committee in consultation with regional groups, with due regard to the interests of under-represented groups.

6. The Committee was requested, in the discharge of its mandate in accordance with resolution 2750 C (XXV), to hold two sessions, one in New York during March and April and one at Geneva during July and August 1972.

1/ A/AC.138/36 and A/AC.138/37 and Corr.1 and 2, which are summarized in Official Records of the General Assembly Twenty-sixth Session, Supplement No. 21 (A/8421), annex II, 1 and 3.

7. At the 2031st plenary meeting of the General Assembly on 22 December 1971, the Chairman of the First Committee announced that, in pursuance of the decision referred to in paragraph 5 above, he had appointed the following States members of the Committee: Fiji, Finland, Nicaragua and Zambia. The membership of the Committee is as follows: Afghanistan, Algeria, Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Bulgaria, Byelorussian Soviet Socialist Republic, Cameroon, Canada, Chile, China, Colombia, Congo, Cyprus, Czechoslovakia, Denmark, Ecuador, Egypt, El Salvador, Ethiopia, Fiji, Finland, France, Gabon, Ghana, Greece, Guatemala, Guinea, Guyana, Hungary, Iceland, India, Indonesia, Iran, Iraq, Italy, Ivory Coast, Jamaica, Japan, Kenya, Kuwait, Lebanon, Liberia, Libyan Arab Republic, Madagascar, Malaysia, Mali, Malta, Mauritania, Mauritius, Mexico, Morocco, Nepal, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Pakistan, Panama, Peru, Philippines, Poland, Romania, Senegal, Sierra Leone, Singapore, Somalia, Spain, Sri Lanka, Sudan, Sweden, Thailand, Trinidad and Tobago, Tunisia, Turkey, Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Venezuela, Yemen, Yugoslavia, Zaire and Zambia. 2/

8. At its twenty-sixth session, the General Assembly also decided, under resolution 2846 (XXVI), to refer the question of the creation of an intergovernmental sea service for further consideration to the Committee at its session to be held in July and August 1972 and requested the Committee to report on that question to the General Assembly through the Economic and Social Council.

9. The following Member States have participated as observers, as provided for in paragraph 10 of resolution 2750 C (XXV): Barbados, Bhutan, Burma, Cuba, Democratic Yemen, Dominican Republic, Haiti, Honduras, Ireland, Israel, Jordan, Khmer Republic, Malawi, Mongolia, Oman, Portugal, Saudi Arabia, South Africa and Syrian Arab Republic.

10. Meetings of the Committee were attended by representatives of the International Atomic Energy Agency and of the specialized agencies - the International Labour Organisation, the Food and Agriculture Organization of the United Nations and its Committee on Fisheries, the United Nations Educational, Scientific and Cultural Organization and its Intergovernmental Oceanographic Commission, the Inter-Governmental Maritime Consultative Organization and the World Meteorological Organization, as well as of the United Nations Conference on Trade and Development.

11. At its 75th meeting, on 23 March, the Committee heard a statement by the Secretary-General of the United Nations.

12. Mr. Constantin A. Stavropoulos, Under-Secretary-General and Legal Counsel, Mr. L. N. Kutakov, Under-Secretary-General for Political and Security Council Affairs, and Mr. P. de Seynes, Under-Secretary-General for Economic and Social Affairs, were present at various meetings of the Committee and its Sub-Committees.

13. At its 74th meeting, on 21 March, the Committee heard statements by the Secretary-General of the United Nations Conference on the Human Environment and by the representative of the Food and Agriculture Organization.

2/ Ibid., Supplement No. 29, (A/8429), p.38. The total membership of the Committee was increased to 91 of which only 90 members have been named. The unfilled seat was allocated to the Eastern European group by the letter dated 8 January 1971 from the Chairman of the First Committee to the Secretary-General (A/8273 and Corr.1).

14. In accordance with the Committee's request at its 66th meeting, on 27 August 1971, the Secretariat prepared a Comparative Table of Draft Treaties, Working Papers and Draft Articles, dated 28 January 1972 (A/AC.138/L.10).

15. Pursuant to operative paragraphs 2 and 3 of resolution 2750 A (XXV), the Secretary-General submitted additional notes on the possible economic implications of mineral production from the international sea-bed area (A/AC.138/73) (annex II, 2).

16. In accordance with requests made by the Committee, the following documents were prepared by the Food and Agriculture Organization and circulated to the members of the Committee: Report on Regulatory Fishery Bodies (A/AC.138/64, Conservation Problems with Special Reference to New Technology (A/AC.138/65), Fishery Country Profiles, Atlas of the Living Resources of the Seas (FAO Fisheries Circular No. 126/Rev.1), Fishing methods likely to have adverse effects on the conservation of fishery resources (Fisheries Circular No. 147) and Sedentary, migratory and intermingling species, their habitat and distribution (FAO Fisheries Circular No. 148.

17. Also at the request of the Committee, the following two reports were made available by FAO to the members: Report of the FAO Technical Conference on Marine Pollution and its Effects on Living Resources and Fishing (Rome, 9-18 December 1970) and Report of the Seventh Session of the Committee on Fisheries (Rome, 6-13 April 1972).

18. A document entitled "The Activities of the Inter-Governmental Maritime Consultative Organization pertaining to Ships' Routing, Traffic Separation Schemes, Areas to be avoided by Certain Ships and Related Questions" (Misc(72)8) was circulated by IMCO.

I. WORK OF THE COMMITTEE IN 1972

19. The Committee held its first session in New York from 28 February to 30 March 1972. The second session was held in Geneva from 17 July to 18 August.

20. The Committee held 18 meetings.

21. The officers of the Committee during 1972 were as follows: 3/

Chairman:	Mr. Hamilton Shirley Amerasinghe (Sri Lanka)	
Vice-Chairmen:	Zaire	Mr. Kalonji-Tshilala
	Mauritius	Mr. R. K. Ramphul
	Kuwait	Mr. S. Khanachet (first session) Mr. S. N. Al-Sabah (second session)
	Chile	Mr. D. Casanueva (first session) Mr. H. Santa Cruz (second session)
	Trinidad and Tobago	Mr. K. T. Hudson-Phillips
	Norway	Mr. J. Evensen
	Poland	Mr. W. Natorf
	Yugoslavia	Mr. L. Mojsov (first session) Mr. Z. Perisić (second session)
Rapporteur:	Mr. Charles V. Vella (Malta)	

22. At the opening of the second session, on 17 July 1972, the Committee agreed that the highest priority should be given to the question of the list of subjects and issues relating to the law of the sea. It was also agreed at the start of the session that the Committee should meet twice a week in order to review the progress made by the Sub-Committee.

23. On 18 August 1972, the Committee formally approved the following list which had been recommended by Sub-Committee II.

The present list of subjects and issues relating to the law of the sea has been prepared in accordance with General Assembly resolution 2750 C (XXV).

The list is not necessarily complete nor does it establish the order of priority for consideration of the various subjects and issues.

Since the list has been prepared following a comprehensive approach and attempts to embrace a wide range of possibilities, sponsorship or acceptance of the list does not prejudice the position of any State or commit any State with respect to the items on it or to the order, form or classification according to which they are presented.

3/ The officers of the three Sub-Committees and of working groups are listed in the relevant sections of the report.

Consequently the list should serve as a framework for discussion and drafting of necessary articles.

List of subjects and issues relating to the law of the sea

1. International régime for the sea-bed and the ocean floor beyond national jurisdiction

   1.1 Nature and characteristics

   1.2 International machinery: structure, functions, powers

   1.3 Economic implications

   1.4 Equitable sharing of benefits bearing in mind the special interests and needs of the developing countries, whether coastal or landlocked

   1.5 Definition and limits of the area[4/]

   1.6 Use exclusively for peaceful purposes

2. Territorial sea

   2.1 Nature and characteristics, including the question of the unity or plurality of régimes in the territorial sea

   2.2 Historic waters

   2.3 Limits

   2.3.1 Question of the delimitation of the territorial sea; various aspects involved

   2.3.2 Breadth of the territorial sea, Global or regional criteria. Open seas and oceans, semi-closed seas and enclosed seas

   2.4 Innocent passage in the territorial sea

   2.5 Freedom of navigation and overflight resulting from the question of plurality of régimes in the territorial sea

3. Contiguous zone

   3.1 Nature and characteristics

   3.2 Limits

   3.3 Rights of coastal States with regard to national security, customs and fiscal control, sanitation and immigration regulations

4. Straits used for international navigation

   4.1 Innocent passage

   4.2 Other related matters including the question of the right of transit

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4/ To be considered in the light of the procedural agreement as set out in paragraph 22 of the report of the Committee (Official records of the General Assembly, Twenty-Sixth Session, Supplement No. 21 (A/8421)).

5. Continental shelf

5.1 Nature and scope of the sovereign rights of coastal States over the continental shelf. Duties of States

5.2 Outer limit of the continental shelf: applicable criteria

5.3 Question of the delimitation between States; various aspects involved

5.4 Natural resources of the continental shelf

5.5 Régime for waters superjacent to the continental shelf

5.6 Scientific research

6. Exclusive economic zone beyond the territorial sea

6.1 Nature and characteristics, including rights and jurisdiction of coastal States in relation to resources, pollution control and scientific research in the zone. Duties of States

6.2 Resources of the zone

6.3 Freedom of navigation and overflight

6.4 Regional arrangements

6.5 Limits: applicable criteria

6.6 Fisheries

6.6.1 Exclusive fishery zone

6.6.2 Preferential rights of coastal States

6.6.3 Management and conservation

6.6.4 Protection of coastal States' fisheries in enclosed and semi-enclosed seas

6.6.5 Régime of islands under foreign domination and control in relation to zones of exclusive fishing jurisdiction

6.7 Sea-bed within national jurisdiction

6.7.1 Nature and characteristics

6.7.2 Delineation between adjacent and opposite States

6.7.3 Sovereign rights over natural resources

6.7.4 Limits: applicable criteria

6.8 Prevention and control of pollution and other hazards to the marine environment

6.8.1 Rights and responsibilities of coastal States

6.9 Scientific research

7. Coastal State preferential rights or other non-exclusive jurisdiction over resources beyond the territorial sea

7.1 Nature, scope and characteristics

7.2 Sea-bed resources

7.3 Fisheries

7.4 Prevention and control of pollution and other hazards to the marine environment

7.5 International co-operation in the study and rational exploitation of marine resources

7.6 Settlement of disputes

7.7 Other rights and obligations

8. High seas

8.1 Nature and characteristics

8.2 Rights and duties of States

8.3 Question of the freedoms of the high seas and their regulation:

8.4 Management and conservation of living resources

8.5 Slavery, piracy, drugs

8.6 Hot pursuit

9. Land-locked countries

9.1 General Principles of the Law of the Sea concerning the land-locked countries

9.2 Rights and interests of land-locked countries

9.2.1 Free access to and from the sea: freedom of transit, means and facilities for transport and communications

9.2.2 Equality of treatment in the ports of transit States

9.2.3 Free access to the international sea-bed area beyond national jurisdiction

9.2.4 Participation in the international régime, including the machinery and the equitable sharing in the benefits of the area

9.3 Particular interests and needs of developing land-locked countries in the international régime

9.4 Rights and interests of land-locked countries in regard to living resources of the sea

10. Rights and interests of shelf-locked States and States with narrow shelves or short coastlines

10.1 International régime

10.2 Fisheries

10.3 Special interests and needs of developing shelf-locked States and States with narrow shelves or short coastlines

10.4 Free access to and from the high seas

11. Rights and interests of States with broad shelves

12. Preservation of the marine environment

12.1 Sources of pollution and other hazards and measures to combat them

12.2 Measures to preserve the ecological balance of the marine environment

12.3 Responsibility and liability for damage to the marine environment and to the coastal State

12.4 Rights and duties of coastal States

12.5 International co-operation

13. Scientific research

13.1 Nature, characteristics and objectives of scientific research of the oceans

13.2 Access to scientific information

13.3 International co-operation

14. Development and transfer of technology

14.1 Development of technological capabilities of developing countries

14.1.1 Sharing of knowledge and technology between developed and developing countries

14.1.2 Training of personnel from developing countries

14.1.3 Transfer of technology to developing countries

15. Regional arrangements

16. Archipelagos

17. Enclosed and semi-enclosed seas

18. Artificial islands and installations

19. Régime of islands:

(a) Islands under colonial dependence or foreign domination or control;

(b) Other related matters.

20. Responsibility and liability for damage resulting from the use of the marine environment

21. Settlement of disputes

22. Peaceful uses of the ocean space; zones of peace and security

23. Archaeological and historical treasures on the sea-bed and ocean floor beyond the limits of national jurisdiction

24. Transmission from the high seas

25. Enhancing the universal participation of States in multilateral conventions relating to the law of the sea.

24. The task of considering the matters raised by General Assembly resolution 2846 (XXVI) (see para. 8 above) was assigned to Sub-Committee III. The Committee decided to inform the Economic and Social Council that time did not permit of the question being considered during its second session in July/August 1972, but that it would be taken up for consideration by the Committee at the first available opportunity.

25. At its 86th, 87th and 88th meetings on 17 and 18 August, the Committee adopted the reports of its three Sub-Committees and decided that they should form parts II, III and IV of the present report.

26. On 23 March, the Committee agreed to the suggestion of the Chairman that, having regard to the relevant provisions of General Assembly resolution 2750 C (XXV), the Secretariat should earmark funds for a five-week session in the spring and an eight-week session in the summer of 1973.

27. At the 73rd meeting, on 10 March, the representative of Senegal drew the Committee's attention to some points of disagreement between his Government and the United Nations Secretariat, in connexion with its denunciation of the Convention on the Territorial Sea and Contiguous Zone and the Convention on Fishing and Conservation of the Living Resources of the High Seas. Statements were made on this matter by the Legal Counsel and by the representative of Senegal on 23 March.

28. At its first session in March, the Committee heard statements made by the five new members appointed under General Assembly resolution 2881 (XXVI). These statements referred for the most part to various points dealt with in the Committee's previous report to the Assembly at its twenty-sixth session. 5/ One of the new members expressed the view that the current international struggle with regard to rights over the high seas and oceans was in essence a struggle between aggression and anti-aggression, between plunder and anti-plunder, between hegemony and anti-hegemony and that equality of States regardless of their size should be a basic principle in settling questions concerning the rights over the seas and oceans. Certain delegations rejected the accusations and pointed out that the Committee should devote its energies to resolving the differences and accommodating the interests of various countries so as to prepare for a successful conference on the law of the sea.

29. Another new member drew attention to the special needs and interests of archipelagic States and outlined the principles which should govern the régime within the archipelagic waters, including the provision of innocent passage through designated sea lanes for international navigation through these waters.

30. At the 77th meeting, on 30 March, the representative of Kuwait introduced a draft decision (A/AC.138/L.11), consideration of which, by a decision of the Committee, was deferred until the second session. The proposal, as revised (A/AC.138/L.11/Rev.1) (annex I, 1), was reintroduced by the delegate of Kuwait on 14 August 1972. When reintroducing the revised text, the delegate of Kuwait declared that the submission of the proposal had been motivated by the evidence of operational activities undertaken by certain States in the international area.

5/ Official Records of the General Assembly, Twenty-sixth Session, Supplement No. 21 (A/8421).

Such actions were contrary to General Assembly resolution 2574 D (XXIV) and the Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction (Assembly resolution 2749 (XXV)), as well as UNCTAD resolution 52 (III). The representative of Kuwait requested incl sion of the proposal in the Committee's report.

31. The draft decision and the approach embodied in it were supported by a number of speakers both before and after the introduction of the revised text. Various facts regarding economic activities in the extra-jurisdictional area were cited, activities which were considered to be in violation of the principle of "common heritage". It was stated that the fact that existing law did not contain an express prohibition of unilateral activities in the area nor, in general, rules on the exploitation of the area and its resources did not mean that such activities could be undertaken. The international character of the area, it was said, was brought about both by its actual nature and location and by virtue of the consensus embodied in the Declaration of Principles; the Declaration was the only authentic legal expression of the will of States on the matter, and, it was considered, meant that national authorities were denied the power to regulate exploitation in the area or to grant licences. The view was advanced that the "moratorium" contained in resolution 2574 D (XXIV) and considered to have been reiterated in the Declaration of Principles (resolution 2749 (XXV)) and legal force, not because it was contained in an Assembly resolution as such, but because it was the inevitable legal corollary of the principles, principles which no one disputed, that there was an international area of the sea-bed and the ocean floor. The Declaration of Principles did not, it was noted, constitute an interim régime for the area, but made activities there subject to the international régime to be established. It was also stated that the proposed decision reflected existing positive law, since the principle of freedom of the high seas was not a rule of natural law but one attributable to customary law, which had never had more than permissive value. According to this view, the Declaration of Principles, which had been adopted without opposition by the General Assembly representing the international community, had removed one of the constitutive elements of the customary principle, namely, the opinio necessitatis, and by doing so had abrogated the customary principle itself. Simiarly, the view was expressed that there had never existed international custom with regard to the exploitation of the area and its resources.

32. Other speakers, however, were opposed to the draft decision. It was pointed out that no commercial exploitation was at present being undertaken. It was stated that the proposal now advanced could not, any more than resolution 2574 D (XXIV), which a number of Member States had opposed, modify international law, or deprive States of their rights under international law. Moreover, it was pointed out that the Declaration of Principles did not constitute an interim régime, had no dispositive effect until the international régime had been agreed upon and the area to which it was applicable defined, and the common heritage principle, in any event, did not mean the common property of mankind. There was no possibility, it was emphasized, of agreement on a moratorium, and attempts to secure the adoption of the proposal would inject a divisive element into the discussions being held. It would be preferable according to this view to work with maximum speed on the elaboration of an agreed international régime, before commercial exploitation actually began. The draft decision, it was said, represented an attempt to restrict technological progress and to limit experimental activities, which would not aid the international community in its efforts to benefit from the existence of sea-bed resources. It was also pointed out that a moratorium with regard to the exploitation of sea-bed resources could be established only in the case if at the

same time the moratorium would also be applied with respect to the extension of the territorial sea, fishery zones and the other economic zones beyond the 12-mile limit. It was also observed that the Committee was empowered to prepare texts for the Conference, rather than itself to adopt resolutions or propose them to the General Assembly.

33. At its 78th meeting, on 20 July 1972, the Committee decided that the text of the Declaration of Santo Domingo (A/AC.138/80) (annex I, 2), which was provided by the representative of Venezuela, and that of the conclusions in the General Report of the African States Regional Seminar on the Law of the Sea held in Yaoundé (A/AC.138/79) (annex I, 3), which was provided by the representative of Kenya, should be circulated as Committee documents and annexed to the report. Statements commenting upon and introducing these texts were made at the same meeting.

34. In subsequent meetings various references were made to these documents and to the ideas they contained, in particular that of an exclusive economic zone or that of a patrimonial sea. Reference was also made in this connexion to the draft articles on exclusive economic zone concept, submitted in Sub-Committee II by Kenya (A/AC.138/SC.II/L.10) (annex III, 8), which was regarded by a number of delegations as a starting-point for serious negotiations. In the view of these delegations, the concept provided for a realistic revision of international law on the utilization of marine resources which could guarantee a fair share for the developing countries without interfering with the legitimate interests of other States. The following points were among those made on these subjects: that the Santo Domingo Declaration was based on the idea of the need for a progressive development of the law of the sea in the light of scientific and technological progress and of the new political realities, the idea that the new law of the sea should take the form of rules of world-wide application, without prejudice to regional or subregional agreements based on those rules, the idea that it was essential to bear in mind the need to close the existing gap between the developing and developed countries, the idea that the new law of the sea should reconcile the needs and interests of individual States with those of the international community, the idea that it was necessary to define not only the rights but also the obligations and responsibilities of States in respect of the various sea areas, and the idea that the new rules on the subject should promote international co-operation for the adequate protection of the marine environment and the proper utilization of its resources; that according to one point of view the Santo Domingo Declaration had gathered together and interpreted the policies of other Latin American countries which had been striving to assert their right to develop all the resources of the sea adjacent to their coasts; that the Yaoundé seminar had been the first step taken by African countries towards codifying their views on the future of the sea; that the Santo Domingo Declaration and the Yaoundé conclusions had many points in common and indicated that the views of developing parts of the world were growing increasingly similar; that there was within reach a basis for accommodation on the problems of the law of the sea following the functional approach under which the coastal State could exercise particular forms of specialized jurisdiction in an area or areas extending beyond the limits of its sovereignty over its territorial sea and that a consensus appeared to be developing around the 12-mile limit for the territorial sea together with a broad economic zone; that these proposals for an economic zone-patrimonial sea embodied a functional approach essential to a successful outcome of any conference on the law of the sea; that the economic zone concept was in accordance with principle XI of UNCTAD resolution 46 which endorsed the rights of the coastal States to the resources of the sea within the limits of national jurisdiction; that the basic elements of the economic zone concept had

been placed before the Committee in the Kenya draft articles; that the use of the word "exclusive" referred to jurisdiction and sovereignty over the resources of the economic zone and need not hamper agreement on various other possibilities, through preferential arrangements, licensing systems and co-operation with existing and future international organizations; that, in particular, bilateral, multilateral or regional arrangements could be entered into with land-locked and other geographically underprivileged neighbouring countries; that differences with regard to the breadth of the economic zone and the ways in which rights were exercised were less important than the actual principle of the existence of a zone of special jurisdiction; and that the economic zone was not intended to be a zone of sovereignty such as the territorial sea and that the distinction between the two was due to the need to reconcile various uses of the sea. Other points were that the Santo Domingo Declaration, the product of a subregional Conference, could not be deemed applicable to the oceanic States of Latin America which had not taken part in the Conference; that in one view more time was needed to reflect on the implications of the patrimonial sea; that virtually complete coastal State resource management jurisdiction over resources in adjacent sea-bed areas was acceptable if this jurisdiction was subject to international treaty standards to prevent unreasonable interference with other uses of the oceans to protect the oceans from pollution, to protect the integrity of investment, on sharing of revenues for international community purposes and on compulsory settlement of disputes; that there were reasonable ways to accommodate the interests of both coastal and distant fishing States and that a solution of the fisheries problem should take into account the migratory habits of fish and the manner in which they were fished; that an effective and equitable régime for the deep sea-beds must protect not only the interests of the developing countries, but also those of the developed by establishing reasonable and secure investment conditions; that the impact of such a broad claim to an extensive zone of patrimonial sea could not be isolated from its impact on the sea-bed beyond national jurisdiction which could only be diminished thereby; that despite the fact that these texts were considered significant milestones in the progressive development of the law of the sea, the Santo Domingo Declaration appeared to seek to perpetuate the "exploitability" criterion of the 1958 shelf Convention in regard to the delimitation of the continental shelf, although by calling for study of the precise outer limit of the shelf it also appeared to leave the latter an open question; and that that Declaration contained no reference to international standards and dispute settlement procedures applicable to coastal State resource jurisdiction or any distinction in the treatment of living resources based on their migratory characteristics, but that those documents certainly provided a starting point for serious negotiations; that only a third of the Members of the Organization would benefit from exclusive economic rights up to 200 miles from their territory; that equity would call rather for rational use and conservation of fish stocks and for allowing developing countries which did not have sufficient means of exploitation an exclusive right to their own catch; and that the resources of the high seas could be used by all countries. It was also noted that the criterion of exploitability to the edge of the continental margin was reflected in customary and conventional international law; that the North Sea Continental Shelf cases affirm that the continental shelf comprises the submerged land mass; and that the retention of the exploitability, along with depth and/or distance criteria was an essential element in any over-all accommodation on the law of the sea.

35. On 9 August 1972, the representatives of Afghanistan, Austria, Belgium, Bolivia, Czechoslovakia, Hungary, Nepal, Netherlands, Singapore, Zaire and Zambia submitted a request (A/AC.138/81) (annex I, 4), which was introduced by the

delegate of Singapore, proposing that the Secretary-General be asked to prepare a study on the different economic implications of the various proposals for limits of the international sea-bed area. The question of the limits of national jurisdiction was important, it was said, not only for coastal States, but also, as regards the viability of the international régime, and machinery; the economic significance of the régime and the possibility of obtaining benefits which could be shared would vary according to the limits ultimately adopted. Further, it was argued, the character and functions of the organs of the international machinery would necessarily depend on the actual extent and nature of the area of the international régime which ultimately accrued to mankind as a whole. Since information on the economic significance and implications of the different proposals on limits was not yet available to the Committee, the sponsors considered it desirable and useful to have a study of the kind requested of the Secretary-General, based on existing data and knowledge, and which would complement the existing reports prepared by the Secretary-General, contained in documents A/AC.138/36 6/ and A/AC.138/73 (annex II, 2). Developing countries had neither the technical, financial nor the human resources to carry out such a study themselves.

36. A number of speakers expressed their strong opposition to the request that the study be made by the Secretary-General. It was said that the list of five limits specified in the proposal prejudged a very delicate subject and was totally unacceptable. There were various other limits, or combinations of limits, which could be examined and which were inter-connected with ideas on the nature of the international régime and machinery for the sea-bed. According to this view, the study requested was in fact to be regarded as an argument against the broad jurisdiction of the coastal State which had been advocated repeatedly by States from all continents. It was also stated that obtaining the full amount of scientific information required in order to carry out the study would be beyond the resources of the Secretariat and would entail a large expenditure of funds. Furthermore, it was said that the matter could in any case not properly be dealt with on the basis of the limits alone. The implications of narrow limits for coastal States also required study, it was suggested. The view was advanced that States should work out for themselves the implications of the various possible limits as regards their individual situation.

37. At the 86th meeting, on 17 August 1972, the text of the Moscow Declaration on Principles of the Rational Exploitation of Living Resources of the Seas and Oceans in the Common Interest of All Peoples of the World was introduced by the representative of the Polish People's Republic on behalf of the delegations of Bulgaria, Czechoslovakia, Hungary, Poland and the USSR (A/AC.138/85) (annex I, 5). The Committee did not have an opportunity of discussing the Declaration for lack of time.

38. It was stressed in the Moscow Declaration that the régime of fisheries on the high seas should be based on the principle of equal participation of all States in fishing and strict observation of scientifically based measures for conservation of the sea at the maximum sustainable level. Existing systems of international regulation of fishing, it was said, should be constantly improved and, in this connexion, the role of regional international fishery organizations should be increased and widened; the possibility should also be provided for all States

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6/ Ibid., A/8421, annex II, 1.

concerned to participate in them without discrimination on the basis of their sovereign equality. The Moscow Declaration, it was stated, supported the struggle of developing countries to establish their own national economy, including fisheries; the parties to the Declaration gave assistance to the developing countries in respect of establishment of and technical equipment for their fishing industry and would further co-operate with developing countries in the field of marine fisheries. It was also stated that certain preferential rights which would give the possibility of development of national fisheries and overcoming technical backwardness should be provided for developing countries. In this view, the rapid solution of the problem of full and rational utilization of living resources of the seas in the common interests of peoples could be found on the basis of a reasonable combination of the interests of coastal States and of distant water fishing States by way of international regulation instead of by adoption of unilateral measures by individual States.

39. The documents approved by the Third United Nations Conference on Trade and Development relating to the law of the sea were introduced to the Committee which decided to circulate them among delegations. Three resolutions on this subject were approved by UNCTAD: principle 11 relating to the right of the coastal State to dispose of the resources of its adjacent seas for the benefit of its population; incorporation in the permanent agenda of UNCTAD of the item on economic implications which the extra-jurisdictional exploitation of the sea-bed may produce for the economies of developing countries; and the reiteration of the resolution known as the "moratorium" resolution. The importance of these resolutions and the fact that they were given overwhelming support by the developing countries was stressed. One delegation observed that a number of countries did not participate in the vote on UNCTAD resolution 52 (III) of 19 May 1972, and that the resolution could not be considered as having any legal force as regards the establishment of a moratorium on the exploration and exploitation of the resources of the sea-bed and the ocean floor.

40. The following points were among those made during the Committee's discussions in assessing the rate of progress achieved and the speakers' evaluation of the form and over-all nature of the Conference envisaged in General Assembly resolution 2750 C (XXV). It was stated that although there were a number of difficulties outstanding, they would fall into place when the essential questions relating to national jurisdiction were resolved, and that the broad outlines of a possible settlement of the major outstanding issues of the law of the sea had in fact already emerged from the deliberations of the Committee and from developments, particularly in recent years, in state practice; that if an early general conference on the law of the sea was found to be feasible and desirable, it would be necessary that its agenda and committee structure should not be such as to make negotiations difficult and the achievement of international solutions illusory, and that it was extremely unlikely that the General Assembly would decide to hold a conference limited to the question of the sea-bed beyond national jurisdiction and a few other issues concerning the law of the sea; that the preparation of draft articles should be preceded by an endeavour to reach political agreement on the general outlines of a new, universal law of the sea which could serve as a basis for regional and subregional agreements; that at the present stage what was really important was to reach agreement on the fundamental bases of the system and that what was needed was a global solution, not partial solutions which would in any case depend on the subsequent solution of other problems of the law of the sea; that the effectiveness of a comprehensive law-making treaty for the oceans would depend in large measure on the extent to which it represented a consensus, rather than the views of a group of States, and

accommodated fundamental national and international interests, as well as the interests of the developing countries; that the conference on the law of the sea should not resolve itself simply into a political deal between maritime powers and developing coastal States, but that in establishing a new law of the sea the implications of technological advance and considerations of equity should also be taken into account; that the developing countries of Africa, Asia and Latin America had adopted, through various regional meetings, broadly convergent views, and that the time for a frank dialogue with the maritime powers was at hand; that as a result of the progress made, the forthcoming conference would not confine itself to the problems left unsolved by the 1958 and 1960 Conferences or which had arisen as a result of scientific and technological advances, but would be concerned with the progressive development of the law of the sea; that the negotiations so far conducted had enabled individual countries to weigh various interests and to consider their positions; that controversial topics and questions had been identified and criteria harmonized and unified in regional groups and between countries with common needs and interests, thus facilitating future negotiations; that draft articles submitted so far bore only on isolated questions, and that a working group should be established to consider the draft articles on fishing in order to accelerate the Committee's work; that with the amplification of various interests, the efforts at compromise and conciliation, the submission of draft articles and working papers on different aspects of the law of the sea, the over-all discussions had set in motion a process of change in the law of the sea by formal convention or by effective evolution.

41. Views as regards the timing of the conference were frequently related to the positions taken on the stage reached in the preparatory work. The point was made that adequate preparation was necessary and that only in that case should the conference be convened; that so far the Committee had not achieved the task entrusted to it by the General Assembly; a conference which would be convened under such circumstances might result in failure and such failure must be avoided at any cost; on the other hand the desirability of holding the conference at the earliest possible moment in the interest of accelerating progress of work was also mentioned. In essence the main suggestions put forward were as follows: that the conference should be convened as soon as possible in 1973; that the conference should be convened in 1973, with the Committee holding at least one more session prior thereto; that the initial session of the conference, to deal in particular with organizational matters, should be convened during the twenty-eighth session of the General Assembly with the substantive work of the conference to begin early in 1974 if possible and, if not, in 1975; that two sessions of the Committee should be held in 1973, and, if the last session made sufficient progress, that the conference could meet late in 1973; that the issue of the timing of the conference should be determined by the General Assembly in accordance with paragraph 3 of resolution 2750 C (XXV) in the light of its judgement on the sufficiency of preparation; and that it was of paramount importance to the success of the conference that preparation of all the necessary documents be complete and the progress of preparatory work was therefore the first thing to take into account as regards the timing of the conference. Another possibility mentioned was to set the date of the conference in the latter part of 1973, replacing the Committee by an Ad Hoc Committee which would be composed of States members of the Bureaux of the Committee with the limited mandate of preparing exclusively organizational and procedural aspects for the conference.

42. As regards the location of the conference, the Committee was informed, on 10 August 1972, of an official invitation from the Government of Chile for the holding of the conference at Santiago de Chile in accordance with paragraph 10 of

General Assembly resolution 2609 (XXIV). The advantages of holding the conference in a developing country having good relations and a clear definition in favour of international negotiation were stressed. The Chilean invitation, it was stated, was in respect of any meetings which would take place within one year. If the duration should extend beyond that period, some other country from any part of the world could offer to act as host for the additional period.

43. The Chilean invitation received a warm welcome and broad support from representatives from all regional groups. In this connexion, the successful experience of the recent Third United Nations Conference on Trade and Development and the contribution of the Latin American countries to the work of the Committee were recalled.

44. The Committee was also reminded of the formal invitation extended by the Government of Austria, on 15 December 1971, at the twenty-sixth session of the General Assembly to hold the conference in Vienna. It was pointed out that since the Chilean invitation covered a period of one year, possibilities for accommodating the two invitations existed since it was thought probable that the conference would extend over a longer period.

45. The Austrian invitation was also welcomed and considered in a favourable light, it being noted that a compromise solution was possible as far as the two invitations were concerned.

46. Other references were made relating to the location of the conference. The hope was also expressed that if and when Governments of other developing countries offered sites for holding of subsequent sessions, these offers should also be considered. In another view, the question was raised whether fixed positions could be taken at the current stage of the Committee's work since the final decision must be taken by the General Assembly. Still, in another view, it was held that a conference in several sessions contradicted the approach provided for in resolution 2750 (XXV), and that there must, therefore, be a single, well-prepared session. Reference was also made to general positions on the subject of the location to be used for major conferences. Certain representatives reserved their position in regard to the venue of the conference.

II. SUBJECTS AND FUNCTIONS ALLOCATED TO SUB-COMMITTEE I

A. Introduction

47. Sub-Committee I, which was set up in March 1971, continued its work during 1972 in accordance with the agreement of 12 March 1971 on the organization of work of the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction. 7/

48. Sub-Committee I held two series of meetings during the year, the first in New York from 29 February to 29 March 1972, and the second in Geneva from 19 July to 15 August 1972. In March it held 16 meetings; in July/August it held 14 meetings. Representatives of the States members of the Committee attended these meetings. The following Member States participated as observers: Barbados, Bhutan, Burma, Cuba, Democratic Yemen, Dominican Republic, Haiti, Honduras, Ireland, Israel, Jordan, Khmer Republic, Malawi, Mongolia, Oman, Portugal, Saudi Arabia, South Africa, Syrian Arab Republic, Uganda. Representatives of the specialized agencies, IAEA and UNCTAD also attended the meetings.

49. At the end of the March session, the Chairman of Sub-Committee I informed the Chairman of the Committee of the progress made in the work of the Sub-Committee (A/AC.138/SC.I/L.11). At the end of the July/August session, at the 61st meeting, the Sub-Committee adopted its report to the Committee.

50. The officers of Sub-Committee I were:

Chairman:	Mr. Paul Bamela Engo (Cameroon)
Vice-Chairmen:	Mr. S.M. Thompson-Flores (Brazil) Mr. G. Fekete (Hungary) Mr. C.V. Ranganathan (India)
Rapporteur:	Mr. H.C. Mott (Australia)

51. At its 33rd meeting, on 6 March 1972, the Sub-Committee adopted its programme of work for 1972. This programme, which was based on a working paper presented at the August 1971 session of the Sub-Committee, was formally adopted after the incorporation of certain amendments. The programme of work was:

Item 1: Status, scope and basic provisions of the régime based on the Declaration of Principles (resolution 2749 (XXV)).

Item 2: Status, scope, functions and powers of the international machinery in relation to:

7/ Ibid., A/8421, para. 19.

(a) organs of the international machinery, including composition, procedures and dispute settlement;

(b) rules and practices relating to activities for the exploration, exploitation and management of the resources of the area, as well as those relating to the preservation of the marine environment and scientific research, including technical assistance to developing countries;

(c) the equitable sharing in the benefits to be derived from the area, bearing in mind the special interests and needs of developing countries, whether coastal or land-locked;

(d) the economic considerations and implications relating to the exploitation of the resources of the area, including their processing and marketing;

(e) the particular needs and problems of land-locked countries; and

(f) relationship of the international machinery to the United Nations system.

52. In addition to various background documents, the Sub-Committee had before it the Comparative Table of Drafts, Treaties, Working Papers and Draft Articles, compiled by the Secretariat (document A/AC.138/L.10) and introduced to the Sub-Committee by the representative of the Secretary-General at the 34th meeting, and a report of the Secretary-General entitled "Additional notes on the possible economic implications of mineral production from the international sea-bed area" (A/AC.138/73/annex II, 2) was introduced by the Under-Secretary-General for Economic and Social Affairs at the 48th meeting. The Secretary-General of UNCTAD made a statement at that meeting. At the request of the Sub-Committee both statements were issued as official documents (A/AC.138/SC.I/L.12 and 13). The Sub-Committee decided to request the Secretariat to prepare a list of relevant decisions taken at the third session of UNCTAD. This was issued as document A/AC.138/SC.I/L.14. The resolutions adopted by UNCTAD were also circulated.

53. The following papers were introduced:

(a) Working paper submitted by the Netherlands concerning the concept of an intermediate zone (A/AC.138/SC.I/L.9)

(b) Institutional problems concerning the sea-bed authority: The Council (submitted by the delegation of Italy) (A/AC.138/SC.I/L.15)

(c) Archaeological and historical treasures of the sea-bed and the ocean floor beyond the limits of national jurisdiction (submitted by the delegation of Greece) (A/AC.138/SC.I/L.16).

B. Item 1 of the programme of work

54. The Sub-Committee dealt with item 1 of its programme of work, the status, scope and basic provisions of the régime based on the Declaration of Principles

(resolution 2749 (XXV)), from its 33rd to its 40th meetings in March. Some 42 delegations participated in the discussion.

55. A common view was that the term "status of the régime" meant the legal nature of the régime. In this regard many speakers noted that principle 9 of the Declaration of Principles required that the régime "shall be established by an international treaty of a universal character, generally agreed upon". They stressed the fact that the treaty should be of a universal character. Several delegations expressed the view that to satisfy the provisions of principle 9, the treaty should be open to participation by all States; but, several other delegations did not consider it appropriate to discuss this question at this stage.

56. With regard to the power that should be conferred by the treaty on the international authority over the area located beyond the limits of national jurisdiction, there was a divergence of opinion. Some delegations supported the view that the international authority should exercise sovereignty over the area and its resources on behalf of the international community and as a consequence of the fact that the sea area is the common heritage of mankind. Other delegations expressed the view that the treaty should not confer sovereignty over the area beyond national jurisdiction upon the international machinery. They thought it would be more appropriate to speak here in terms of jurisdiction. The view was also expressed that even jurisdiction should not be conferred upon the international machinery and that none of the provisions of the treaty should give the machinery legal grounds to consider the sea-bed as owned or possessed by it.

57. Many speakers considered it essential to devise means of ensuring that States not parties to the instrument establishing the régime nevertheless respected the provisions of the treaty. Several of these speakers said that this was necessary in view of the objective character of the common heritage concept. Some speakers argued, in this respect, that instruments of international law could only bind States that were parties to them; in this connexion the need for a widely acceptable treaty was noted. It was also noted that proposals based on the Declaration of Principles were before the Committee, under which claims inconsistent with the treaty would not be recognized.

58. The term "scope of the régime" was interpreted to mean the area of its application and the activities it should cover. Discussion of this point revealed divergences of view in regard to three basic issues:

(a) the area to be covered by the régime;

(b) the resources to be covered by the régime;

(c) the activities in regard to the area and its resources to be covered by the régime.

59. Some delegations said that the definition of the area of application of the régime raised two questions. One was the problem of delimiting the area of the sea-bed that lay beyond national jurisdiction. The view was restated that the international area should be as extensive as possible and that the matter of sea-bed boundaries be considered at an early date. The view was also restated that, in accordance with the seventh preambular paragraph of resolution 2750 C (XXV), priority should be given to the international régime and in this light the question

of limits should be examined. Some delegations argued that a close link existed between the boundary that would eventually be drawn and the nature of the régime to be established. These delegations considered that the international area should be as extensive as possible, it being understood that sufficiently broad powers would be conferred upon the authority to enable it to attain its objectives. Other delegations referred to the relationship that exists between the limits of the sea-bed and the limits in other maritime spaces and the consequent need to deal with them jointly, as was agreed in the Committee when it organized its work; they also highlighted the relationship that exists between all the limits and régimes which are applicable to ocean space.

60. The second was the problem of deciding whether the régime should apply only to the sea-bed and its resources or whether it should also apply to all of ocean space beyond national jurisdiction. Many delegations felt that the régime should apply only to the sea-bed and its resources and argued that this would accord with the Declaration of Principles. A view was also expressed that the régime should have powers in regard to all of ocean space.

61. A number of speakers argued that the régime should not affect the recognized freedoms of the high seas, and the status as high seas of the waters above the area beyond national jurisdiction. They considered that rules of international law already existed in respect of the high seas, and the air space above, which should be preserved. They also referred in this regard to principle 13 (a), which provides that nothing in the Declaration shall affect the "legal status of the waters superjacent to the area or that of the air space above those waters". A number of speakers argued that the régime should deal with all necessary aspects of the administration of the sea-bed and ocean floor beyond national jurisdiction and its resources, leaving unaffected, both as regards their substance and area of applicability those freedoms of the high seas not regulated by the provisions of the future convention. Some speakers commented in this context that it might be necessary to find means of harmonizing the exercise of the rights of States in the waters of high seas with activities on the sea-bed under the régime, since some conflict between the two could occur.

62. A number of delegations felt that the régime should cover both living and non-living resources of the sea-bed. Some delegations felt however that it should only apply to the non-living resources. Several speakers referred to the definition of natural resources contained in Article 2, paragraph 4, of the Convention on the Continental Shelf as deserving consideration. A further view was expressed that the régime might cover minerals in suspension in the sea-water and perhaps the living resources of the seas. Many others felt that this was not desirable.

63. As to the third point mentioned above, concerning the activities in regard to the area and its resources that should be covered by the régime, it was noted that the Declaration of Principles states that all activities regarding the exploration and exploitation of the resources of the area and other related activities shall be governed by the international régime. Some speakers pointed out that this wording was imprecise and that further clarification would be necessary.

64. It was argued that even if the primary purpose of the régime were limited to the exploration and orderly exploitation of the mineral resources of the area, this objective could be effectively achieved only if an international machinery were created with competence and powers with respect to the maintenance of the

territorial and jurisdictional integrity and the harmonization of uses of the area. It was stated that the régime should have the power to deal with scientific research and pollution not merely concerning or deriving from sea-bed activities, but also in ocean space as a whole, together with the power to deal with the use of potentially dangerous technology for the marine environment. Furthermore, a number of delegations noted that the activities of the régime should be confined to the sea-bed and should not touch upon the activities of States in the waters covering the sea-bed nor in the oceans as a whole. Under this heading, however, many speakers felt that it would be necessary for the régime to have appropriate powers in regard to preservation of the sea-bed environment, pollution emanating from sea-bed activities, and scientific research on the sea-bed. Some speakers argued that scientific research and subjects such as the laying of pipelines and cables were not appropriate for regulation by the régime since international law already existed that applied to them.

65. Several speakers pointed out that measures of arms control and disarmament should not be within the competence of the authority because machinery covering those activities already existed. Other speakers believed it might be appropriate to give the authority competence as far as arms control activities were concerned. The view was expressed that the use of the sea-bed and the subsoil thereof for military purposes should be prohibited and that specific measures in this regard had to be negotiated in the context of the disarmament talks. The sea-bed treaty was not to be construed in a manner prejudicial to any measures which had been or might be agreed upon in the process of such negotiations.

66. Some delegations considered that before the aim of complete prohibition and thorough destruction of nuclear weapons is realized, the demand for banning nuclear tests will only suit the purpose of consolidating the nuclear monopoly by the big nuclear Powers. At present, the activities of nuclear submarines in the international sea-bed area and in the sea-bed area of other countries should, first of all, be prohibited, and the emplacement of nuclear weapons and of all other weapons in the said sea-bed areas should also be prohibited.

67. As regards the third of the concepts mentioned in point 1 of the programme of work, that of the basic provisions of the régime, delegations appeared generally to accept that it would be necessary to identify fundamental concepts based on the Declaration of Principles, which could be transformed into treaty articles which would be as widely accepted as possible. It was considered further that some of the concepts contained in the Principles should be expressed with greater clarity and that others should be amplified in certain directions. In spite of reservations, there appeared to be general expectation that some at least of the principles could be transformed without difficulty into treaty language.

68. Some delegations cautioned, however, that the purpose of the Declaration of Principles could not be achieved if the principles were to be simply repeated in the treaty. While agreeing that some principles could form the basis of the future treaty, these delegations felt that the language of other principles was more in the nature of guidelines for the purpose of drafting articles.

69. Among further points made during the discussion were the following. Many speakers urged that in the negotiations on the régime the need to bridge the gap between the developed and the developing countries should be kept constantly in mind and, as one means of helping towards the achievement of this objective, the

question of the transfer of technology deserved emphasis. A view was expressed that, pending the entry into force of the treaty now under negotiation, a transitional international régime and machinery based on the Declaration of Principles should be set up to govern all commercial research and experimental activities concerning deep-sea mining. The view was also expressed that to consider the common heritage and machinery before decisions have been taken with respect to certain vital points of the definitive régime and machinery would be inappropriate to the extent that it would tend to prejudge those points. It was also argued that, in drafting treaty articles, the possibility should be kept in mind of varying the basis provided by the Declaration of Principles. A view was expressed that, if it proved impossible to negotiate agreed articles on aspects of the régime, the practice of including alternative texts might be followed.

70. At the 40th meeting of the Sub-Committee, the Chairman summarized the discussion, and his summary, by decision of the Sub-Committee, was circulated as document A/AC.138/SC.I/L.10.

71. The Sub-Committee agreed to a proposal by the Chairman to set up a Working Group on the international régime with a mandate to draw up, in the first instance, a working paper showing areas of agreement and disagreement on the various issues. The Working Group would thereafter attempt to negotiate questions of substance on the points where no agreement existed. The aim would be as much as possible to produce a set of agreed ideas. The drafting stage would be reached after further consideration; the aim then would be to produce draft treaty articles.

72. It was agreed that the Working Group would have 33 members but would be open-ended to enable non-members to present proposals or those which had already done so to join in their examination. The following States were designated as members of the Working Group: Afghanistan, Algeria, Australia, Canada, Czechoslovakia, Ethiopia, Finland, France, Indonesia, Iraq, Iran, Japan, Kenya, Kuwait, Madagascar, Mali, Mauritania, Mexico, Morocco, Nigeria, Peru, Poland, Romania, Senegal, Sri Lanka, Trinidad and Tobago, Union of Soviet Socialist Republics, United States of America, Uruguay, Venezuela, Zaire, Zambia.

C. Working Group on the international régime

73. During the spring session of the Committee, the Working Group held two meetings, on 28 and 29 March 1972, at the first of which it elected Mr. C.W. Pinto (Sri Lanka) as Chairman. It held 20 meetings in July/August, in pursuance of the mandate conferred upon it by the Sub-Committee.

74. At the start of its meetings during the July/August session, the Working Group had before it an informal working paper which had been prepared as a preliminary attempt to reflect within a single paper, through the use of square brackets and alternative texts, areas of agreement and disagreement on matters relating to the status, scope and basic provisions of the régime, as these had been indicated in the debates in the Committee and in Sub-Committee I. The paper contained 21 texts on the following aspects of the status, scope and basic provisions of the régime based on the Declaration of Principles: limits of the area; common heritage of mankind; activities regarding exploration and exploitation of the resources of the area; non-appropriation and no claim or exercise of sovereignty or sovereign rights; no claim or acquisition of rights incompatible with the régime;

non-recognition of claims inconsistent with the convention; use of the area by all States without discrimination; applicability of principles and rules of international law; benefit of mankind as a whole; preservation of the area exclusively for peaceful purposes; who may exploit the area; general norms regarding exploitation; scientific research; transfer of technology; protection of the marine environment; due regard to the rights and interests of coastal States; the legal status of superjacent waters; non-interference with other activities in the area; responsibility to ensure observance of the régime; and settlement of disputes.

75. The Working Group completed on 28 July 1972 a first reading of the texts, designed to ensure that the opinions of members were fully and accurately reflected. As a result of that first reading, the working paper was revised to take account of the opinions expressed. During a second reading of the revised texts, an attempt was made to narrow the areas of disagreement as far as possible and to merge alternative texts where there was no fundamental difference of approach. The result of the Group's work is contained in annex II, 1 to this report. At the conclusion of its meetings, the Working Group had completed its second reading of the following texts: the common heritage of mankind; activities regarding exploration and exploitation; non-appropriation or claim or exercise of sovereignty or sovereign rights, or of rights incompatible with the treaty articles, and the non-recognition of any such claims or exercise of rights; and use of the area by all States without discrimination.

76. It should be noted that (a) the Group did not discuss the subject-matter proposed for inclusion in text 1; (b) that it did not consider headings or marginal notes, or the question of the eventual position of texts; (c) that some members of the Group expressed reservations as to whether certain of the subjects dealt with in the texts fell within the terms of reference of the Working Group; (d) that square brackets and alternative texts continued to be used in order to indicate areas where it did not prove possible to accommodate views in a single text; and (e) that some members did not consider the matters covered by the texts as necessarily exhaustive.

77. Attention is invited to the introductory note dealing with the unitary approach, proposed by the delegation of Malta and to the foot-notes in which certain delegations consented to have their views reflected.

D. Item 2 of the programme of work

78. Discussion of item 2 of the programme of work, relating to the status, scope, functions and powers of the international machinery, began during the March session, when the Sub-Committee heard 42 speakers. It concluded during the July/August session, when the Sub-Committee devoted four meetings to hearing an additional 11 speakers.

79. Several delegations made the general point that a close relationship existed between items 1 and 2 of the programme of work, in the sense that the status, scope and basic provisions of the régime would have to reflect themselves in the status, scope, functions and powers of the machinery.

80. It was a fairly common view that several basic questions would have to be dealt with before the Sub-Committee could reach a more advanced stage in its work. Among those questions were the delimitation of the area in which the machinery would exercise authority, the powers of the machinery and the resources of the area.

81. Many delegations considered the question of limits in relation to the régime and machinery, speaking along the lines of views expressed in the discussion of item 1 of the programme of work, which are reflected in paragraph 59 above.

(a) Organs of the international machinery, including composition, procedures and dispute settlement

82. Many speakers considered that the international machinery should be the executive and administrative arm of the régime, and that both the régime and machinery should be established by an international treaty or treaties of a universal character.

83. Many speakers contended that the machinery should have strong and clearly defined powers to enable it to achieve the primary purpose of the régime which, as set out in the Declaration of Principles, was to provide for the orderly and safe development and rational management of the international sea-bed area and its resources, and for expanding opportunities in the use thereof, and to ensure the equitable sharing by States in the benefits derived therefrom, taking into account the particular interests and needs of developing countries, whether coastal or land-locked. Other delegations felt that the international machinery should have functions necessary for the regulation of industrial exploration and exploitation of the sea-bed and its subsoil.

84. Some speakers considered that the machinery should have international legal personality and explained that by this they meant that it should have, inter alia, power to conclude agreements, to own and dispose of property, and to conclude contracts.

85. It was a common view that the basic machinery should consist of at least two kinds of organs:

First, an assembly, or plenary body, which would be the organ where all States parties to the treaty would be represented. Many speakers set forth their views on the powers that should be vested in the Assembly and it was possible here to note a degree of broad agreement in the Sub-Committee. Many speakers, for example, argued in favour of giving each member of the Assembly one vote in its deliberations, but agreement did not seem yet to exist as to how decisions should be taken.

Second, a council, or executive body. Agreement was limited to the notion that the composition of the Council should be such as to enable it to be representative and to operate effectively. There were widespread differences, however, in regard to the fundamental aspects of the council, such as the number of members, the interests that should be represented therein, the manner in which the council should be composed and the decision-making process.

86. It was pointed out that current proposals before the Sub-Committee envisaged a representation on the council of between 18 and 35 States. In regard to voting procedures, although many speakers considered that each State should have one vote, no agreement existed as to whether decisions should be taken by simple majority, or by some greater or otherwise qualified form of majority. A view was expressed that decisions should be taken by consensus as far as matters of substance were concerned. It was argued that the composition and procedures must ensure adequate protection for those States whose positions will be most affected. Other views were expressed to the contrary, on the ground that such a composition and procedure were likely to frustrate or impede the working of the council.

87. It was also stated by many delegations that it would be necessary to establish an administrative service or secretariat, and that it would be necessary to establish procedures for the settlement of disputes. Some considered that this should be in the nature of a tribunal, which would be established by the treaty along with the machinery. Others foresaw a role for the International Court of Justice; some delegations felt that the Court's rules of procedure should be made more flexible; still others seemed to feel there might be a place both for a special tribunal and for the International Court of Justice in the settlement process. A number of speakers favoured a procedure (perhaps including conciliation and mediation) leading to compulsory settlement of disputes, which some viewed as of critical importance, while other speakers favoured non-binding processes.

88. A number of delegations considered that other organs should be created and pre-eminence should be given to the International Sea-bed Enterprise, which would be in their view the organ par excellence of the machinery in regard to all the technical, industrial and commercial activities concerning the exploration of the area and the exploitation of its resources.

89. Other suggestions for the creation of major organs of machinery were made. One suggestion, for example, was for the establishment of an economic and technical commission, or similar body, which might have specific responsibilities in regard to the actual conduct of operations. Another suggestion contemplated the establishment of an operations commission, a rules and recommended practices commission and a boundary review commission. A suggestion was also made for the establishment of a distribution agency and a stabilization board to deal with distribution of benefits and stabilization of prices, respectively.

90. The question whether the machinery should be empowered to conduct exploration or exploitation itself or whether it should be a licensing body in this regard was one on which a wide range of views were expressed.

91. Some representatives argued that the machinery should be responsible mainly for issuing licences to States for purposes of exploration and exploitation, as well as for certain activities associated with this function.

92. Other speakers contended that the machinery alone should have the power to explore and exploit in the international sea-bed area, for example, through a corporation or enterprise which would be part of the machinery, and which could make use of contractors or participate in joint ventures.

93. Still other speakers appeared to see a solution lying in a mixed system whereby the authority might both issue licences and itself have the power to explore and exploit either directly or through agents engaged for the purpose.

94. A number of speakers, including some whose delegations favoured giving the machinery a power of direct operation, said that in the initial stages at least licensing would necessarily be one of the main functions of the machinery, because it would take time for this machinery to develop the capacity, both technologically and financially, to operate on its own. They saw this matter of timing as a practical problem, however, and one that could be resolved within the authority at an appropriate stage.

95. Some speakers argued that States should be the basic entity authorized to take part in sea-bed operations, and that States in turn could sub-license operators to carry out exploration and exploitation or undertake it themselves. In this context some delegations described the outlines of possible arrangements to ensure that there was an equitable allocation of licences to participating States. The view was also expressed that the machinery ought to grant licences directly to physical and juridical persons, and without interposing a State between itself and the individual operator. In this connexion it was stated that such physical and juridical persons could be sponsored by and under the supervision of a contracting party.

96. One delegation favoured a comprehensive approach to the problems of ocean space and looked forward to the creation not of an agency or authority, but of an institutional system. In the view of this delegation the institutional system should be competent not only to develop and manage ocean space and its resources beyond national jurisdiction for the benefit of mankind, but should also be competent to deal with a wide range of matters of international concern, including the preservation of the marine environment and the maintenance of law and order, in ocean space. In this connexion the delegation suggested the creation of a machinery comprising an assembly, a council controlling three main commissions, an international marine court and a secretariat.

97. Some other views expressed were that sea-bed operations must not result in any unjustifiable interference with other activities in the marine environment; that liability for damage was an important matter for consideration; that provision should exist to enlarge the powers of the machinery as its competence developed; and that powers would be necessary to control the effects of sea-bed production on land-based industries.

(b) <u>Rules and practices relating to activities for the exploration, exploitation and management of the resources of the area, as well as those relating to the preservation of the marine environment and scientific research, including technical assistance to developing countries</u>

98. Several delegations considered that the treaty should allow for flexibility in regard to the formulation of rules and practices, so that these could be modified to keep pace with technology. It was argued in this regard that the treaty should specify the general parameters of the system of control for exploration and exploitation, and that rules and practices could be promulgated as necessary within those parameters. Some delegations noted that this raised questions concerning the scope of the régime and machinery, on the resolution of which could depend to some extent the rules and practices that would be applicable.

99. Some speakers put forward views as to the types of licences that might be issued and the areas and categories of minerals they should cover, and how the rules covering the grant of licences should be drawn up.

100. Some speakers stressed that a system of rules and practices, if it were to be satisfactory, would have to contain provision for security of title, so that operators could have a sound basis from which to work. Some also considered that the system would have to provide adequate incentives for operators to undertake activities of exploration and exploitation.

101. Many delegations made suggestions as to additional or complementary powers which in their view the machinery should possess, and which might be embodied in agreed rules and practices, such as for example, the questions of inspections and safety measures, preservation of the marine environment, regulation of scientific research, and dissemination of information. Some other delegations expressed the view that scientific research was not an appropriate subject for regulation by the machinery.

102. In regard to the control of pollution, it was argued that the machinery's powers should not be limited to pollution emanating from sea-bed activities, but should extend more generally to pollution that might affect the sea-bed or the activities carried out there. The view was also expressed that, in considering the preservation of the marine environment, a practical approach to formulating a system of joint responsibility as between States and the international community would be to draw on the experience of States in the development of anti-pollution measures arising from control of exploration and exploitation of the continental shelf.

103. Several speakers referred to the concept of an intermediate zone on which a working paper had been presented in March (see paragraph 53 (a) above). The view was expressed that in any such zone, the application of certain general international standards would be mandatory. Two examples of such standards would be the protection of the marine environment and the prevention of unjustifiable interference with other uses, such as navigation, of the superjacent waters.

(c) The equitable sharing in the benefits to be derived from the area, bearing in mind the special interests and needs of developing countries, whether coastal or land-locked

104. Many delegations discussed this subject in their statements. Referring to the Declaration of Principles, they argued that the régime to be established should ensure the equitable sharing by States in the benefits derived from exploration and exploitation.

105. In this regard, the Sub-Committee had at its disposal the Secretary-General's study in document A/AC.138/38 and Corr. 1 entitled "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". 8/ This considered the problem of arriving at an agreed

8/ Ibid., para. 23.

method of sharing benefits, and demonstrated that certain basic decisions will have to be taken before that task can be accomplished. The view was expressed that it would be difficult to formulate meaningful, detailed views on the distribution of benefits in the absence of more precise data relating to the international area and its resources.

106. A fairly common point made during the discussion was that the term "benefits" comprised more than financial benefits, or revenues. A view was expressed that the term encompassed, inter alia, access to raw materials and access to scientific information. The question of the provision of training and the transfer of technology was also raised under this general heading. Some delegations pointed out the desirability of all participating States, irrespective of their geographical or economic situation, being able themselves to take part directly in the exploitation and exploration of the resources of the area. It was argued, in addition, that revenues should not be distributed in the form of aid, but directly as of right as their share of the common heritage to participating States for use as they deemed desirable.

107. As to the criteria for distributing benefits, one position, which was fairly widely taken, was that the developing countries deserved special consideration. A view was expressed that revenues should be distributed to participating States according to their needs. It was argued also that the total revenues should be divided in the first instance into two portions, one for the developing countries and one for the developed countries, and that the portion for the developing countries should be a substantial one. Some speakers suggested the use of combined criteria of population and per capita income; another view was that distribution should be according to the inverse ratio of contributions to the United Nations itself. It was suggested that the basis of distribution of benefits adopted for any period of time should be reviewed once every five years to permit adjustment in the light of changing circumstances. A view was expressed that benefits deriving under the treaty should be made available only to those States which ratify or accede to the treaty.

108. It was stated in this regard that it would be possible to rely on existing international and regional development organizations for purposes of distribution. A contrary view was that it would be wrong to channel financial benefits to any international organizations of economic and technical assistance. Instead, some mechanism should be devised to ensure that the benefits accrued directly to States.

109. A further view was that the land-locked and shelf-locked States, which considered this question to be of great importance, should have their particular interests and needs borne in mind, in respect of distribution of benefits.

110. In regard to the concept of an intermediate zone the view was expressed that there could not be a truly equitable system of sharing unless there were also some provision for revenue sharing from important areas of the continental margin that contained valuable deposits of petroleum and gas. For this reason an intermediate zone including at least part of the continental margin would be necessary. The precise formula for determining the amount of international revenue from an intermediate zone was negotiable.

111. One delegation expressed the view that coastal States should contribute to the international community a proportion to be determined, in due course, of the financial benefits derived from exploitation of ocean space within its jurisdiction. Another delegation recalled its country's readiness to contribute to the international community a percentage of benefits accruing not from an intermediate zone, but from the whole of the territorial sea-bed and the continental shelf.

(d) The economic considerations and implications relating to the exploitation of the resources of the area, including their processing and marketing

112. Consideration of this item raised issues that were clearly important for many delegations, whose representatives expressed concern that sea-bed production might upset marketing patterns and create difficulties for land-based producers of the commodities in question. Some speakers urged that the machinery should have the power to control the production, processing and marketing of the resources of the area. Other delegations pointed out that the possibility exists of discouraging sea-bed mining by means of restrictive controls and that this would act to the detriment of the international community as a whole. Some representatives appeared to envisage that any machinery set up for this purpose would function with the interests of the developing countries concerned in mind. They saw the machinery's powers in this regard as being extensive.

113. One suggestion was that, in addition to conferring powers of this nature on the machinery, a small unit for price stabilization should be set up. A further view was that control of production from the area beyond national jurisdiction could be achieved either through limiting the number of concessions granted, by setting aside a certain proportion of production, by a stabilization tax or by some means of compensation. Some delegations suggested the use of international commodity agreements which would cover both sea-bed and land-based production. There was also a suggestion for setting a ceiling for the production of minerals of which a surplus existed on world markets. It was stated that the methods and procedures used should be subject to constant review in the light of developments.

114. Other speakers saw a role for existing international organizations, such as UNCTAD, in minimizing any harmful effects of sea-bed production. Some delegations pointed out that it has not yet been proven that ocean minerals can actually compete at present real price levels. The view was expressed in this connexion that the machinery should adopt, in consultation and, where appropriate, in collaboration with, the competent organ or organs of the United Nations and the specialized agencies concerned, measures designed to minimize and eliminate fluctuations of prices of land resources and any adverse economic effects caused thereby. It was pointed out in this regard that the difficulties of establishing a system of international production or price control were likely to be formidable.

115. Another view was that, with the possible exception of cobalt, the projected expansion of world demand for the minerals concerned was such that any significant adverse impact on land-based production from the introduction of new sources of supply in the sea-bed need not be contemplated. The implications of trying to set up an international system of production or price controls were so weighty that any attempt to do so could only have an adverse effect on the achievement of the objectives of the Sub-Committee. Moreover, the objectives sought by the proponents of such a system could not be achieved in the absence of a system that involved land production as well. There was no need for a system of this kind and its

consideration should not be permitted to impair other work. It was argued that, as regards processing and marketing, an attempt to deal with the complex factors involved could keep the Sub-Committee at work for many years, for these were part of a set of questions going beyond the scope of the Committee's endeavours.

116. Information was given about work being done by certain companies in the deep-sea area. It was, inter alia, stated that the procedures for recovering metal from nodules promised to become economically profitable in the near future and on the basis of the progress made there was reason to hope that minerals on the sea-bed would become exploitable on a large scale between 1975 and 1980. Significant new resources would then gradually become available to meet mankind's growing needs and to produce revenues for the international community. Several speakers felt that these prospects were much too optimistic and they stressed that at the present time there was no precise indication as to the possibility of economically feasible and commercially profitable exploitation. Notwithstanding the differing views as to the time-scale in which significant sea-bed production would be achieved there was general agreement on the great importance and urgency of establishing a régime to ensure the orderly and rational development of those resources.

117. A number of delegations argued that States which have companies engaged in exploratory activities should give assurances that they would not undertake commercial exploitation of sea-bed resources in the area beyond the limits of national jurisdiction prior to the establishment of the régime. It was pointed out that some States may not have the appropriate domestic legislation to provide such assurances. Some delegations suggested in this context that the Committee might unanimously reaffirm General Assembly resolution 2574 D (XXIV). Other delegations reiterated reservations about that resolution.

118. The view was expressed that if it proved impossible to get early agreement on the régime and machinery it might be desirable to create transitional machinery which would have responsibility for regulating activities in respect of exploration and exploitation on the sea-bed beyond national jurisdiction pending the entry into force of the régime itself. Arguments against this view were expressed on the grounds that no consideration should be given to this matter until certain decisions were taken on the nature, scope and powers of the machinery. It was also stated that the establishment of transitional machinery might delay final agreement on the régime and machinery.

119. The Sub-Committee asked the Secretary-General to gather and make available to it recent material on the subject of activities being conducted in areas beyond national jurisdiction. This material is contained in document A/AC.138/73, which the Under-Secretary-General for Economic and Social Affairs introduced at the 48th meeting of the Sub-Committee (see paragraph 52 above). This report was the subject of a separate debate at the 49th and 50th meetings of the Sub-Committee (see paragraphs 130-141 below). The Sub-Committee recommended to the Main Committee that it should annex to its report the text of the Secretary-General's study referred to above (annex II, 2).

(e) The particular needs and problems of land-locked countries

120. Many delegations considered that the particular needs and problems of land-locked countries deserved sympathetic consideration. Some speakers made the point that many of the land-locked States were also developing States, and that developing land-locked States deserved special consideration in this context.

121. Some speakers also linked the problems of shelf-locked States with those of land-locked States. They argued that shelf-locked States, because they shared to a certain extent the problems of land-locked States, also merited special sympathetic consideration.

122. Various suggestions were put forward for dealing equitably with the problems of land-locked and also shelf-locked States. One was that land-locked States deserved special consideration from the point of view of representation on the organs of the machinery; some speakers added that shelf-locked States also deserved special consideration in this regard. It was argued that a distinction should be made between primarily coastal and primarily non-coastal States and that the two categories should be represented equally in the organs of the machinery. A further view was that land-locked States, and perhaps shelf-locked States, should be accorded some preference in the sharing of benefits.

123. Some speakers made more specific suggestions as to the means of approaching and handling the problems of land-locked countries. One view was that the international machinery should provide opportunities for those States to conduct activities of exploration and exploitation of the area - either individually, in partnership with another State, as a member of a group of States, or in co-operation with the sea-bed authority. The view was also expressed that the international machinery should provide land-locked States with opportunities for training in marine technology.

124. It was argued, too, that the problem could be approached in a regional framework as well as at the global level, but that this aspect could not be usefully discussed until some agreement on limits had been reached. In this context the view was expressed that joint or regional ventures were subject to political arrangements which might not be feasible in all regions.

125. Some speakers, in considering the particular difficulties of land-locked States, saw these as falling under several headings: first, right of access to the international sea-bed area, including the transit of persons, minerals and equipment to and from coastlines, and adequate means of transport and communications; second, transit through the inland waters and territorial seas of coastal States; and third, the need for facilities on coastlines to permit activities of exploration and exploitation.

126. A view was expressed that the proposed treaty should declare that land-locked States had a right of transit through the territory, internal waters and territorial seas of coastal States to the international area for purposes of exploration and exploitation, leaving the precise manner of the exercise of this right to be worked out bilaterally. Coastal States, however, should be under an obligation to conclude such bilateral arrangements on a reasonable basis. A further view was that the principles of the Convention on the Transit Trade of Land-Locked States should be incorporated in the law of the sea, as eventually negotiated.

(f) Relationship of the international machinery to the United Nations system

127. Most if not all of those who spoke on this item seemed to envisage that the régime and machinery would be established through an international treaty or treaties, which would thereby create a separate entity in the international arena.

128. Some speakers took the view that the authority should be in the United Nations system; others argued that it should remain outside that system. The latter category of speakers seemed to consider that the authority could not be subordinated to the United Nations or form part of the United Nations system as commonly conceived, but that some formal link should exist. It was also suggested that certain rules and procedures employed in the General Assembly might be suitable for use by the authority.

* * *

129. At the 55th meeting of the Sub-Committee, the Vice-Chairman summarized the discussion on item 2 of the programme of work, and his summary, by decision of the Sub-Committee, was circulated as document A/AC.138/SC.I/L.17.

E. Mineral production from the deep-sea area

130. The Sub-Committee, at its 49th and 50 meetings, discussed the question of mineral production from the area of the sea-bed beyond national jurisdiction. This was in addition to an earlier discussion, during the March session, under item 2 (d) of the Sub-Committee's programme of work. This separate discussion is summarized in paragraphs 112-119 above.

131. The General Assembly, in its resolution 2750 A (XXV), had asked the Secretary-General, in co-operation with UNCTAD, to study the problems arising from the production of certain minerals from the area beyond national jurisdiction, to submit his report to the Sea-Bed Committee, and to keep the matter under constant review. The Secretary-General's report (A/AC.138/36) 9/ was discussed at the session of the Committee in July/August 1971.

132. During the consideration of this matter at the March session in 1972 (see paragraphs 112-119 above), the Secretary-General was asked to include in a subsequent report information regarding the latest developments in this field. Accordingly, the Secretary-General provided a report entitled "Additional notes on possible economic implications of mineral production from the international sea-bed area" (A/AC.138/73) (annex II, 2). The Under-Secretary-General for Economic and Social Affairs introduced this report at the 48th meeting of the Sub-Committee (see paragraph 52 above).

133. During the discussion in the Sub-Committee, an account was given of certain activities in the area of the sea-bed beyond national jurisdiction. Reference was made to proposed legialative action that would enable the issuance of licences for operations in the international sea-bed area. Reference was also made to a draft decision (A/AC.138/L.11) (see paragraph 30 above) submitted in the Committee during the March session. Many delegations suggested that States should not encourage their nationals in the exploration and exploitation of sea-bed resources beyond the limits of national jurisdiction. The matter of deep-sea mining should be kept under constant review in the United Nations and UNCTAD Secretariats, in the Sea-Bed Committee and by UNCTAD itself.

9/ Ibid., A/8421, annex II, 1.

134. It was argued that the probable increase in the supply of minerals from land deposits coupled with sea-bed production would inevitably tend to lower prices for those minerals. If it were decided to exploit the sea-bed for the benefit of mankind, means must be provided to ensure that the adverse effect on the developing countries should not outweigh the benefits they received. It was suggested that the sea-bed authority should have sufficient powers to control and regulate production so as to prevent or mitigate unfavourable effects on the economies of the developing countries. Further study of the question would be necessary.

135. Other delegations, although welcoming the Secretary-General's report, considered that it would be appropriate to adopt a cautious approach to some of the views it expressed. They indicated that the hypothetical production estimates used in the report might give a misleading impression of the possible impact of mineral production from the international sea-bed area on world markets and on the economies of land-based producers. These delegations believed that production from the sea-bed was not likely to be commercially feasible at less than current price levels for the metals to be derived from manganese nodules, that investment in nodule production was not justifiable at less than the current price level for these metals and that minerals from the sea-bed were likely only to meet a part of the expected increase in world demand. They affirmed that several errors of fact and figures were contained in the report and held that in some cases the authors had used data and drawn on published sources that were of questionable reliability.

136. These delegations argued that the existing state of knowledge and technology made it difficult to make firm predictions. They pointed out that, although a certain amount of experimentation was in progress, no commercially proven process of exploitation and metallurgy existed at present. In so far as it was possible to make a judgement at this stage, however, they considered that it was unlikely that the exploitation of manganese nodules would depress the price of the metals concerned and that therefore it would have no adverse effect on existing land producers. On the contrary, they contended that in the long run the development of new sources of supply would benefit the countries of the world, including those who were consumers of the metals in question, but that a long period of development free from excessively restrictive regulation may be necessary if revenues are to be generated from sea-bed mineral production for the maximum benefit of mankind.

137. A number of delegations reiterated the view, supported, in their opinion, by the report and in particular the chapter prepared by UNCTAD on the negative effects which most certainly may derive from the new production to the economies of developing countries, who are the main land producers and the subsequent need for an over-all control of the production process in all its stages. It was forthermore emphasized that many developing countries, owing to their high degree of dependency on mineral production and export, would be the most affected by a lack of such control. These delegations affirmed the validity of the data provided by the Secretariat.

138. Differing views were expressed on the question whether the current scale of activities in regard to mining on the deep sea-bed meant that exploitation, as opposed to research and exploration had already begun.

139. The view was expressed that all commercial research and experimental activities concerning deep-sea mining should be governed by a transitional international régime and machinery based on the Declaration of Principles

(resolution 2749 (XXV)) pending the entry into force of the international sea-bed convention now under negotiation. Views were also expressed against the establishment of such transitional measures before the question had been considered thoroughly, and decisions taken on important aspects on the grounds that this would prejudge the permanent régime and machinery and delay its establishment.

140. Some delegations recalled that, as already decided, the Secretary-General of the United Nations and the Secretary-General of UNCTAD would be keeping this subject under review and would be providing the Committee with additional information. They looked forward to examining further reports. A suggestion was made that future reports be organized to separate reliable source data from more speculative data. Similarly the interpretation of data should be separated from the data itself.

141. The Chairman reiterated an appeal he had made at the March session to the effect that the Governments concerned could best assist the process of reporting by providing the Secretary-General with information available to them bearing upon the question. The Under-Secretary-General for Economic and Social Affairs echoed this appeal.

F. Further consideration of item 2

142. The Sub-Committee agreed at its 61st meeting to a proposal by the Chairman which is summarized below, concerning the course of future work in regard to item 2 of the programme of work.

143. The Chairman said that in view, among other considerations, of the close links that existed between the two items on the Sub-Committee's programme of work - the régime and the machinery - representatives of the different regional groups had agreed to entrust to the Working Group established by decision of the Sub-Committee at its 44th meeting on 27 March 1972 and chaired by Mr. C. W. Pinto, the task of dealing with the matters included in item 2 of the programme of work, in accordance with the Group's procedures. The Chairman then read out item 2 of the work programme (see paragraph 51 above).

144. The Chairman said that it would be understood that the Group could decide at the appropriate time, that the completion of the task relating to the régime would not be necessary, before beginning work on the international machinery. The understanding concerning the distribution of membership among regional groups would remain the same, it being agreed that regional groups would be free to maintain or modify their membership, and the Working Group would be open to all members of the Committee who would wish to participate.

145. Several delegations expressed certain understandings, which are contained in the summary records of the Sub-Committee, in regard to the Chairman's proposal.

III. SUBJECTS AND FUNCTIONS ALLOCATED TO SUB-COMMITTEE II

A. Introduction

146. Sub-Committee II, which was one of the three Sub-Committees of the whole set up in March 1971, continued its work during 1972. Under the terms of the agreement of 12 March 1971 on the organization of work 10/ of the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction, the following subjects and issues were allocated to Sub-Committee II:

> "To prepare a comprehensive list of subjects and issues relating to the law of the sea, including those concerning the régime of the high seas, the continental shelf, the territorial sea (including the question of its breadth and the question of international straits) and contiguous zone, fishing and conservation of the living resources of the high seas (including the question of the preferential rights of coastal States) and to prepare draft treaty articles thereon. It is understood that the Sub-Committee may decide to draft articles before completing the comprehensive list of subjects and issues related to the law of the sea."

147. With regard to the outstanding issues that under the above-mentioned agreement were left to be determined later, the Chairman of the Committee at its 66th meeting, on 27 August 1971, read out the following agreement: 11/

> "The question of the international régime should receive a certain priority as explained by the co-sponsors of the original draft resolution later adopted as resolution 2750 C (XXV) and as implied in the terms of that resolution. This would mean, in the first instance, the allocation of more time to Sub-Committee I.
>
> "While each Sub-Committee will have the right to discuss and record its conclusions on the question of limits so far as it is relevant to the subjects allocated to it, the main Committee will not reach a decision on the final recommendation with regard to limits until the recommendations of Sub-Committee II on the precise definition of the area have been received, which should constitute basic proposals for the consideration of the main Committee.
>
> "The question of peaceful uses is allocated to the main Committee, it being understood that each of the Sub-Committees is free to consider it in so far as this question is relevant to its mandate."

148. During the Committee's sessions in 1972, Sub-Committee II held two series of meetings - the first in New York from 1 to 30 March, and the second in Geneva from 17 July to 17 August. In March it held nine meetings; in July/August, 15 meetings.

10/ Ibid., A/8421, para. 19.

11/ Ibid., para. 22.

149. Being a sub-committee of the whole, Sub-Committee II was composed of the States members of the Committee as enlarged by General Assembly resolutions 2750 C (XXV) and 2881 (XXVI). Also present were observers of the Member States of the United Nations which accepted the invitation to participate as such in the Committee's proceedings. FAO, IAEA, IMCO, UNESCO and its IOC, WMO and UNCTAD, were also represented at the meetings.

150. At its 24th meeting, on 1 March 1972, the Sub-Committee decided that officers temporarily absent would be replaced, pending their return, by members of their respective delegations. Thus, Mr. Diggs (Liberia) and Mr. Kostov (Bulgaria) acted as Vice-Chairmen during the temporary absence of Mr. Holder and Mr. Yankov respectively and Mr. Kassem (Egypt) as Rapporteur during the temporary absence of Mr. Abdel-Hamid. In the absence of Mr. Galindo Pohl, the Sub-Committee at its 33rd meeting, on 17 July 1972, elected Mr. Martínez Moreno (El Salvador) as Chairman. The officers of Sub-Committee II were:

Chairman:	Mr. Reynaldo Galindo Pohl (El Salvador) (during the March meetings)
	Mr. Alfredo Martínez Moreno (El Salvador) (during the July/August meetings)
Vice-Chairmen:	Mr. M. Burleigh Holder (Liberia)
	Mr. Ezedine Kazemi (Iran)
	Mr. Alexander Yankov (Bulgaria)
	Mr. Necmettin Tuncel (Turkey)
Rapporteur:	Mr. Shaffie Abdel-Hamid (Egypt)

151. As adopted in 1971, the agenda (A/AC.138/SC.II/L.1) of the Sub-Committee, reproduced in the report, 12/ read as follows:

"1. Opening of the session.

2. Election of officers.

3. Adoption of the agenda.

4. Consideration of questions referred to the Sub-Committee by the Committee under the terms of the Agreement reached on organization of work as read by the Chairman at the 45th meeting of the Committee, on 12 March 1971.

5. Adoption of the report."

152. The guidelines for the organization of work of the Sub-Committee, as agreed in 1971, were contained in a letter and a statement of the Chairman, recorded in the report. 13/ The letter (A/AC.138/SC.II/L.2) read, in part, as follows:

12/ Ibid., para. 92.

13/ Ibid., paras. 93 and 95.

"...

"2. To accomplish its mandate the Sub-Committee may adopt various procedures. All procedures that are customary in the United Nations practice are open to its choice.

"3. The Sub-Committee may wish to commence its work with an exchange of views concerning the subjects and matters allocated to it, including the question of the preparation of a comprehensive list of subjects and issues relating to the law of the sea and the preparation of draft treaty articles thereon. In due time, when appropriate, the Sub-Committee may establish working groups to consider in detail specific aspects of the Sub-Committee's work programme.

"..."

and the statement specified that:

"I understand that in accordance with the procedural decision, taken yesterday, delegations may submit concrete proposals, including draft articles and may make a statement explaining these proposals. In that connexion I should like to remind you of the text of my note of 18 March 1971 (A/AC.138/SC.II/L.2), which was adopted as a guidance for the work of the Sub-Committee during the present session, an extract from which reads as follows:

/see first sentence of point 3 of the letter reproduced above in this paragraph/.

"The Sub-Committee naturally intends to pay particular attention to the preparation of the list of subjects and issues related to its terms of reference. Consequently, for the sake of proper methods of work and organization of meetings, I hope that delegations will limit their remarks to explanations of proposals; these proposals will be discussed in detail later, at a suitable moment, in accordance with the procedure which the Sub-Committee considers appropriate, possibly through the establishment of working groups."

153. The report 14/ contained the following explanations in connexion with the consideration in 1971 of the questions referred to the Sub-Committee:

"98. The Sub-Committee considered the questions referred to it by the Committee at its 3rd and 5th-20th meetings, held on 19 March and from 27 July to 23 August. During the discussion which took place at those meetings several representatives made statements of a general character and on particular aspects of the questions referred to the Sub-Committee. The importance of the Sub-Committee's work in the context of the preparation of the future conference on the law of the sea was generally recognized. The Sub-Committee concluded the first stage of its work, namely the general debate on the questions referred to it, and started the preparation of a comprehensive list of subjects and issues relating to the law of the sea.

14/ Ibid., paras. 98 and 99.

"99. It was generally agreed that the preparation, at the present stage, of a comprehensive list of subjects and issues on the law of the sea should be undertaken with a certain flexibility in order to be able to adjust the list in the light of the progress of work, it being understood that whether or not a particular subject or issue was included in the list would not prejudice the position of any delegation regarding the intrinsic value or substance of the subject or issue concerned or regarding whether or not such a subject or issue would eventually be included in the agenda of the future conference on the law of the sea. It was also understood that the list would not prejudge the order of priority for consideration of the subjects and issues. During the session the possibility that the Sub-Committee might decide to establish working groups to deal with subjects and functions relating to the Sub-Committee's mandate was not excluded."

154. When the Sub-Committee was reconvened on 1 March 1972, the Chairman made, at the 24th meeting, the following suggestion on the programme of work which was accepted at the same meeting by the Sub-Committee:

"... the Sub-Committee should not prepare a new programme of work. The old programme should be considered in the light of the explanations provided in paragraphs 93, 98 and 99 of the Committee's report (A/8421), which were drawn from the Sub-Committee's report. It was clear that the general debate had been concluded and that the Sub-Committee should proceed to prepare the comprehensive list of subjects and issues relating to the law of the sea. In order to save time ... the Sub-Committee should continue to follow the programme of work adopted at Geneva, as specified in paragraph 92 of the report."

155. As it appears from the summary records, at the conclusion of the 1972 March series of meetings, the Chairman of the Sub-Committee reported orally to the Committee as follows:

"The Sub-Committee had held several meetings, during which it had heard the statements of various delegations on substantive questions. At the same time, in conformity with a decision taken at the beginning of the session, informal consultations had been held between the African, Asian and Latin American groups with regard to the list of subjects and issues relating to the law of the sea to be submitted to the third Conference on the Law of the Sea. The list that had been submitted following those consultations (A/AC.138/66) had subsequently been considered at a meeting and had also been the subject of consultations between various groups. Unfortunately, those consultations had produced no result, and therefore he regretfully informed the Committee that Sub-Committee II had been unable to achieve its assigned objective of preparing a definitive list" (A/AC.138/SR.76).

156. The various documents submitted to the Committee were at the disposal of the Sub-Committee, including a new volume of the United Nations Legislative Series (ST/LEG/SER.B/16) containing texts of recent national legislation and treaty provisions relating to the law of the sea provided by Governments of Member States.

157. In addition, and pursuant to requests previously made, FAO submitted information concerning regulatory fishery bodies (A/AC.138/64), conservation problems with special reference to new technology (A/AC.138/65), an expanded and

revised atlas of the living resources of the seas (FID/C/126-Rev.1), fishing methods likely to have adverse effects on the conservation of fishery resources (FID/C/147), sedentary, migratory and intermingling species, their habitat and distribution (FID/C/148), and a series of fishery country profiles.

B. Consideration of questions referred to the Sub-Committee by the Committee under the terms of the agreement reached on the organization of work read by the Chairman at the forty-fifth meeting of the Committee on 12 March 1971

158. The Sub-Committee considered the questions referred to it by the Committee at its 25th, 27th to 32nd, and 34th to 45th meetings, held on 15 and 22 to 30 March and 18 July to 16 August 1972. 15/ A series of informal meetings were also held in connexion with the elaboration of a comprehensive list of subjects and issues on the law of the sea under the chairmanship either of the Chairman of the main Committee (A/AC.138/SR.76 and 77) or of the Chairman of Sub-Committee II, or jointly. Consultations and negotiations among delegations concentrated on the elaboration of the comprehensive list requested by General Assembly resolution 2750 C (XXV).

159. It was generally agreed that the list of subjects and issues on the law of the sea, without being necessarily complete, should be prepared following a comprehensive approach and should attempt to embrace a wide range of possibilities. It was also understood that the list would not establish the order of priority for consideration of the various subjects and issues and that sponsorship or acceptance of the list would not prejudice the position of any State or commit any State with respect to the items on it or to the order, form or classification according to which they were presented. It was generally agreed that the list should serve as a framework for discussion and drafting of necessary articles.

160. As in previous sessions, emphasis was placed on the need for taking into account the interests of all States - developing and developed, coastal States, land-locked States, States with short coastlines, archipelago States, island States, shelf-locked States, States with narrow shelves, States with broad shelves, etc. - the special interests and needs of the developing countries, whether land-locked or coastal, and all relevant aspects of the problems to be studied (legal, political, strategic, economic, social, technical, scientific, etc.) as well as geographical considerations. Reference was also made to regard for general international interests in connexion with various matters.

161. Concerning the preparation of a comprehensive list of subjects and issues relating to the law of the sea, the Sub-Committee had before it, in addition to the proposals submitted in 1971, 16/ a list to be submitted to the conference on the law of the sea proposed by Algeria, Argentina, Brazil, Cameroon, Chile, China, Colombia, Congo, Cyprus, Ecuador, Egypt, El Salvador, Ethiopia, Fiji, Gabon, Ghana, Guatemala, Guyana, Iceland, India, Indonesia, Iran, Iraq, the Ivory Coast, Jamaica, Kenya, Kuwait, Liberia, the Libyan Arab Republic, Madagascar, Malaysia, Mauritania, Mauritius, Mexico, Morocco, Nicaragua, Nigeria, Pakistan, Panama, Peru, the Philippines, Romania, Senegal, Sierra Leone, Somalia, Spain, Sri Lanka, Sudan, Trinidad and Tobago, Tunisia, the United Republic of Tanzania, Uruguay, Venezuela, Yemen, Yugoslavia and Zaire (A/AC.138/66 and Corr.2) (annex III, 1). Amendments to the list of subjects and issues sponsored by these 56 Powers were subsequently

15/ An index to summary records of the Sub-Committee is given in annex V, 3.

16/ Official Records of the General Assembly, Twenty-sixth Session, Supplement No. 21 (A/8421), para. 101 and annexes 1, 2, 5, 7, 9, 10, 12, 14, 15 and 16.

submitted by Malta (A/AC.138/67) (annex III, 2 (1)); United States of America (A/AC.138/68) (annex III, 2 (2)); Greece and Italy (A/AC.138/69) (annex III, 2 (3)); Japan (A/AC.138/70 and A/AC.138/78) (annex III, 2 (4) and (10) respectively); Union of Soviet Socialist Republics (A/AC.138/71) (annex III, 2 (5)); Afghanistan, Austria, Belgium, Bolivia, Czechoslovakia, Hungary, Mali, Nepal and Zambia (A/AC.138/72 and Corr.1) (annex III, 2 (6)); Turkey (A/AC.138/74 and Corr.1) (annex III, 2 (7); France, Netherlands, and United Kingdom of Great Britain and Northern Ireland (A/AC.138/76) (annex III, 2 (8)), and Poland (A/AC.138/77) (annex III, 2 (9)). A list of subjects and issues relating to the law of the sea was also submitted by Malta (A/AC.138/75 and Corr.1) (annex III, 3). These documents were the subject of intense consultations which led to the adoption of an agreed list of subjects and issues as indicated in paragraph 23 above.

162. In accordance with the agreed guidelines on the organization of work mentioned in the introduction to the present report, some representatives made statements on certain aspects of the subjects and issues allocated to the Sub-Committee. At the same time, the following documents were before the Sub-Committee: draft articles on the breadth of the territorial sea, straits and fisheries submitted in 1971 by the United States of America (A/AC.138/SC.II/L.4 and Corr.1); 17/ a working paper containing a draft ocean space treaty, some parts of which dealt with subjects allocated to Sub-Committee II, submitted in 1971 by Malta (A/AC.138/53); 18/ a draft article on fishing together with an explanatory note (A/AC.138/SC.II/L.6) (annex III, 4) and draft articles on straits used for international navigation (A/AC.138/SC.II/L.7) (annex III, 5) submitted in 1972 by the Union of Soviet Socialist Republics; a working paper on management of the living resources of the sea (A/AC.138/SC.II/L.8) submitted in 1972 by Canada (annex III, 6); a revised draft fisheries article (A/AC.138/SC.II/L.9) submitted in 1972 by the United States of America (annex III, 7); draft articles on exclusive economic zone concept (A/AC.138/SC.II/L.10) submitted in 1972 by Kenya (annex III, 8); a working paper on principles for a fisheries régime (A/AC.138/SC.II/L.11) submitted in 1972 by Australia and New Zealand (annex III, 9); and proposals for a régime of fisheries on the high seas (A/AC.138/SC.II/L.12) submitted in 1972 by Japan (annex III, 10). While a preliminary exchange of views took place on some aspects of these documents, the Sub-Committee, however, did not proceed to a detailed examination of them.

163. During the debate, reference was made to the topics enumerated in General Assembly resolution 2750 C (XXV) and to other related matters either contained in working papers submitted or in statements made in the Sub-Committee.

164. The points referred to concerning the territorial sea were its nature and characteristics, including the question of the unity or plurality of régimes, the breadth of the territorial sea, the global or regional criteria as well as geographical criteria (open seas and oceans; semi-enclosed seas; enclosed seas) to define such, the question of the delimitation of the territorial sea and the various aspects involved, historic waters, straits used for international navigation (see

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17/ Ibid., A/8421, annex IV.

18/ Ibid., annex I, 11.

paragraphs 166 to 168 below), the sovereignty of the coastal State over its territorial sea, innocent passage through the territorial sea as passage not prejudicial to the peace, good order or security of the coastal State, and freedom of navigation and overflight resulting from the question of plurality of régimes in the territorial sea.

165. The nature, characteristics and limits of the contiguous zone and the rights of the coastal State in such a zone with regard to national security, customs and fiscal control, sanitation and immigration regulations were also referred to. In this connexion reference was made to the protection of international rights and interests in the zone.

166. With respect to straits, reference was made to the differences in their relative importance for international navigation, to straits used for international navigation, to straits within archipelagos, and to the present customary and treaty régimes on straits.

167. The point was made, in this connexion, that innocent passage through straits used for international navigation as recognized and regulated at present with regard to various categories of ships harmonized adequately, on the one hand, the sovereignty and the protection of the interests of coastal States (security requirements, prevention of risks, safety of navigation, measures to combat pollution) and, on the other, the interests of international navigation. It was also stated that navigation in straits within the territorial sea was subject to coastal State regulation on the same basis as regulation of navigation in any other part of its territorial sea and that the right of the coastal State to enact regulations was inherent in the exercise of its sovereignty over its territorial sea. It was mentioned that such enactment of regulations and its implementation were never arbitrary and that the right of innocent passage as recognized and regulated at present could not be suspended through straits used for international navigation. Existing civil aviation regulations already provided for overflight of foreign territory by civilian aircraft, including straits in the territorial sea. It was emphasized that a distinction should be made between the true interests of international navigation and the deployment of naval and air forces at sea. Finally, it was stated that although a different régime for passage through straits would seemingly provide for safety of navigation and security requirements, in fact, suggestions to that effect were superfluous, since they were already covered by existing international law, did not provide the coastal States with real enforcement powers, and aimed at purposes other than promoting the interests of civil international navigation.

168. From another point of view, it was stated that the interests of international navigation required free transit through and over straits used for international navigation because the régime of innocent passage might be open to various interpretations and might not offer all the necessary safeguards. It was also stated that free transit through straits used for international navigation was collateral to the freedom of the high seas and facilitated communications between States. It was added that free transit should be maintained through and over straits used for international navigation connecting one part of the high seas with another part of the high seas. Reference was also made to free transit through and over straits connecting one part of the high seas with the territorial sea of a foreign State, but it was also stated that the régime of innocent passage should

prevail in those straits. Free transit, it was suggested, should be subject to certain internationally agreed regulations which the coastal State and the flag-State would enforce. It was also suggested that the coastal State would have the right to designate corridors for transit, but it would not be entitled to interrupt or stop the transit. It was added that navigation should comply strictly with these regulations which should provide for the prevention of accidents and pollution as well as for flag-State strict liability for damages caused to the coastal State by accidents resulting from deviations from internationally agreed regulations. It was also added that free transit would be exercised in accordance with strict rules intended to avoid causing any threat to the security of the coastal State. In addition, it was stated that the treaty on the law of the sea should require State, including military, aircraft to normally observe existing civil aviation regulations, and also require State aircraft to operate at all times with due regard for the safety of navigation of civil aircraft. State aircraft exercising a free transit right would be strictly liable for accidents caused by deviations from such regulations. Finally, it was stressed that existing international agreements on straits should not be affected.

169. With regard to continental shelf, points were made in connexion with the nature and scope of the sovereign rights of coastal States over the continental shelf, the duties of States in respect of the continental shelf, the outer limit of the continental shelf and the applicable criteria or a combination thereof to define such limit, the question of the delimitation of the continental shelf between States and the various problems involved, for instance for delimitation between adjacent or opposite States, natural resources of the continental shelf and scientific research in the continental shelf.

170. Reference was made, on the one hand, to the exclusive economic zone beyond the territorial sea and, on the other, to coastal State preferential rights or other non-exclusive jurisdiction over resources beyond the territorial sea.

171. With regard to the exclusive economic zone beyond the territorial sea the points mentioned were: the nature and characteristics of the zone, including the rights and jurisdiction of coastal States to living and non-living resources of the zone and to pollution control and scientific research in the zone; the duties of States in the zone; the limits of the zone and the criteria applicable to the establishment of such limits; the freedom of navigation and overflight in the zone; regional arrangements relating to the zone; fisheries, including exclusive fishery zones, preferential rights of coastal States, management and conservation, protection of coastal States' fisheries in enclosed and semi-enclosed seas, and régime of islands under foreign domination and control in relation to zones of exclusive fishing jurisdiction; sea-bed within national jurisdiction, including its nature and characteristics, sovereign rights of the coastal State over natural resources, limits and criteria applicable to define them and delineation between adjacent and opposite States; prevention and control of pollution and other hazards to the marine environment, including the rights and responsibilities of coastal States in that respect; and scientific research. During the debate reference was made to the draft articles on exclusive economic zone concept submitted by Kenya (annex III, 8) as well as to the Declaration of Santo Domingo of 7 June 1972 (annex I, 2).

172. With regard to the coastal State preferential rights or other non-exclusive jurisdiction over resources beyond the territorial sea, the points mentioned were:

the nature, scope and characteristics of these preferential rights or other non-exclusive jurisdiction; sea-bed resources; fisheries; prevention and control of pollution and other hazards to the marine environment; international co-operation in the study and rational exploitation of marine resources; settlement of disputes; and other rights and obligations. During the debate reference was made to draft articles and working papers submitted by Malta, the Union of Soviet Socialist Republics, Canada, the United States of America, Australia and New Zealand and Japan.

173. More specific points regarding fisheries and exclusive economic zone or coastal State preferential rights or other non-exclusive jurisdiction are noted in paragraphs 175 to 179 below. Reference was also made to the rights and interests of land-locked States in regard to the exclusive economic zone and to coastal State preferential rights or other non-exclusive jurisdiction. Regard for general international interests was also mentioned with respect to maritime zones referred to in paragraphs 171 and 172 above.

174. As to the régime of the high seas, reference was made to its nature and characteristics, to the rights and duties of States on the high seas, to the question of the freedoms of the high seas and their regulation, to freedom of navigation through and overflight of the high seas and other freedoms or uses, in particular to fishing and regulation, management and conservation of the living resources of the high seas (for specific points on the matter see paragraphs 175 to 179 below) as well as to the laying of submarine cables and pipelines on the bed of the high seas. Mention was also made of the prevention and repression of slavery, piracy and illicit traffic in drugs on the high seas, and of the exercise of hot pursuit on the high seas and other matters. For free access to the sea of land-locked countries and related matters see paragraphs 181 and 182 below.

175. Concerning fisheries and conservation of the living resources of the sea beyond the territorial sea, reference was made to rational utilization of such resources because of their importance in ensuring man's nutrition, to the situation of States dependent upon their coastal fisheries for their livelihood or economic development, to the interests of other States, particularly geographically disadvantaged States, including land-locked and shelf-locked countries, and developed States with local or geographically isolated populations heavily dependent on fisheries and States dependent on long-distant-water fisheries, to the different types of fisheries and fishery exploitation, including coastal fisheries and traditional or historic fisheries in coastal waters, to the problems deriving from over-exploitation or under-utilization of resources, to coastal fishery resources as a part of the natural resources of the coastal State, to measures for conservation and development of the living resources of the sea and its protection against pollution and other hazards having harmful effect, to the relationship between the protection of the marine environment as a whole and the conservation and management of the living resources of the sea, and to the distinction and the relationship between conservation and utilization of the living resources of the sea.

176. Reference was made to the need for more precise rules, on a world-wide or regional basis, with respect to regulation, allocation, management, control, and conservation of fisheries beyond the territorial sea in accordance with criteria for equitable and rational utilization of the living resources and taking into account the relevant economic, social, scientific (biological, ecological, geographical and geological) factors involved. However, different views were advanced with regard to the régime or system which should be established.

177. A number of delegations recognized that coastal States sought to reserve for their nationals living resources of the sea in areas adjacent to their coasts. There was wide support for the view that this entailed certain specific rights and duties for all coastal States with respect to utilization, allocation, management and conservation of such resources. Particular reference was made to developing coastal States and the view was widely expressed that any future régime should safeguard the special interests and rights of developing coastal States. Reference was also made to States or areas heavily dependent on fisheries whose special interests and needs should be taken fully into account in any future régime. Broadly speaking, coastal States' rights were expressed in either of two forms: exclusive sovereign rights or preferential fishing rights. However, a number of delegations considered it necessary to take into account the interests of distant-waters fisheries and the migratory characteristics of species.

178. Some representatives elaborated on the particular régime on fishing and conservation of the living resources of the sea which, in their view, should be established. An example of an approach based on the concept of "exclusive economic zone" under which the coastal State would have sovereign rights and the exercise of exclusive jurisdiction, inter alia, over the living resources of an economic zone which would not exceed 200 nautical miles was contained in the draft articles submitted by Kenya (annex III, 8); an example of an approach based on the principle of the freedom of fishing in the high seas subject to preferential rights of developing coastal States in the area directly adjacent to their territorial sea (not exceeding 12 miles), including the right of reserving annually for itself a given share of the allowable catch in accordance with its fishing capability, was contained in the draft article submitted by the Union of Soviet Socialist Republics (annex III, 4); an example of a functional approach under which the coastal State would have the exclusive management and regulatory jurisdiction of coastal fisheries (coastal and anadromous species) as a custodian, under internationally agreed principles and rules, and would have preferential rights, potentially exclusive for some species, in the exploitation of such resources was contained in the working paper submitted by Canada (annex III, 6); an example of a species approach under which the coastal State would regulate and have preferential rights to coastal and anadromous resources to the limits of their migratory range, including the right to reserve to itself all available catch of these resources it could harvest, while recognizing that the unique nature of highly migratory oceanic species was such that only international organizations could properly perform the management function, was contained in the revised draft article submitted by the United States of America (annex III, 7); an example of a zonal approach under which the coastal State would have exclusive jurisdiction over the living resources of the sea with certain exceptions in a wide zone adjacent to its territorial sea to be exercised in accordance with certain basic principles reflecting the coastal State's rights and responsibilities with respect to the resources was contained in the working paper submitted by Australia and New Zealand (annex III, 9); an example of an approach concerning preferential rights for protection of coastal fisheries, particularly of developing coastal States, in relation to distant-water fisheries of other States in areas of the sea adjacent to the 12-mile limit, which would entitle a developing coastal State to a preferential catch corresponding to its harvesting capacity and a developed coastal State to a differentiated preferential catch in case the protection of its locally conducted small-scale coastal fisheries was necessary, was contained in the proposals submitted by Japan (annex III, 10), and a zonal

approach under which there would be international management of ocean fisheries, together with exclusive jurisdiction of the coastal State over living resources within a 200-mile economic zone to be exercised in accordance with treaty-defined principles, was contained in the draft ocean space treaty submitted by Malta. 19/

179. Different evaluations were made of the effectiveness and accomplishments of the existing international or regional fishery organizations or commissions as set up at present. Certain representatives stated that they should be strengthened and developed, particularly on a regional basis, because they provided the best framework within which conservation and management measures could be formulated and agreed upon internationally. As for highly migratory species, some delegations stated that international fishery organizations provided the most appropriate mechanism for conservation and management. Another view was that this was also the case with respect to anadromous species. Different views were also expressed on the role and competence of fishery organizations or commissions in the future, according to the characteristics considered more appropriate for the régime to be established on fishing and conservation of the living resources of the sea beyond the territorial sea. Another view expressed was that international fishery organizations should be integrated within a more comprehensive framework. Mention was also made of the enforcement powers of the coastal State in the framework of that régime as well as of the need of procedures for the peaceful settlement of fishery disputes, including compulsory arbitration procedures. It was also suggested that control and enforcement powers should primarily be vested in the regional fisheries organizations.

180. Reference was also made to the international régime for the sea-bed and the ocean floor beyond national jurisdiction, to its nature and characteristics, international machinery for the area and its structure, functions and powers, the economic implications resulting from the exploitation of the resources of the area, the equitable sharing of benefits bearing in mind the special interests and needs of developing countries, whether land-locked or coastal, the definition and limits of the area, the harmonization of the uses of the area and the use of the area exclusively for peaceful purposes (for the sea-bed within national jurisdiction see paragraph 171 above).

181. Various points concerning the land-locked countries were made in connexion with the high seas, the sea-bed beyond national jurisdiction and the exclusive economic zones or preferential zones beyond the territorial sea. It was agreed to consider the general principles of the law of the sea concerning such countries and more specifically the following points: free access to and from the sea, including freedom of transit, means and facilities for transport and communications and equality of treatment in the ports of the transit States; free access to the international sea-bed area beyond national jurisdiction, participation in the international régime, including the machinery, and in the equitable sharing of the benefits of the area; the living resources of the sea; and the resources, pollution control and scientific research in exclusive economic zones or preferential zones beyond the territorial sea. The particular interests and needs of developing land-locked countries in the international régime for the sea-bed and in regard to the living resources of the sea were also mentioned.

19/ Ibid.

182. In this respect reference was also made to agreements (bilateral or regional) to be concluded, although likewise this reference was questioned by delegations of land-locked countries which considered that their interests would be better and more appropriately safeguarded by general international agreements.

183. Reference was made to the interests and rights of shelf-locked States, States with narrow shelves and States with short coastlines, particularly with regard to the international régime for the sea-bed area beyond national jurisdiction, fisheries and free access to and from the high seas. The special interests and needs of developing countries falling within these categories were also referred to. Mention was made of the interests and rights of States with broad shelves, including those which had exercised sovereignty thereon for a period of time.

184. Reference was made to various kinds of archipelagoes and to the criteria applicable to them. The special characteristics of archipelagic States were also mentioned, and in this connexion it was stated that archipelagic States would require special treatment as they were more than a group of islands. It was also added that the special interests and needs of these States with regard to economic development, political stability and national security would require a special régime which would also accommodate other interests by providing for the innocent passage of foreign ships through designated sea lanes in their waters.

185. Reference was made to the various kinds of islands and to the criteria applicable to them such as their size, location, population, the marine space related to them in order to make a thorough study of the different situations which may arise. In particular the régime of islands was referred to in connexion with islands under colonial dependence or foreign domination or control or under the sovereignty of a State and located in the continental shelf of another State in a different continent. Islands were also mentioned in general as well as in specific contexts such as the territorial sea, the continental shelf and their delimitation, exclusive economic zone beyond the territorial sea and other related matters.

186. Views were expressed by some delegations who emphasized the indivisibility of territorial sovereignty and jurisdiction and referred to the dangers inherent in drawing any distinction between islands according to their size, location, population and between island States, on one hand, and islands under the jurisdiction of a State, on the other. Stress was furthermore laid on the non-existence of a generally recognized concept of continent or of continental shelf as well as on the unacceptability of putting forth notions which would apply to some continents and not to others. The régime for enclosed and semi-enclosed seas and for artificial islands and installations was also referred to.

187. It was emphasized that the foregoing reference to islands in no way relates to island States. More particularly, with respect to the law of the sea, no distinction in the application of rules could be made between coastal States and island States.

188. It was also stated that dependent island units maintain their inherent right, on attaining independence, to claim on a basis of equality all rights enjoyed by independent coastal States.

189. With regard to the preservation of the marine environment, the points referred to were the sources of pollution and other hazards and measures to combat them, the measures to preserve the quality and ecological balance of the marine environment, the responsibility and liability for damage to the marine environment and to the coastal State, the responsibility and liability for damages resulting from the use of that environment, the rights and duties of coastal States, and international co-operation to preserve the marine environment.

190. In connexion with scientific research, reference was made to the nature, characteristics and objectives of scientific research of the oceans, to regulation of scientific research, to access to scientific information and to international co-operation. Different views were expressed on the question of freedom of scientific research, especially with regard to maritime spaces other than the high seas.

191. So far as development and transfer of technology are concerned, the points mentioned were the development of technological capabilities of developing countries, the sharing of knowledge and technology between developed and developing countries, the training of personnel from developing countries and the transfer of technology to developing countries. It was reiterated that the Sub-Committee, through the Committee, should recommend to the General Assembly to request the relevant specialized agencies and the industrial and developed States to expand or accelerate the training of personnel from the developing States in all aspects of marine science and technology. A further point mentioned was control in the use of such technology as might have serious effects on marine environment.

192. Reference was likewise made to questions such as regional arrangements and universal arrangements, peaceful uses of the ocean space, zones of peace and security, transmission from the high seas, archaeological and historical treasures on the sea-bed and ocean floor beyond the limits of national jurisdiction, the enhancing of the universal participation of States in multilateral conventions relating to the law of the sea, and the peaceful settlement of disputes.

C. Adoption of the list of subjects and issues relating to the law of the sea

193. At its 45th meeting, on 16 August 1972, the Sub-Committee approved the list of subjects and issues relating to the law of the sea resulting from the informal consultations and negotiations. The approved list is hereby transmitted to the Committee (for text, see paragraph 23 above).

194. It was agreed that items 6 and 7 might be treated simultaneously.

195. Certain delegations, in expressing and explaining their acceptance of the list, reiterated the importance they attached to the understanding referred to in the explanatory note. In particular, they emphasized their understanding that the list could in no way circumscribe the right of delegations to advance their ideas or points of view or prejudice their substantive positions on any item.

196. Some delegations reserved their position on certain items of the list. The relevant statements made thereon by such delegations are recorded as summary records A/AC.138/SC.II/SR.44 and 45 of Sub-Committee II. Other delegations pointed out that the reservations in no way affected the provisions contained in paragraph 3 of the explanatory note of the list.

D. Future work of the Sub-Committee

197. On 16 August, following agreement in the Sub-Committee on the list of subjects and issues, the delegations of Australia and Canada tabled a paper containing proposals for the future organization of the work of Sub-Committee II. These are contained in document A/AC.138/SC.II/L.14 (annex III, 11). Time was not available to give it detailed consideration. The hope was expressed, however, that early agreement would be reached on the organization of the future work of the Sub-Committee.

E. Adoption of the report of the Sub-Committee

198. At its 47th meeting, on 17 August 1972, the Sub-Committee adopted the present report and decided to transmit it to the Committee.

IV. SUBJECTS AND FUNCTIONS ALLOCATED TO SUB-COMMITTEE III

A. Introduction

199. Sub-Committee III of the Committee on the Peaceful Uses of the Sea-bed and the Ocean Floor beyond the Limits of National Jurisdiction continued in 1972 the work which the Committee entrusted to it under the terms of the agreement reached on the organization of work, of 12 March 1971, which allocated to Sub-Committee III the following subjects and functions: 20/

> "To deal with the preservation of the marine environment (including, inter alia, the prevention of pollution) and scientific research, and to prepare draft treaty articles thereon."

200. During 1972, Sub-Committee III held two sessions. The first took place in New York from 28 February to 31 March and consisted of 5 meetings (15th through 19th). The second session was held in Geneva from 17 July to 18 August 1972 and consisted of 13 meetings (20th through 32nd).

201. Being a sub-committee of the whole, Sub-Committee III was composed of the States members of the Committee. The five States (China, Fiji, Finland, Nicaragua and Zambia) which joined the Committee pursuant to General Assembly resolution 2881 (XXVI) of 21 December 1971, also participated in the work of the Sub-Committee from the beginning of the March session. The following States Members of the United Nations accepted the invitation to participate as observers and attended the meetings: Barbados, Bhutan, Burma, Cuba, Democratic Yemen, Dominican Republic, Haiti, Honduras, Ireland, Israel, Jordan, Khmer Republic, Malawi, Mongolia, Oman, Portugal, Saudi Arabia, South Africa, Syrian Arab Republic. The FAO, IAEA, IMCO, UNESCO and its International Oceanographic Commission, WMO, WHO and UNCTAD were also represented.

202. As in 1971 the officers of Sub-Committee III were:

Chairman: Mr. M. Alfred van der Essen (Belgium)

Vice-Chairmen: Mr. Mebratu Gebre Kidan (Ethiopia)
Mr. Augusto Espinosa Valderrama (Colombia)

Rapporteur: Mr. Takeo Iguchi (Japan).

203. Part of the March session was devoted to the consideration of the programme of work on the basis of a proposal by Canada, which as revised and amended in the course of the Sub-Committee's work was finally adopted as document A/AC.138/SC.III/L.14 at the 19th meeting on 29 March 1972. The programme of work, which is annexed to this report (annex IV, 1) contains five main headings as follows:

20/ Ibid., A/8421, para. 19.

A. Preservation of the marine environment (including the sea-bed)

B. Elimination and prevention of pollution of the marine environment (including the sea-bed)

C. Scientific research concerning the marine environment (including the sea-bed)

D. Development and transfer of technology

E. Other matters.

The programme makes provision for general debate as well as for the formulation of legal principles and draft treaty articles. It also envisages co-ordination with related efforts in other fora within which Sub-Committee III would be able to ensure appropriate support on pertinent matters from the FAO, the United Nations Conference on the Human Environment, IMCO, IOC, as well as with other specialized agencies or intergovernmental bodies or conferences which are also concerned with matters within the purview of the Sub-Committee. Also it was understood that the programme was subject to change and the order of the items in the programme did not establish the order of priority for consideration in the Sub-Committee.

204. As part of the process of co-ordination and communication, the Sub-Committee agreed to a suggestion by Australia that the Chairman should communicate the results of discussions at the March session to the United Nations Conference on the Human Environment. Accordingly, the Chairman, Mr. van der Essen, addressed a letter, outlining the discussions in Sub-Committee III as reflected in the summary records, to the Chairman of the Committee, Mr. H. S. Amerasinghe, who in turn transmitted it with the Committee's consent, together with the summary record of the March session which contained a number of valuable suggestions on principles, for adoption by the Conference.

205. As part of the close co-operation called for in General Assembly resolution 2750 C (XXV), Sub-Committee III heard reports or received information concerning the relevant work of the following bodies and conferences: the second session of the Intergovernmental Working Group on Marine Pollution, held in Ottawa, the United Nations Conference on the Human Environment, IMCO, IOC and the Preparatory Conference of Government Experts to formulate a Draft Convention on Legal Status of Ocean Data Acquisition Systems (ODAS), held under UNESCO-IOC auspices, FAO and the FAO Technical Conference on Marine Pollution and its Effect on Living Resources and Fishing (Rome, December 1970), and the Oslo Regional Conference on Ocean Dumping which adopted the Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, signed at Oslo on 15 February 1972. Documents presented to the Sub-Committee during 1972 are as follows: 21/

Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft. Signed at Oslo, Norway, on 15 February 1972 (A/AC.138/SC.III/L.9).

Report on the Preparatory Work for the International Conference on Marine Pollution to be convened by IMCO in 1973 (A/AC.138/SC.III/L.15).

21/ At the 87th meeting, the Committee agreed that the Canadian working paper on preservation of the marine environment (A/AC.118/SC.III/L.26) should be referred to and included as an annex (annex IV, 7).

Report by the representative of the Department of Economic and Social Affairs at the 20th meeting of Sub-Committee III, on 20 July 1972, on actions taken at the United Nations Conference on the Human Environment regarding marine pollution and the preservation of the marine environment (A/AC.138/SC.III/L.16).

Decisions of the United Nations Conference on the Human Environment (5-16 June 1972) relating to the preservation of the marine environment and marine pollution (A/AC.138/SC.III/L.17).

Working Paper submitted by the Canadian delegation: principles on marine scientific research (A/AC.138/SC.III/L.18) (annex IV, 2).

Union of Soviet Socialist Republics: draft resolution on measures for preventing the pollution of the marine environment (A/AC.138/SC.III/L.19).

Peru: Proposed amendments to the definition of marine pollution and the general principles for assessment and control of marine pollution which are the subject of Recommendation 92 of the United Nations Conference on the Human Environment (A/AC.138/SC.III/L.17, Recommendation 92, and A/CONF.48/8, para. 197) - (A/AC.138/SC.III/L.20)

Statement made by the representative of the Inter-Governmental Maritime Consultative Organization on the activities of the Organization pertaining to ships' routing, traffic separation schemes, areas to be avoided by certain ships and related questions, at the 22nd meeting of Sub-Committee III, on 26 July 1972 (A/AC.138/SC.III/L.21).

Australia, Canada, Chile, Colombia, Fiji, Indonesia, Japan, Malaysia, New Zealand, Peru, the Philippines, Singapore and Thailand: draft resolution (A/AC.138/SC.III/L.22) (annex IV, 4).

Working paper submitted by Bulgaria, the Ukrainian Soviet Socialist Republic and the Union of Soviet Socialist Republics: basic principles concerning international co-operation in marine scientific research (A/AC.138/SC.III/L.23) (annex IV, 3).

Draft resolution on preliminary measures to prevent and control marine pollution, submitted by Australia, Bulgaria, Canada, Greece, Iceland, the Netherlands, Norway, Sweden, the Ukrainian Soviet Socialist Republic and the Union of Soviet Socialist Republics (A/AC.138/SC.III/L.25) (annex IV, 5).

206. The discussions in the Sub-Committee covered both the preservation of the marine environment, including the prevention of pollution, scientific research and transfer of technology. The general discussion on marine pollution was deemed to have concluded and the Sub-Committee decided, at its 23rd meeting, on 28 July 1972, to set up a working group on marine pollution based on the same formula as the working group on the régime in Sub-Committee I, the membership of which would be designated by the various regional groups, on the understanding that any member of Sub-Committee III could participate in the group's discussions. A suggestion was made that the Sub-Committee should lay down as terms of reference for its working group the preparation of a list of specific topics to form the basis of concrete proposals concerning the draft articles, and that this list might include consideration of draft resolutions on the prevention of marine pollution. The

Working Group to be known as Working Group 2, 22/ held two meetings at which it elected its Chairman, Mr. J. L. Vallarta of Mexico. Its terms of reference are to draft texts leading to the formulation of draft treaty articles on the preservation of the marine environment and the prevention of marine pollution. The Working Group invited the members of the Sub-Committee to submit, at their discretion, written observations, including in particular, draft treaty articles, on the question of the preservation of the marine environment and the prevention of pollution for the use of the Working Group. These comments should be submitted as soon as possible, preferably before the end of the twenty-seventh session of the General Assembly, but in any event before 15 January 1973, assuming that the mandate of the Committee is continued by the General Assembly.

207. In the course of discussions views were expressed with regard to some aspects of the Sub-Committee's terms of reference, such as the relationship and co-ordination with other interested organizations such as IMCO and IOC, and the definition of the scope and extent of the draft treaty articles which the Sub-Committee has to formulate and submit to the Conference on the Law of the Sea. Such issues raised and other related matters are set out below with reference to both the preservation of the marine environment, including the prevention of pollution, and scientific research.

B. Preservation of the marine environment, including the prevention of marine pollution

208. It was generally expressed that the Sub-Committee had the responsibility to develop the general international legal framework and to draft legal principles to govern the protection of the marine environment. It was stressed that the development of such a legal framework should be based on the 23 principles and the statement of objectives on marine pollution, drafted at Ottawa and adopted by the Conference on the Human Environment, and on the Declaration of the Human Environment. It was further stressed that the Sub-Committee should not attempt to draft technical regulations. It was said that the Sub-Committee should also examine the three principles on marine pollution, also drafted at the Ottawa meeting, which were neither endorsed nor rejected by the Conference on the Human Environment at Stockholm but referred to the conference on the law of the sea "for such action as may be appropriate". It was made clear that other proposals could be considered. It was understood that some Governments who had not participated in the Stockholm Conference and who considered the Conference was not universally representative had reserved their right to determine their attitude at a later date to the documents and decisions of that Conference, and that the participation of their delegations in the meetings of Sub-Committee III did not imply a change in their position.

22/ The membership of the Working Group is as follows: Algeria, Brazil, Bulgaria, Canada, Ecuador, India, Indonesia, Iran, Ivory Coast, Japan, Kenya, Liberia, Madagascar, Mauritius, Mexico, Morocco, New Zealand, Nigeria, Peru, Philippines, Romania, Spain, Somalia, Sweden, Sudan, Trinidad and Tobago, Thailand, Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Venezuela. There is one vacancy left in the Asian group. This will be filled by the group in due course.

209. It was also stated that the Sub-Committee should also be wary of assuming that the Sea-bed Committee had the right or duty or co-ordinate the activities of others, although that did not mean that the Sub-Committee should not consider the work being done in other fora. But it should not trespass on the detailed and often highly technical work being carried out elsewhere nor should it duplicate such work. It was important that the Sub-Committee should have due regard for the experience possessed by such organizations. It was stated that under its terms of reference the Sub-Committee was not empowered to make recommendations of any kind to other international bodies, but it might express views concerning the work of such bodies.

210. On the other hand, it was stated that the Committee had co-ordinating powers, since the law of the sea is a unity and that this unity should be ensured by the conference on the law of the sea and its preparatory phase. It was said that although there was a need for co-operation and co-ordination between different bodies, that did not mean that the Sub-Committee should accept a subordinate or passive role and merely limit itself to examining the work being done by other organizations. The Sub-Committee had its own field of competence and an expressed mandate from the General Assembly to formulate legal principles and to draft treaty articles, and therefore, should not necessarily wait for suggestions or decisions from other bodies. It was pointed out that it was Sub-Committee III that had the sole competence to prepare general legal principles for the guidance of all other organizations engaged in this field. It was further expressed that other United Nations bodies dealing with the problems of the sea should be informed of the mandate of the Sea-bed Committee and Sub-Committee III and that it was for the General Assembly to clarify the situation.

211. It was generally agreed that the Sub-Committee would focus its attention on the basic legal principles which would form the basis for drafting treaty articles of a general nature. Where appropriate, the Sub-Committee would also consider more specific problems. It was suggested that the basic materials for the work of the Sub-Committee should be the Declaration of the Human Environment, the 23 principles on marine pollution, and the statement of objectives, adopted at the Conference, and referred to this Committee as well as the three principles drafted at Ottawa, referred to above, and the proposals made at the Sub-Committee meetings. It was suggested that special attention would be paid to ways in which these principles could best be developed within the broader concept of the law of the sea.

212. It was stated that since the Declaration of the Human Environment and general principles were not cast in the language of international treaties, although some of them reflected rules of international law, they needed to be supplemented by more specific provisions, and efforts were needed to define and elaborate rules and measures to give effect to these principles within the broader context of maritime law. The working group might consider whether there should be a single comprehensive convention or several conventions dealing with different aspects of the preservation of marine environment.

213. It was stressed that marine pollution could effectively be dealt with by a combination of global, regional and national rules and standards, with the global ones fixing the minimum provision to be made for the preservation of the marine environment, and the regional and national ones laying down particular and stricter provisions as may be required to deal with special situations prevailing in a region or a country. It was observed that broad guidelines would improve regional efforts and could also prevent the emergence of a series of piecemeal conventions. Proliferation of independent regional agreements could lead to difficulties in subsequent co-ordination.

214. It was expressed that the task of the Sub-Committee included examining the feasibility of drafting, for the 1973 conference on the law of the sea, treaty articles of a general nature concerning pollution from all sources in ocean space as a whole so as to replace articles 24 and 25 of the 1958 Geneva Convention on the High Seas. It was further pointed out that existing technical conventions, altready concluded or under consideration, on various aspects of marine pollution or on pollution in specific regions of the world, could find their proper place within the framework of such general treaty articles. The Sub-Committee should also examine the feasibility of drafting treaty articles of a general nature concerning the conservation of the marine environment both within and beyond national jurisdiction. It was suggested that in drafting general treaty articles on this subject the Sub-Committee should keep in mind existing relevant conventions and current and prospective work of the specialized agencies. Owing to the indivisibility of the marine environment, it was further suggested that the draft treaty articles should cover marine pollution in the territorial seas as well as in the high seas. However, it was stated that as far as the question of marine pollution within territorial seas and within the limits of national jurisdiction was concerned, it was up to the coastal States to take effective measures to preserve, in a practical way, the marine environment within such areas. The Committee could only suggest recommendations as regards these areas since they were under national sovereignty.

215. While the Stockholm Conference had recognized that the greater part of marine pollution came from activities on land, it was suggested that the Committee should primarily concentrate on the marine-based forms of pollution. Further suggestion was made that this Sub-Committee should concentrate its attention on pollution from vessels. It was also felt, however, that any set of rules and standards should be applied universally to control all sources of pollution regardless of their location, since ocean should be treated as an integrated whole. While many measures would be taken primarily at the national level on land-based pollution, it would be well to agree on very basic guidelines in order to reduce the lack of uniformity in national legislation. It was pointed out that the most pressing need was for universally applicable norms that would prevent pollution in areas beyond national jurisdiction. In this respect, it was expressed, however, that Sub-Committee I should resolve questions of pollution from exploration and exploitation of the sea-bed area since they could not be taken separately from other elements of the sea-bed régime.

216. It was observed that whatever the final nature of the articles to be drafted, proper weight must be given to the needs and interest of developing countries. It was suggested that appropriate provisions would need to be made for training and for technical and financial assistance to developing countries to enable these countries to comply with any future rules and standards in respect of the prevention and control of marine pollution. In this context, it was pointed out that the greater onus and burden for the task of preserving the environment must be placed on the industrially developed countries for they were the most responsible for creating pollution; it was important to recognize that future regulations for the prevention of pollution should not be applied with the same standards for all States and that it was essential that the developing countries should not be hindered in their quest for progress.

217. Principle 21 of the Declaration on the Human Environment should be considered the starting-point for work in developing a régime for the preservation of the marine environment since it presented the proper balance between coastal States'

rights and obligations. Mutual accommodation must be found not only as between national interests but also between national interests and the interests of the international community.

218. It was expressed that the question whether a coastal State had the right of jurisdiction over a given area adjacent to its territorial sea, for purposes of preventing pollution damage within its territory, was an issue to be discussed at some length in the Sub-Committee. On the one hand, it was felt that coastal States being the direct victims of marine pollution, had the full right to enforce necessary measures in areas within given limits, which are adjacent to their territorial seas, in order to prevent, control and eliminate any harm to such areas or their territory caused by pollution from outside these areas or their territory. It was also felt that coastal States had the right to demand compensation from polluters. On the other hand, it was pointed out that the partitioning of ocean space was incompatible with the basic legal framework envisaged in the principles to apply global standards and rules to every part of the sea. It was further suggested that the zonal approach was not effective and would produce a dichotomy in the mode of control and that the enforcement of individual and inevitably varied national legislation might produce confusion on the high seas. It was also argued that the flag State jurisdiction in enforcement was a kind of unilateral approach, and that the national jurisdiction of coastal States would not necessarily be incompatible with global standards.

219. It was suggested that the Sub-Committee recognize that the three principles on coastal State rights drafted at Ottawa raise very fundamental issues in maritime law. It was further suggested that the first of these principles represents a logical extension of the special interests of coastal States in the management of resources as recognized in the statement of objectives adopted by the Conference on the Human Environment at Stockholm and also the logical corollary to the emphasis on obligations of coastal States found in most of the 23 principles on marine pollution. It was urged that responsibilities must be balanced with the necessary rights and powers and that where there were no international standards, coastal States must be able to enforce their own reasonable standards, in the areas adjacent to their territorial seas. On the other hand, it was stated that vesting wide powers in coastal States would not promote a proper balance of interests among maritime, shipping and coastal States or prevent pollution of the open sea.

220. The concept of ocean space management set out in the Statement of Objectives, it was suggested, was essential not only to problems of marine pollution but also to such other aspects of the law of the sea as fisheries and scientific research, and was therefore of importance to the Committee as a whole. It was suggested that a number of marine pollution principles could be regarded as existing duties under customary international law, e.g., principles 1, 7 and 17. Principle 1 in its dual accommodation of national and community interests could be the basic approach of the Sub-Committee. It was considered that it was important to define more clearly the responsibilities of States to control pollution of the high seas, deriving from their own territories including their territorial sea, as well as their rights to prevent damage to coastal areas from marine pollution coming from outside their territorial waters. It was further suggested that this principle could be looked at from the point of view of the liability of a State for damage caused by individuals within its jurisdiction or under its control, and that such a duty could include preventing individuals from causing damage.

221. The point was raised that this question of liability, the subject also of principle 22 of the Declaration, involved consideration of the theory of the created risk. It was pointed out that since damage can be caused accidentally, consideration should be given to the requirement of compulsory insurance for uses of the ocean which were sufficiently dangerous to warrant applying the theory of the created risk, and that since insurance systems varied this question should be studied in greater detail. Principle 18 of the general principles for assessment and control of marine pollution, adopted at Stockholm, should be studied in this context.

222. It was felt that the 1969 international convention on civil liability for oil pollution damage and the 1971 supplementary convention could serve as the starting-point for further development of rules of law in the area of liability and compensation. It was also suggested that the formulation contained in General Assembly resolution 2749 (XXV) might be a guide but that some system of no-fault insurance compensation would have to be investigated in connexion with claims for civil liability.

223. It was stated that principle 6 was simply a first approach to the problem of elaborating special provisions to meet the needs of developing countries and that the Sub-Committee would have to go further in elaborating this principle.

224. It was suggested that principle 7 required further careful elaboration in order to devise means of fixing responsibility with States or international organizations for any damage they may cause and that there would be serious substantive implications. It was felt that this principle also recognized the duty to pay compensation for damage to the victims.

225. It was felt that principle 13 made several points, particularly the need for national and regional measures to be consistent with global measures and that this same consistency should also be applied to the draft articles on ocean dumping. It was suggested, therefore, that greater attention be paid to the draft articles and annexes on ocean dumping since, in many instances, disposal of wastes on land was a far safer procedure. The need to avoid transferring pollution from one area of the environment to another, as expressed in this principle, was considered to be particularly relevant in this respect.

226. It was proposed that the measures adopted for the international sea-bed area and with special reference to principle 19, should represent the minimum measures to be adopted by States in areas within their jurisdiction.

227. It was pointed out that principle 21 was in accordance with the Declaration of Santo Domingo (A/AC.138/80) (annex I, 2) which recognizes the right of coastal States to take measures to avoid pollution of the patrimonial sea, and the conclusions of the African Seminar of Yaoundé (A/AC.138/79) (annex I, 3) which contains similar provisions. It was also noted that this principle does not prejudice the rights of a coastal State to protect its territory from damage from activities by other States in adjacent areas.

228. On the subject of ocean dumping, it was felt, on the one hand, that urgent action would be most welcome since there was a need to control this activity of industrialized States. Such early action, as the proposed conference to be held in London in November 1972, to draft a specialized international convention, was

not thought to prejudice the later development of a more comprehensive body of maritime law nor the position of any State, as regards the development of such law. It was considered that many other such specialized conventions, existing or yet to be negotiated, would also in time be fitted into the wider body of the law of the sea. It was pointed out that the amount of pollutants entering the oceans increases every year, and that if this continues unchecked it could threaten the productivity of the world's oceans and the well-being of all mankind. It was further pointed out that direct dumping is usually carried out on the high seas and is largely uncontrolled. It was for this reason, among others, that urgent action was needed.

229. On the other hand, it was observed that it was absolutely essential that the question of marine pollution should be studied in a consistent, comprehensive and co-ordinated manner, so as to avoid the adoption of different provisions by different bodies or even by different governments. It was stressed that all future undertakings should be within the framework of basic, universally accepted principles and with due regard to the rights of all States. Furthermore, fragmentation of problems pertaining to the law of the sea could lead to great confusion and therefore the convention should be given its final form only within the context of the conference on the law of the sea. In direct reference to the proposed London Conference, it was pointed out that the preparatory meetings, held in Reykjavik and London, were insufficiently representative especially of States from the developing world, and that these meetings were held outside the United Nations system and without proper regard for opinions expressed in the Sub-Committee by some of these States. However, it was also pointed out that several developing States did attend the preparatory meetings and that all States had been informed that they were to be held. The United Nations will also be kept fully informed of the organization of the proposed London conference.

230. Regarding the draft Articles and Annexes, contained in document A/CONF.48/8/Add.1, it was observed that they could provide a basis for the development of an effective convention. It was pointed out that all questions of jurisdiction had been left to the conference on the law of the sea to decide. It was stated also that the articles would be enforceable by coastal States not only against ships under their jurisdiction, but also against ships in areas under their jurisdiction. It was suggested that this departure from the flag-State type of convention could be extremely important from an environmental point of view.

231. However, it was pointed out, that the articles failed to distinguish between developed and developing countries in terms of their relative capacity to pollute the ocean. It was feared thereby that an unfair burden would be imposed on developing countries in the event of such a convention coming into force. It was pointed out that an international convention to control dumping must, in the first place, avoid authorizing present practices of dumping by industrialized countries, a possibility which has been protested by a large majority of States. The principle of the common heritage of mankind was thought to give some legal grounds for arguing that dumping on the sea-bed would be in violation of international law.

232. The point was made that the prohibition of dumping must constitute the basis of the convention and therefore exemption to this prohibition must be very carefully worked out. Attention was therefore drawn to the exemption contained in foot-note (a) to annex I because knowledge of effects of sea-water on containers is inadequate, and to the exemption contained in draft article V which was thought

to need some clarification. It was suggested that the human lives to be safeguarded in this draft article should be those aboard ships, platforms and aircraft. The opinion was also stated that the paragraph within square brackets in draft article IX (d) was unacceptable since sovereign immunity would not negate the duties of ships and aircraft. It was proposed also that highly radioactive wastes and biological and chemical weapon parts should be included in annex I, and the present brackets removed. With reference to annex III, it was proposed that dumping be prohibited within marine areas under national jurisdiction. The Working Group, referred to in paragraph 206 above was asked to examine the draft articles and annexes in accordance with the decision made by the Conference on the Human Environment to refer these texts to the Sea-bed Committee for information and comment.

233. The representative of IMCO reported that substantial progress had been made at recent meetings of IMCO's sub-committees concerned in the preparation of a draft text of the convention or conventions to be submitted to the IMCO Conference on Marine Pollution. Preparatory work has been directed towards the improvement and the requirements of the 1954 Oil Pollution Convention, as amended in 1962, 1969 and 1971, including the extension of the Convention requirements to cover hazardous and noxious substances other than oil. Not included in the draft convention are activities relating to the sea-bed mineral exploration and exploitation and ocean dumping. It was also pointed out that the 1973 IMCO Conference would be called upon to consider extending the 1969 Intervention Convention. The new instrument now being drafted would give coastal States the right to intervene or to take preventive action to safeguard their coasts from pollution following accidents involving substances other than oil.

234. It was urged that strong support be given to IMCO's work on vessel pollution since the conference on the law of the sea could not hope to deal with all complex problems of marine pollution and should therefore try to supplement and support other existing efforts, and that all countries that have not done so, adhere to or ratify the various IMCO conventions and endorse the extension of the liability and compensation concepts to cover noxious and hazardous substances other than oil. It was felt that greater consideration should be given to coastal States' concerns and proposals, while maintaining throughout a careful balance between the interests, rights and obligations among maritime, shipping and coastal States.

235. It was suggested that all new commercial tankers should carry an International Tanker Construction (Pollution Prevention) Certificate and that this proposal should be included in the 1973 Convention. It was further suggested that refusal of entry to those not possessing this certificate should be made mandatory for non-compliance. The whole subject of pollution prevention was thought to be an important one for the Sub-Committee since it has to deal with the over-all problem of marine pollution.

236. It was also felt, however, that IMCO was only a technical body and the 1973 IMCO Convention would have to be subsequently considered by the conference on the law of the sea and, if necessary, be revised in the light of the wider body of maritime law. It was stated that since the Sub-Committee had the exclusive competence in legal and political aspects, all relevant technical documents and instruments should be transmitted to it to provide the basis for preparing draft treaty articles. In this respect it was pointed out that IMCO, as a technical body, could only deal with marine pollution in terms of its relationship to navigational safety. It was also suggested, however, that the respective tasks of IMCO and the

Conference on the Law of the Sea were sufficiently clear-cut; the Conference on the Law of the Sea would develop treaty articles establishing basic policies while IMCO would provide technical expertise and detailed regulations and would elaborate multilateral agreements within its sphere of competence.

237. It was proposed that IMCO consider broadening certain concepts such as "maritime casualty" so as to expand the criteria of the 1969 Intervention Convention governing instances in which States can act. The Sub-Committee was also informed on the subject of traffic separation schemes and it was suggested that the conference on the law of the sea should include the requirement in its treaty that all ships proceeding through areas to which international traffic separation schemes apply should be required to follow those schemes in accordance with rules and procedures established by IMCO. It was stated that the treaty should include strict liability for all vessels for accidents caused by deviation from such schemes. The representative of IMCO pointed out that while those schemes are presently recommendations, their adoption by all States was an urgent matter. The Sub-Committee agreed that this subject should also be brought to the attention of Sub-Committee II since it is relevant to straits and areas near straits.

238. It was pointed out that problems of marine pollution could not be solved by the development of international law alone, but necessitated active co-operation among States and international organizations in scientific and technical fields. As pointed out, broad international co-operation was essential if there was to be a comprehensive understanding of what was involved in the prevention of marine pollution on a world-wide basis. It was stressed that there should be co-ordination between the work of the Sub-Committee and that of other bodies concerned in order to avoid duplication.

C. Scientific research

239. The need for close relationship was stressed between the principles governing scientific research and those governing preservation of the marine environment. Solution of problems in marine pollution was obviously closely connected with the results of scientific research so that measures adopted to ensure the joint responsibility of States for the preservation of the marine environment should also promote co-operation and transfer of technology in scientific research.

240. It was pointed out that marine scientific research contributed to environmental forecasting, prevention of marine pollution, and the development, conservation and management of marine living resources and the development of the science of the earth as a whole as well as other associated sciences. The development of sound management practices would be important for commercial fishing as the world catch approaches the maximum sustainable yield, and it was suggested that greater knowledge of the methodology of classifying marine living resources would provide important background in preparing draft treaty articles. It was said that the Sub-Committee should therefore be given supplementary technical information by the specialized agencies, particularly FAO.

241. It was noted that in recommendation 87 of the Action Plan, the Human Environment Conference had stressed the importance of research and monitoring at both national and international levels, and that it would be necessary to work out a co-ordinated bilateral, regional and global approach as a basis for mutual assistance in data acquisition and exchange of information.

242. It was said that there was a need to formulate general principles governing oceanic research which, while acknowledging the unity of the marine environment, must not ignore the diversity of the régimes existing in different marine areas. It was suggested that the development of science and technology had posed new and serious problems for the law of the sea in general, and had placed considerable importance of the nature of the articles to be drafted on scientific research. Part of the discussion in the Sub-Committee on the subject of scientific research was based on the proposed principles by the delegation of Canada (A/AC.138/SC.III/L.18) (annex IV, 2) and by the delegations of Bulgaria, the Ukranian SSR and the USSR (A/AC.138/SC.III/L.23) (annex IV, 3). It was stated that legal principles on scientific research, its definition and characteristics should be prepared by the Sub-Committee and that treaty articles should be drafted thereon, in accordance with the programme of work (annex IV, 1). It was also stated that it was important to ensure the necessary unity of matters relating to the conference on the law of the sea and its preparatory phase and it was therefore considered that the Sub-Committee as with the question of the marine environment, should have a co-ordinating role also in respect of scientific research in the oceans.

243. It was stated that freedom of scientific research is a recognized freedom of the high seas, confirmed by long practice, and that the language of the Continental Shelf Convention of 1958 on scientific research remains satisfactory if implemented in the spirit intended. On the other hand, it was stated that the freedoms of the high seas included no such freedom as that relating to scientific research and that such freedom could in no way be implied by the language of article 2 of the High Seas Convention or that of the travaux préparatoires of the draft of the International Law Commission. However, it was also observed that freedom of scientific research was mentioned in this document of the International Law Commission. A further statement was made that freedom of scientific research was not mentioned expressly in article 2 of the Convention on the High Seas and that the existence of such freedom had been recognized on the basis of the interpretation of such articles, where they refer in general terms to other freedoms of the high seas and which were recognized by the general principles of international law. At the same time, it was observed that, with the sole exception of the continental shelf, scientific research was in a kind of legal void since international law has not kept pace with the expanding scientific research of the oceans.

244. For the purposes of elaborating on general principles, it was said that an attempt should be made to distinguish between fundamental oceanographic research or bona fide scientific research and the more practical applied aspects particularly as they relate to commercial exploitation and military uses. It was said that the following criteria characterize open or bona fide research: it would be intended for the benefit of all mankind and would involve open participation in planning of programmes, prompt availability and publication of results; it would be conducted so as not to cause significant harm to the environment; it would not include the taking of resources in commercial quantities; nor would it confer any rights for commercial exploration or exploitation of resources.

245. It was noted that there is a general agreement on certain fundamental principles applicable to certain areas as in the example of General Assembly resolution 2749 (XXV), principle 10 which applies to the sea-bed beyond national jurisdiction. In view of this same principle, and the possibility that information resulting from scientific research is made available to the public, it was suggested that there was little merit in drawing a line between pure research and

research more closely identified with commercial prospecting since the end results might be to restrict research to the detriment of the international community. It was also suggested that, in any event, it would be extremely difficult to make such distinctions since it was felt that most scientific information could in reality be used for commercial or military purposes. It was stated that the real distinction should be drawn between oceanic research, whatever its aim or however it might be carried out, on the one hand, and the exploration of marine resources, on the other.

246. The point was made that a seismic survey of the sea-bed provides basic data regarding the possibility of finding resources but far larger-scale operations are needed for commercial prospecting. For example, before an oil company decides to make large investments for exploiting oil, it had to have much more detailed information than could be provided by scientific research.

247. It was pointed out that it would be necessary to formulate a definition enunciating the nature, characteristics and fundamental objectives of marine scientific research. This definition should take into account and be consistent with the aspirations of developing countries. It was stated that relevant scientific research should be carried out in developing countries in order to facilitate the socio-economic development of these countries.

248. It was also proposed that the Sub-Committee should work with the broad and comprehensive definition of marine scientific research (as contained in document A/AC.138/SC.III/18) (annex IV, 2), without attempting to differentiate between the purposes and motives for which it may be conducted. It was suggested that it would then follow that coastal States would have the right to regulate all activities carried out in areas within their jurisdiction, although all scientific research and commercial prospecting would not necessarily be dealt with equally. On the one hand, the view was expressed that the refusal of coastal States to give consent to scientific research ought not to be arbitrary, and on the other hand, that the coastal State, in exercise of its sovereignty, may withhold consent without giving reasons.

249. It was stated that it is vitally important to every nation whether coastal or land-locked, developed or developing, that knowledge of the marine environment be improved and increased. It was suggested that this quest for knowledge is not only a necessity, but that, in the area beyond the territorial sea, it is also a right which should not be diminished or abridged by the restrictive actions of States, coastal or otherwise, except as recognized by international law. It was also suggested that research should be encouraged and facilitated to increase the benefits to be shared by all mankind and that it would therefore be in the common interest to accept rules that establish maximum freedom to conduct scientific research in the oceans. On the other hand, it was stated that scientific research should be regulated in the area beyond national jurisdiction.

250. It was stated that the legal régime in question would govern research according to different marine areas and that marine research activities would not constitute legal grounds for any claim to the oceans or their resources beyond the limits of national jurisdiction. It was proposed, therefore, that the Sub-Committee should define more precisely the limits of the freedom of marine research in relation to the legitimate interests of the coastal States, on one hand, and to the new régime for the area of the sea-bed beyond national jurisdiction, on the other.

251. It was stated that the conduct of scientific research in areas under the sovereignty of a coastal State should remain subject to that State's prior consent and regulatory measures. By virtue of that sovereignty, it was asserted that the coastal State had an exclusive right in respect of all kinds of marine scientific research carried out in its territorial sea and internal waters. This would entail that scientific research could only be conducted within those areas with the consent of the coastal State and in accordance with its laws and regulations. It was observed also that the right of innocent passage through these waters could not be interpreted so as to include or imply the rights for others to carry out freely scientific research. It was pointed out that neither the Sub-Committee nor any other international body has the powers to formulate rules or guidelines for the conduct of activities in areas under the sovereignty of any State. On the other hand, it was hoped that the coastal State would consider the conduct of such activities within its territorial sea in accordance with generally acceptable guidelines on, inter alia, notice, participation, access to samples and data, and publications.

252. It was stated that the control of a coastal State over its jurisdictional zones should be applicable to scientific research per se, independently of the particular means employed in the collection of data. Accordingly, the deployment of the Ocean Data Acquisition Systems (ODAS) or the use of satellites should be subject to control, including the requirement to obtain the prior consent of the coastal State for research in areas within national jurisdiction. With regard to zones beyond the territorial sea, where the coastal State exercises exclusive jurisdiction, it was stated that the coastal State has a right to control scientific research. It was further stated that all data, samples and conclusions resulting from research should be made available to the coastal State. It was further stated that research by States other than the coastal State should be permitted provided it complied with the requirements as established by the coastal State. On the other hand, it was said that there should be minimal restrictions on scientific research in areas of limited national jurisdiction and that the Sub-Committee should consider what criteria might apply to research conducted in these areas.

253. It was observed that there was a need to clarify the scope of article 5, paragraph 8, of the 1958 Convention on the Continental Shelf and that a notification procedure should be worked out for specific forms of scientific research so as to keep coastal States fully informed of those activities on their continental shelves as well as to enable them to participate or be represented. In addition to notification and participation, there should be an obligation to report the results of such scientific research to international organizations upon request and that all research data should be made available to the coastal States even in its raw stage before processing.

254. It was suggested that knowledge and information from scientific research forms part of the common heritage of mankind and that this presupposes both the publications of major research programmes and the results thereof. On the one hand, it was stated that the concept of common heritage should not be introduced in this context. With reference to programmes, publication was said to mean the description of its nature and objectives, the area to be studied and the techniques to be employed. Such publication could be accomplished by transmitting information to States either directly or through international channels. With regard to results, it was said that the word "publication" should be understood as the rendering of data available to the public by means of the recognized published media and the provision of access to samples. It was also pointed out that publication requirements should not become so onerous as to discourage the undertaking of marine scientific research. It was pointed out that this procedure

could be followed without prejudice to a wider publicity and dissemination of complete results when this is possible without too great a cost. On the other hand, it was stated that scientific research of a proprietary or military nature should, in appropriate cases, be exempt from the principle of open access to all.

255. It was believed that international rules to facilitate research undertaken within areas of national jurisdiction, including the requirement that a coastal State reply promptly to requests to conduct scientific investigations, would greatly reduce any unnecessarily long delays. It was further suggested that consideration might be given to appropriate conciliation procedures which might help avoid disputes. The view was expressed that, in the interest of international co-operation, States should, within the framework of their national law and regulations, facilitate the entry into their ports of ships conducting marine scientific research by simplifying the relevant procedure.

256. It was stated that freedom of research should be protected and only restricted if such freedom is not exercised with reasonable regard to the interests of other States and does not respect the basic rules designed to protect the environment against pollution arising from activities on the sea-bed. It was stated, however, that no such freedom existed. It was also suggested, that the Sub-Committee study closely what type of international scheme would be suited to the promotion of exchange and dissemination of scientific knowledge and information. It was pointed out in this respect that legal obligations placed on the scientific community should not be too stringent with regard to open and rapid publication of results. The view was expressed that adequate arrangements were already provided by existing intergovernmental organizations and independent scientific organizations such as the International Council of Scientific Unions and that the future international machinery should look to the IOC for advice on all questions related to scientific research.

257. It was suggested that in approaching the principles to govern scientific research beyond national jurisdiction, the Sub-Committee should develop the declaration in principle 1 of the Working Paper submitted by the Canadian delegation (A/AC.138/SC.II/L.18) (annex IV, 2) that the knowledge resulting from marine scientific research was part of the common heritage of all mankind. On the basis of this principle, it was stated, freedom to carry out scientific research beyond national jurisdiction would be facilitated by publication and dissemination of results. However, it was pointed out, that the concept of common heritage had not been finally defined and that mechanical transferring of this notion to the science area is not feasible.

258. It was stated that an international authority, in which all States should be adequately represented, would be the appropriate forum for the formulation of global policies concerning scientific research in the oceans in accordance with the legal principles and treaty articles to be prepared. At the same time, it was considered that all scientific research in areas beyond limited national jurisdiction should continue to be carried out without interference except in cases such as deep sea drilling which may entail significant harm to the marine environment and should therefore be subject to international standards. Since the sea-bed treaty is expected to include rules concerning scientific research, it was noted that the Sub-Committee should be ready to assist Sub-Committee I in the preparation of pertinent rules to be included in the régime.

259. It was stated, however, that a number of practical difficulties would arise should the functions of the future international authority include the supervision of research programmes. It would be impractical, for example, to consider indiscriminate international deposition of marine data since many are experimental observations as recognized in the latest edition of the IOC Manual on Intergovernmental Oceanographic Data Exchange. Moreover, data exchange systems are very expensive and require highly qualified staff. For this reason, it was suggested that existing agencies should continue to be regarded as the competent United Nations bodies for ensuring that research results are available to all.

260. The opinion was expressed that the Sub-Committee might usefully turn for guidance to IOC resolution VI-13, entitled "Promoting fundamental scientific research", adopted in 1969, which sets out principles to facilitate procedures in obtaining the consent of a coastal State with particular reference to developing countries. It was therefore proposed that such procedures should be made simple and effective and that the IOC might act as a go-between for scientists in helping them to obtain such consent as stated in the resolution.

261. In connexion with the work of IOC, it was noted that recent steps have been taken to improve the constitutional, financial and operational basis of the Commission. The representative of IOC discussed these developments in his statement to the Sub-Committee as well as some of the specific activities of the IOC, including the Global Investigation of Pollution in the Marine Environment, the Integrated Global Ocean Stations System, the Ocean Data Acquisition System and the Commission's efforts to develop training, education and assistance programme and information services. The Sub-Committee's work, it was observed, was of particular relevance to the preparation of the ODAS Convention. It was noted that the preparatory conference of governmental experts to formulate a draft convention on the legal status of ODAS (January/February 1972) had decided to delay further action on this draft since the legal aspects of scientific research should be decided in the Sea-bed Committee.

262. The view was expressed that scientific research was both vitally important and an eminently international activity. It was emphasized that it was necessary to promote scientific research while at the same time ensuring that abuses were avoided; that all countries are enabled to participate actively in it and that the fruits of scientific research, which are part of the common heritage of mankind, are made available to all without discrimination. It was stated also that regulation of scientific research should be undertaken by future international institutions on the basis of principles laid down in a treaty generally agreed upon and that States in their regulation of scientific research in ocean space within their jurisdiction should observe the spirit of the norms elaborated at the international level. It was urged that future international institutions should also take far more effective action than present intergovernmental institutions in the dissemination of the results of scientific research, in the training of scientists from poor countries and in the establishment of modern marine research facilities therein.

263. Greater effort was called for in increasing the number of training and research centres in developing countries and in elaborating training programmes; in the latter connexion, the IOC would have a considerable role to play. It was stressed, in this respect, that all questions relating to scientific research and free and open access to the results of such research were in fact meaningless for

the developing countries unless and until they had the trained personnel and technological capacity to participate in scientific research and utilize the information made available to them. It was recalled that a suggestion had already been made for the establishment of a group of experts under the auspices of the United Nations to give advice on the assessment of research results to those countries which lacked the necessary skills. It was further observed that some such provision as well as others must be made for strengthening the scientific and technical capacities of developing countries to allow them to profit from research programmes particularly where they related to their own coastal resources. It was suggested therefore that the Sub-Committee should concern itself with the question of training in all aspects of marine research and should make appropriate provisions in the draft treaty articles on this subject.

264. It was stated that there was a willingness, in principle, to commit funds to support multilateral efforts in all appropriate international agencies with the view to creating and enlarging the ability of developing States to interpret and use scientific data for their economic benefit and purposes, to augment their expertise in the field of marine science research, and to have available scientific research equipment including the capability to maintain and to use it. It was emphasized that such a commitment would be in addition to efforts by the international sea-bed authority once it is established and gains the financial capacity to devote funds to the same purpose. It was further suggested that there was also a willingness to take active part in programmes of mutual assistance as well as to receive in laboratories and on board vessels scientists and researchers from developing countries.

D. Draft resolution on nuclear weapon tests in the Pacific

265. The delegations of Australia, Canada, Chile, Colombia, Fiji, Indonesia, Japan, Malaysia, New Zealand, Peru, the Philippines, Singapore and Thailand submitted on 31 July a draft resolution A/AC.138/SC.III/L.22 (annex IV, 4) which declared that no further nuclear weapon tests likely to contribute to the contamination of the marine environment should be carried out. It also requested the Chairman of Sub-Committee III to forward the resolution to the Secretary-General of the United Nations for referral to the appropriate United Nations bodies, including the Conference of the Committee on Disarmament.

266. Several of the Pacific and Asian countries sponsoring the draft resolution spoke in support of it and expressed a common concern about the testing of nuclear weapons likely to cause damage to the marine environment and to its living resources. Reference was made to principle 26 of the Declaration on the Human Environment, to the resolution on nuclear testing submitted by New Zealand and Peru at Stockholm and adopted by the Conference by a large majority, to the joint appeal on nuclear testing presented to the Conference by nine Pacific countries, and to the Partial Nuclear Test-Ban Treaty.

267. A number of the co-sponsors, having made it plain that they were opposed to the testing of nuclear weapons in any environment, laid special emphasis on the atmospheric testing of nuclear weapons being undertaken by France in the South Pacific. It was stated that these tests presented a potential health hazard to the peoples of the South Pacific, without any compensating benefit. They also resulted in further contamination of the marine environment and were capable of threatening its living resources which were a vital element in the subsistence and economy of the Pacific Islands.

268. Mention was made of the fact that opposition to the nuclear testing in the South Pacific had been voiced in statements issued by the Pacific Island Producers Association, the Prime Ministers of New Zealand and Australia, the Foreign Ministers of the Andean group of countries, the Anzus Council, the Foreign Ministers of Australia and New Zealand and the Foreign Ministers of the ASEAN countries. These reflected a spontaneous upsurge of opposition to the tests on the part of the peoples of the region.

269. The French delegation stated that no country had ever conducted nuclear tests under such strict conditions as France, with regard to both the prevention and the monitoring of side effects. The monitoring had been done with great care, using highly sensitive instruments, and had established that the French tests had not caused any appreciable pollution of the sea. The findings to that effect were recorded in reports submitted regularly to the United Nations Scientific Committee on the Effects of Atomic Radiation, which had not so far had any comment to make on them.

270. As against those findings of a scientific nature, the Sub-Committee had heard nothing but unscientific assertions that the French tests might possibly have some effect on the environment. Since no pollution of the sea had been established, it could thus be stated that the Committee was not competent to adopt a resolution of the kind in question.

271. The representative of France added that the Sea-Bed Committee's terms of reference gave it a specific task, namely, to prepare for a conference on the law of the sea and to draw up draft texts for that purpose. They made no reference whatever to the adoption of resolutions of a general nature, even in the event that the Committee were competent ratione materiae, which was not the case.

272. The submission of such texts could only delay the Committee's work still further, just when it was entering upon its constructive phase. For those reasons the French delegation was obliged to oppose the resolution in question.

273. The representative of the People's Republic of China declared that China had consistently stood for complete prohibition and thorough destruction of nuclear weapons and that, before this objective was materialized, to appeal for the prohibition of nuclear tests would be precisely advantageous to the consolidation of the monopoly of nuclear powers over nuclear weapons. He pointed out that China developed nuclear weapons entirely for the purposes of defence, that very few nuclear tests had been conducted, which had taken place in the airspace over inland areas within its own territory with the adoption of every possible measure to avoid bringing nuclear contamination to its people and the people of other countries and that, therefore, no harm had been caused so far.

274. Both the delegations of France and the People's Republic of China objected to the adoption of this resolution and a consensus could not be reached in the Sub-Committee on its adoption.

6. Draft resolution on preliminary measures to prevent and to control marine pollution

275. A draft resolution concerning measures for preventing the pollution of the marine environment was presented by the USSR (A/AC.138/SC.III/L.19). On the basis of this document and the draft resolution submitted by Canada and Norway last year (A/AC.138/SC.III/L.5 and Add.I), 23/ an amalgamated text dealing with preliminary measures to prevent marine pollution contained in document A/AC.138/SC.III/L.25 was submitted by Australia, Bulgaria, Canada, Greece, Iceland, Netherlands, Norway, Sweden, Ukranian Soviet Socialist Republic and Union of Soviet Socialist Republics. This text and the amendments thereto submitted by Kenya, Peru, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania and the United States of America are annexed to the present report (annex IV, 5 and 6 (1), (2), (3), (4) and (5), respectively). One delegation stated that the Sub-Committee had no competence to adopt resolutions.

23/ Official Records of the General Assembly Twenty-sixth Session Supplement No. 21 (A/8421), annex V, 2.

ANNEXES

I. DOCUMENTS ANNEXED TO PART I

1. Draft decision submitted by Algeria, Brazil, Chile, China, Iraq, Kenya, Kuwait, the Libyan Arab Republic, Mexico, Peru, Venezuela, Yemen and Yugoslavia*

The Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction,

Recalling General Assembly resolution 2574 D (XXIV), of 15 December 1969, in which the Assembly declares that, pending the establishment of an international régime for the sea-bed and the ocean floor, States and persons, physical or juridical, are bound to refrain from all activities of exploitation of the resources of the area,

Bearing in mind the provisions of the Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil thereof, beyond the Limits of National Jurisdiction, contained in General Assembly resolution 2749 (XXV) of 17 December 1970 which declares that the area shall not be subject to appropriation by any means by States or persons, natural or juridical, and that no State shall claim or exercise sovereignty or sovereign rights over any part thereof: and that no State or person, natural or juridical, shall claim, exercise or acquire rights with respect to the area or its resources incompatible with the international régime to be established and the principles of the Declaration,

Gravely concerned over the evidence that a number of States, organizations and consortia are already engaged in operational activities in the area,

Calls upon all States engaged in activities in the sea-bed area, beyond the limits of national jurisdiction, in conformity with the provisions of the two resolutions cited above, to cease and desist from all activities aiming at commercial exploitation in the sea-bed area and to refrain from engaging directly or through their nationals in any operations aimed at the exploitation of the area before the establishment of the international régime,

Reaffirms that prior to the establishment of the international régime, no claims on any part of the area or its resources, based on past, present or future activities will be recognized.

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* Originally issued as document A/AC.138/L.11/Rev.1.

2. Text of the Declaration of Santo Domingo approved by the meeting of Ministers of the Specialized Conference of the Caribbean Countries on Problems of the Sea, held on 7 June 1972*

(Circulated as a Committee document pursuant to the decision of the Committee at its 78th meeting, on 20 July 1972)

THE SPECIALIZED CONFERENCE OF THE CARIBBEAN COUNTRIES ON PROBLEMS OF THE SEA

RECALLING:

That the International American Conferences held in Bogotá in 1948, and in Caracas in 1954, recognized that the peoples of the Americas depend on the natural resources as a means of subsistence, and proclaimed the right to protect, conserve and develop those resources, as well as the right to ensure their use and utilization.

That the "Principles of Mexico on the Legal Régime of the Sea" which were adopted in 1956 and which were recognized "as the expression of the juridical conscience of the Continent and as applicable, by the American States", established the basis for the evolution of the Law of the Sea which culminated, that year, with the enunciation by the Specialized Conference in the Capital of the Dominican Republic of concepts which deserved endorsement by the United Nations Conference on the Law of the Sea, Geneva, 1958.

Considering:

That the General Assembly of the United Nations, in its resolution 2750 (XXV) decided to convoke in 1973 a Conference on the Law of the Sea, and recognized "the need for early and progressive development of the law of the sea";

That it is desirable to define, through universal norms, the nature and scope of the rights of States, as well as their obligations and responsibilities relating to the various oceanic zones, without prejudice to regional or subregional agreements, based on the said norms;

That the Caribbean countries, on account of their peculiar conditions, require special criteria for the application of the Law of the Sea, while at the same time the co-ordination of Latin America is necessary for the purpose of joint action in the future;

That the economic and social development of all the peoples and the assurance of equal opportunities for all human beings are essential conditions for peace;

That the renewable and non-renewable resources of the sea contribute to improve the standard of living of the developing countries and to stimulate and accelerate their progress;

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* Originally issued as document A/AC.138/80.

That such resources are not inexhaustible since even the living species may be depleted or extinguished as a consequence of irrational exploitation or pollution;

That the law of the sea should harmonize the needs and interests of States and those of the International Community;

That international co-operation is indispensable to ensure the protection of the marine environment and its better utilization;

That as Santo Domingo is the point of departure of the American civilization, as well as the site of the First Conference of the Law of the Sea in Latin America in 1956, it is historically significant that the new principles to advance the progressive development of the Law of the Sea be proclaimed in this city.

Formulate the following Declaration of Principles:

TERRITORIAL SEA

1. The sovereignty of a State extends, beyond its land territory and its internal waters, to an area of the sea adjacent to its coast, designated as the territorial sea, including the superjacent air space as well as the subjacent sea-bed and subsoil.

2. The breadth of the territorial sea and the manner of its delimitation should be the subject of an international agreement, preferably of a world-wide scope. In the meantime, each State has the right to establish the breadth of its territorial sea up to a limit of 12 nautical miles to be measured from the applicable baseline.

3. Ships of all States, whether coastal or not, should enjoy the right of innocent passage through the territorial sea, in accordance with International Law.

PATRIMONIAL SEA

1. The coastal State has sovereign rights over the renewable and non-renewable natural resources, which are found in the waters, in the sea-bed and in the subsoil of an area adjacent to the territorial sea called the patrimonial sea.

2. The coastal State has the duty to promote and the right to regulate the conduct of scientific research within the patrimonial sea, as well as the right to adopt the necessary measures to prevent marine pollution and to ensure its sovereignty over the resources of the area.

3. The breadth of this zone should be the subject of an international agreement, preferably of a world-wide scope. The whole of the area of both the territorial sea and the patrimonial sea, taking into account geographic circumstances, should not exceed a maximum of 200 nautical miles.

4. The delimitation of this zone between two or more States, should be carried out in accordance with the peaceful procedures stipulated in the Charter of the United Nations.

5. In this zone ships and aircraft of all States, whether coastal or not, should enjoy the right of freedom of navigation and overflight with no restrictions other than those resulting from the exercise by the Coastal State of its rights within the area. Subject only to these limitations, there will also be freedom for the laying of submarine cables and pipelines.

CONTINENTAL SHELF

1. The coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources.

2. The continental shelf includes the sea-bed and subsoil of the submarine areas adjacent to the coast, but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits the exploitation of the natural resources of the said areas.

3. In addition, the States participating in this Conference consider that the Latin American Delegations in the Committee on the Sea-bed and Ocean Floor of the United Nations should promote a study concerning the advisability and timing for the establishment of precise outer limits of the continental shelf taking into account the outer limits of the continental rise.

4. In that part of the continental shelf covered by the patrimonial sea the legal régime provided for this area shall apply. With respect to the part beyond the patrimonial sea, the régime established for the continental shelf by International Law shall apply.

INTERNATIONAL SEA-BED

1. The sea-bed and its resources, beyond the patrimonial sea and beyond the continental shelf not covered by the former, are the common heritage of mankind, in accordance with the Declaration adopted by the General Assembly of the United Nations in resolution 2749 (XXV) of December 1970.

2. This area shall be subject to the régime to be established by international agreement, which should create an international authority empowered to undertake all activities in the area, particularly the exploration, exploitation, protection of the marine environment and scientific research, either on its own, or through third parties, in the manner and under the conditions that may be established by common agreement.

HIGH SEAS

That waters situated beyond the outer limits of the patrimonial sea constitute an international area designated as high seas, in which there exists freedom of navigation, of overflight and of laying submarine cables and pipelines. Fishing in this zone should be neither unrestricted nor indiscriminate and should be the subject of adequate international regulation, preferably of world-wide scope and general acceptance.

MARINE POLLUTION

1. Is the duty of every State to refrain from performing acts which may pollute the sea and its sea-bed, either inside or outside its respective jurisdiction?

2. The international responsibility of physical or juridical persons damaging the marine environment is recognized. With regard to this matter the drawing up of an international agreement, preferably of a world-wide scope, is desirable.

REGIONAL CO-OPERATION

1. Recognizing the need for the countries in the area to unite their efforts and adopt a common policy vis-à-vis the problems peculiar to the Caribbean Sea relating mainly to scientific research, pollution of the marine environment, conservation, exploration, safeguarding and exploitation of the resources of the sea;

2. Decides to hold periodic meetings, if possible once a year, of senior governmental officials, for the purpose of co-ordinating and harmonizing national efforts and policies in all aspects of oceanic space with a view to ensuring maximum utilization of resources by all the peoples of the region.

The first meeting may be convoked by any of the States participating in this Conference.

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Finally, the feelings of peace and respect for international law which have always inspired the Latin American countries are hereby reaffirmed. It is within this spirit of harmony and solidarity, and for the strengthening of the norms of the inter-American system, that the principles of this document shall be realized.

The present Declaration shall be called: "Declaration of Santo Domingo".

Done in Santo Domingo de Guzmán, Dominican Republic, this ninth day of June one thousand nine hundred and seventy-two (1972), in a single copy in the English, French and Spanish languages, each text being equally authentic.

3. Conclusions in the General Report of the African States Regional Seminar on the Law of the Sea, held in Yaoundé, from 20-30 June 1972*

(Circulated as a Committee document pursuant to the decision of the Committee at its 78th meeting, on 20 July 1972)

After examining the reports, conclusions and recommendations of the various working groups, which were discussed and amended, the seminar adopted the following recommendations:

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* Originally issued as document A/AC.138/79.

I. (a) On the territorial sea, the contiguous zone and the high seas:

(1) The African States have the right to determine the limits of their jurisdiction over the Seas adjacent to their coasts in accordance with reasonable criteria which particularly take into account their own geographical, geological, biological and national security factors.

(2) The Territorial Sea should not extend beyond a limit of 12 nautical miles.

(3) The African States have equally the right to establish beyond the Territorial Sea an Economic Zone over which they will have an exclusive jurisdiction for the purpose of control regulation and national exploitation of the living resources of the Sea and their reservation for the primary benefit of their peoples and their respective economies, and for the purpose of the prevention and control of pollution.

The establishment of such a zone shall be without prejudice to the following freedoms: Freedom of navigation, freedom of overflight, freedom to lay submarine cables and pipelines.

(4) The exploitation of the living resources within the economic zone should be open to all African States both land-locked and near land-locked, provided that the enterprises of these States desiring to exploit these resources are effectively controlled by African capital and personnel.

To be effective, the rights of land-locked States, shall be complemented by the right of transit.

These rights shall be embodied in multilateral or regional or bilateral agreements.

(5) The limit of the economic zone shall be fixed in nautical miles in accordance with regional considerations taking duly into account the resources of the region and the rights and interests of the land-locked and near land-locked States, without prejudice to limits already adopted by some States within the region.

(6) The limits between two or more States shall be fixed in conformity with the United Nations Charter and that of the Organization of African Unity.

(7) The African States shall mutually recognize their existing historic rights.

However certain participants expressed reservations as to a 12 mile limit for the territorial sea and as to fixing a precise limit.

On recommendation No. 5 others thought that the general principles of International Law should be referred to in order to fix maritime limits.

(b) On "Historic Rights" and "Historic Bays":

(1) That the "historic rights" acquired by certain neighbouring African States in a part of the Sea which may fall within the exclusive jurisdiction of another State whould be recognized and safeguarded.

(2) The impossibility for an African State to provide evidence of an uninterrupted claim over a historic bay should not constitute an obstacle to the recognition of the rights of that State over such a bay.

Adopted without reservation.

II. On the biological resources of the sea, fishing and maritime pollution,

Reccmmendations

The Participants:

Recommend to African States to extend their sovereignty over all the resources of the high sea adjacent to their Territorial Sea within an economic zone to be established and which will include at least the continental shelf.

Call upon all African States to uphold the principle of this extension at the next International Conference on the Law of the Sea.

Suggest that African States should promote a new pclicy of co-operation for the development of fisheries so as to increase their participation in the exploitation of marine resources.

Recommend to African States to take all measures to fight pollution and in particular:

- by establishing national laws to protect their countries from pollution;
- by advocating in international organizations the conclusion of appropriate agreements on control measures against pollution.

Adopted without reservation.

III. On the continental shelf and the sea-bed:

Recommendations

(1) The Economic Zone embodies all economic resources comprising both living and non-living resources such as oil, natural gas and other mineral resources.

(2) Political and strategic aspects of the sea-bed were considered. The need to use the sea-bed exclusively for peaceful purposes presupposes the definition of a legal régime to ensure greater security of the sea while guaranteeing the respect of the rights of coastal States.

(3) The participants considered that natural resources outside the Economic Zone should be managed by the international authority.

(4) The participants stressed the necessity for the Agency to function democratically and the need for adequate continental representation therein. Representation should not be based on the sole criterion of maritime strength and account should be taken of the existing imbalance between developed and developing countries.

(5) The Seminar categorically rejected the veto system and considered the system of weighted voting undemocratic.

IV. Concerning settlement to the conflicts which may arise between coastal States and the international community.

Recommendations

In the light of their discussions the Seminar approves the principle of setting up an international governing body to manage the common heritage outside the limits of national jurisdiction. It considers that this body must conform with the spirit of the resolution which provided for its creation, and for this reason must be structured and operate in such a way that the developing countries should be the primary controllers and beneficiaries.

The Seminar recommends that the international body should carry out its wishes on the Sea-bed and subsoil for the benefit of the international community.

Therefore, it considers that its action will depend on the desire of States to extend their limits of jurisdiction. The Seminar noted that it was important for this body to avoid being a simple administrative apparatus issuing licences and distributing royalties.

It considers that to be efficient the International body must seek the best ways and means to involve the business concerns of developing countries in exploiting the resources available in its zone of using these resources to promote the progress of mankind in the developing countries so as to correct the grave imbalance between the nations.

The Seminar considers that all these objectives can be achieved if the participation of developing countries in the planning, setting up, and operation of this body is assured without restriction.

Adopted unanimously:

The participants expressed the unanimous wish that these recommendations should be notified to all African States and to the OAU.

4. Request for a study on the different economic implications of the various proposals for limits of the international sea-bed area

submitted by Afghanistan, Austria, Belgium, Bolivia, Czechoslovakia, Hungary, Nepal, the Netherlands, Singapore, Zaire and Zambia*

It is proposed that the Secretary-General be requested to prepare a study on the economic implications for the area under the authority of the international machinery, as resulting from each of the various suggested limits for national jurisdiction. The suggested limits are the following:

(a) 200 meters isobath;

(b) 500 meters isobath;

(c) 40 nautical miles;

(d) 200 nautical miles;

(e) edge of continental margin.

EXPLANATORY STATEMENT

The question of the limits of national jurisdiction is important not only for the coastal States but is equally important for the international régime, whose extent would have to depend on the limits so established. Further, the character and functions of the organs of the international machinery must necessarily depend on the actual extent and nature of the area of the international régime which ultimately accrues to mankind as a whole.

Several proposals have been presented, both formally and orally, by delegations on the question of the limits of national jurisdiction. The economic significance and the extent of the international régime would vary according to the limits ultimately adopted.

In order to have a fruitful discussion and appraisal of the question it is necessary to understand and appreciate the economic significance and implications of the different proposals on limits. Information on this is not yet available to this Committee and for this reason the sponsors have considered it highly desirable and useful to have a study of the kind requested of the Secretary-General. Such a study would naturally have to be based on existing data and knowledge. It would also complement the reports prepared by the Secretary-General on "Possible impact of sea-bed mineral production in the area beyond national jurisdiction on world markets, with special reference to the problems of developing countries: a preliminary assessment" (A/AC.138/36) a/ and "Additional notes on the possible economic implications of mineral production from the

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* Originally issued as document A/AC.138/81.

a/ Official Records of the General Assembly, Twenty-sixth Session, Supplement No. 21 (A/8421), annex II, 1.

international sea-bed area" (A/AC.138/73) (annex II, 2). In those reports it was noted that such impact, if any, would depend on the final delimitation of the area.

The proposals for limits enumerated in this request for a study are not necessarily exhaustive. The sponsors would be prepared to accept any suggested additions to those already listed.

The sponsors also wish to state that this request is made in accordance with General Assembly resolution 2750 C (XXV) where in paragraph 11 the Secretary-General was requested "to render the Committee all the assistance it may require in legal, economic technical and scientific matters".

5. Declaration on Principles of Rational Exploitation of the Living Resources of the Seas and Oceans in the Common Interests of All Peoples of the World, adopted at the Conference of Ministers held at Moscow on 6-7 July 1972

(Circulated at the request of the delegations of Bulgaria, Czechoslovakia, Hungary, Poland and the Union of Soviet Socialist Republics)*

The Ministers responsible for fisheries in the People's Republic of Bulgaria, the Hungarian Peoples Republic, the German Democratic Republic, the Polish People's Republic, the Union of Soviet Socialist Republics and the Czechoslovak Socialist Republic, having considered, at a meeting held in Moscow on 6-7 July 1972, problems relating to the exploration and rational exploitation of the living resources of the seas and oceans;

Noting that the seas and oceans are one of the most important sources of food for mankind and of raw materials for various branches of modern industry;

Considering that the findings of fishery science demonstrate the possibility of further increasing the catch of fish and of many other marine animals without harm to the reproduction of stocks;

Being convinced that the fishing régime on the high seas should be based on the principle of the equal right of all States to engage in fishing and on strict observance of scientific measures for maintaining the living resources of the sea at the maximum sustainable level;

Considering that one of the prospective ways of solving the problem of increasing the yield of food resources from the seas and oceans is to combine the efforts of all interested States in research on, and the reproduction of, marine organisms;

Have resolved to set forth their views on principles of rational utilization of the living resources of the seas and oceans.

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* Originally issued as document A/AC.138/85.

1. The co-operation of all interested States in studying and regulating activity relating to the living resources of the sea is an essential condition for their rational use and for increasing the yield of fish from the seas and oceans. However, the partitioning among States of a substantial part of biologically interrelated areas of the high seas through the establishment by coastal States of special zones of great width (for example, more than 12 miles) and the proclamation of exclusive rights of coastal States over constantly migrating shoals of fish would make this task impossible to fulfil.

2. The socialist States signatories of this declaration advocate rational and scientifically-based fishing and support proposals for more effective scientific research and regulation of fishing on the high seas by international fishery organizations.

Existing systems of international regulation of fishing must be continuously improved. The role of regional international fishing organizations should be increased, and their functions broadened; the exchange of scientific, technical and fishery information should be improved with a view to the objective assessment of stocks of fish; and all interested States, without exception, should be given the opportunity to participate in such organizations, on the principle of sovereign equality. It is necessary to give international organizations functions of international verification of compliance with fishing regulations, in view of the fact that such a measure will promote the more effective protection of fishery resources and their maintenance at the maximum sustainable level.

3. Marine fishing among the countries of the world today is characterized by unequal development.

This is not entirely due to differences in the natural factors which affect the biological productivity of marine areas frequented by shoals of fish. Planned exploitation of fishery resources in the common interest is hampered by the grave consequences of the colonial domination and oppression of many countries of Asia, Africa and Latin America, for which the colonial powers bear responsibility.

4. The socialist States jointly making this declaration support the struggle of developing countries to establish independent national economies, including fishing. They deeply sympathize with the aspirations of those countries to create a fishing industry based on the modern achievements of fishery science and marine technology, and they are assisting them in the establishment and technical equipment of their fishing industries. They will continue to co-operate with the developing countries in the sphere of marine fishing and, to the extent of their own and their partners' capacities, to assist them in the establishment of a modern marine fishing industry with the necessary shore installations, and will broaden their aid in the training of national cadres for fish industries and fishing fleets.

5. In view of the different economic and technological capacities of coastal and other developing States and of countries which engage in long-distance fishing in the same areas as those States, developing countries should be given certain preferential rights enabling them to develop their national fishing industry and overcome their technological backwardness.

6. Firmly convinced of the need for a speedy solution of the problem of full utilization of the living resources of the seas and oceans on a rational basis and in the common interests of all peoples of the world, the socialist countries signing this declaration consider that such a solution can be found on the basis of a reasonable combination, through the international regulation of fishing, of the interests of coastal States and of countries which engage in long-distance fishing operations, and not by the adoption of unilateral measures by individual countries.

7. The living resources of the seas and oceans must become a constant source for improving the well-being and raising the standards of living of the peoples of our planet and be of benefit to all mankind.

Moscow, 7 July 1972.

II. DOCUMENTS ANNEXED TO PART II

1. Working Group I

//UNITED NATIONS/ CONVE"TION ON THE SEA-BED AND THE OCEAN FLOOR BEYOND THE LIMITS OF NATIONAL JURISDICTION/

Texts illustrating areas of agreement and disagreement programme of work, Item 1 "Status, scope and basic provisions of the régime, based on the Declaration of Principles"

PART I[a/]

/BASIC/ /FUNDAMENTAL/ /GENERAL/ PRINCIPLES

Note. The Working Group has not considered headings, marginal notes, or the position of texts.

a/ Originally issued as document A/AC.138/L.18/Add.3.

EXPLANATORY NOTE

Following the completion of its first reading the Working Group began its second reading of the texts, during which an attempt was made to narrow the areas of disagreement as far as possible and to merge alternative texts. The Working Group did not, however, have time to complete its second reading of all the texts. The texts which received a second reading were those which appear under the following four headings: common heritage of mankind; activities regarding exploration and exploitation, etc.; non-appropriation and no claim or exercise of sovereignty or sovereign rights, no claim etc., of rights incompatible with the treaty articles, and non-recognition of claims etc.; and use of the area by all States without discrimination. The second text mentioned, relating to activities regarding exploration and exploitation, etc., replaces texts III and VII of the working paper, and the third text, dealing with non-appropriation etc., replaces texts IV, V and VI of the working paper. Because of this consideration of different texts in the course of the second reading, and in order to distinguish texts that have received a second reading, the latter have been given Arabic numerals while texts which have not received a second reading continue with the Roman numerals originally used in the working paper. Thus texts 2, 3, 4 and 5 are a result of the Group's second reading of texts II, III, IV, V, VI, VII and VIII; texts IX to XXI are the texts resulting from the first reading that have not yet received a second reading.

Introductory note concerning the Draft Ocean Space Treaty prepared by Malta (A/AC.138/53)[b/]

The delegation of Malta has presented specific and comprehensive legal principles, incorporated in its Draft Ocean Space Treaty, for each aspect provided for in the present working paper. The Maltese Draft Treaty is based on a unitary approach to the problems of ocean space as a whole and consequently holds to the view that a new international order for ocean space must be constructed. The "area" covered in this working paper forms part of international ocean space as conceived by the delegation of Malta and as defined in its Draft Ocean Space Treaty.

For the purposes of brevity and on account of the Maltese delegation's conceptual approach, the Maltese formulation as it appears in its Draft Ocean Space Treaty is not reproduced under each of the texts in the present working paper but is referred to in each case by an asterisk referring to the introductory note.

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b/ Official Records of the General Assembly, Twenty-sixth Session, Supplement No. 21 (A/8421), annex I, 11.

I [1]

LIMITS OF THE AREA (CT.[2] Sec.1)*

[1. Delimitation of national jurisdicti ..]

[2. Procedures for notification, record and publication of actual limits of national jurisdiction.]

1/ The Working Group has not considered this text

2/ CT = Comparative Table /A/AC.138/L.10)

*/ See introductory note

COMMON HERITAGE OF MANKIND (CT. Sec.2)*

(A)

Common heritage Limits (D.1) 3/

1.4/ The sea-bed and ocean floor, and the subsoil thereof beyond the limits of national jurisdiction5/, as defined pursuant to Article ... and hereinafter referred to as the "Area", as well as the resources of the Area, are the common heritage of mankind6/

"Resources" interpreted

[2. The resources referred to in these Articles [are] [include] the mineral and other non-living resources of the Area [and of the water column] [together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the sea-bed or are unable to move except in constant physical contact with the sea-bed or the subsoil].]

OR

[The resources referred to in these Articles constitute the organic and the inorganic content composing the Area.]

OR (B)

1. (All of the text of paragraph 1 of (A) above, followed by:)

The Articles contained herein determine the meaning of the common heritage concept.

OR (C) (for the Preamble)

BEARING IN MIND THAT the sea-bed and ocean floor, and the subsoil thereof within the area defined in Article ... are the common heritage of mankind in accordance with the provisions of these Articles.

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* See introductory note.

3/ Explanatory note: words underlined are contained in the Declaration of Principles (resolution 2749 (XXV)).

4/ D - Declaration of Principles

5/ The term "national jurisdiction" is not intended to prejudge the nature and content of such jurisdiction.

6/ The view was expressed that, depending on the elaboration of later texts, consideration should be given to the insertion of the phrase "and as such are administered in the name and on behalf of the international community by the Authority established under Article ..." after the word "mankind".

3

ACTIVITIES REGARDING EXPLORATION AND EXPLOITATION, ETC. (CT. Sec.5)*

Activities covered (D.4)

(A)

1. All activities in the Area, including scientific research[7] and the exploration and exploitation of the resources of the Area, and other related activities shall be governed by the provisions of these Articles and shall, unless otherwise provided in these Articles, be subject to regulation by the Authority established pursuant to Article ...

"Activities" interpreted

[2. For the purposes of this Article, the term "activities" shall include scientific research, preservation of the marine environment, the prevention of pollution, processing and marketing of commodities recovered from the Area, accommodation of uses of the Area, conservation of living resources and the protection of archaeological and historical treasures].

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* See introductory note.

7/ The view was expressed that the reference to scientific research in this text is outside the terms of reference of the Working Group.

OR (B)

The provisions of these Articles shall govern the exploration and exploitation of the resources of the Area and other related activities which are specified herein. The Authority shall have the functions with regard to those activities which are conferred on it by these Articles.

OR (C)

1. All activities in the Area shall be governed by the international régime established by these Articles. The International Authority established under Article ... shall enjoy in respect of these activities such powers as are conferred upon it by the terms of these Articles.

[2. Under this text the question of an interpretative paragraph for the term "activities" is left open.]

NON-APPROPRIATION AND NO CLAIM OR EXERCISE OF SOVEREIGNTY OR SOVEREIGN RIGHTS; NO CLAIM ETC., OF RIGHTS INCOMPATIBLE WITH THE TREATY ARTICLES; NON-RECOGNITION OF CLAIMS ETC., (CT. Sec. 3 and 4)*/

(A)

(D.2 and 5) Neither the Area nor [its resources nor] any part thereof shall be subject to appropriation by any means whatsoever, by States or persons natural or juridical, and no State shall claim or exercise sovereignty or sovereign rights over the Area or [its resources or] any part thereof; nor, except as hereinafter otherwise specified in these Articles, shall any State or any person natural or juridical claim, acquire, or exercise any rights over the resources of the Area or of any part thereof. Subject to the foregoing, no such claims or exercise of such rights shall be recognized.

OR (B)

1. No State shall claim or exercise sovereignty or sovereign rights over any part of the sea-bed or the subsoil thereof. States Parties to this Treaty shall not recognize any such claim or exercise of sovereignty or sovereign rights.

2. Similarly, the sea-bed and the subsoil thereof shall not be subject to appropriation by any means, by States or persons, natural or juridical.

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*/ See introductory note.

5

USE OF THE AREA BY ALL STATES WITHOUT DISCRIMINATION (CT. Sec.6)*/8/

Non-discrimination (D.5)

The Area shall be open to use exclusively for peaceful purposes by all States, whether coastal or land-locked, without discrimination [in accordance with the provisions of these Articles.9/]

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*/ See introductory note.

8/ One delegation suggested that 5 and X could be combined. For the alternative text proposed see XI A.

9/ One delegation expressed the view that the text should end after the word "discrimination", the remainder of the text being deleted. Another delegation suggested that a further sentence should be added at the end of the existing text, reading as follows: "All States, whether land-locked or coastal, shall have access to the Area in accordance with the provisions of these Articles.".

IX

APPLICABILITY OF PRINCIPLES AND RULES OF INTERNATIONAL LAW (CT. Sec.7)*/ 10/

General conduct of States (D.6)

[In regard to the Area] States shall act in [and in relation to] the [Area] in accordance with [The use of the Area shall be governed in accordance with] the provisions of these Articles, the applicable principles and rules of international law, including [those contained in] the Charter of the United Nations, [and taking into account] [in] [the Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations, adopted by the General Assembly on 24 October 1970,] [and in general all the Declarations of the United Nations which are applicable] [and [in]] the Declaration on the Granting of Independence to Colonial Countries and Peoples adopted by the General Assembly on 14 December 1960] in the interests of maintaining international peace and security [and in the interests of the peaceful co-existence of States with different social systems] and promoting international co-operation and mutual understanding.

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*/ See introductory note.

10/ The Working Group began, but did not complete, its second reading of this text.

X

BENEFIT OF MANKIND AS A WHOLE (CT.Sec.8)*/

General objective: benefit of mankind as a whole (D.7)

[Scientific research and] the [industrial] exploration of the area and the exploitation of its resources shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States, whether land-locked or coastal, and taking into particular consideration the interests and needs of the developing countries.

[For the purposes of this Article the term "industrial exploration" shall mean .....]

Special interest groups

[Due regard shall be paid to the need to protect the interests of [coastal States,] land-locked and shelf-locked countries [countries with a coastline of less than ..... miles, and those whose continental shelf at a depth of 200 metres or less, is less than ..... square miles] in the development of sea-bed resources]

"Shelf-locked country" interpreted

[For the purpose of this Article the term "Shelf-locked country" shall mean .....]

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*/ See introductory note

XI

PRESERVATION OF THE AREA EXCLUSIVELY FOR PEACEFUL PURPOSES (CT. Sec. 9)*/

Peaceful uses (D.8)

The Area shall be reserved exclusively for peaceful purposes, [, and every effort shall be made to exclude it from the arms race] [and its use for military purposes shall be prohibited].

[The Contracting Parties undertake to conclude further international agreements as soon as possible] with a view to effective implementation of this Article.]

[The emplacement of nuclear weapons and of other weapons of mass destruction in the area is prohibited.]

[Nuclear and thermonuclear weapon test explosions are prohibited in the Area].

Proposal to replace third and fourth paragraphs:

[The activities of all nuclear submarines in the Area and in the sea-bed area of other States shall be prohibited. The emplacement of nuclear weapons and all other weapons in the Area and in the sea-bed area of other States shall be prohibited].

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*/ See introductory note.

XIA

PROPOSED AMALGAMATION OF TEXTS 5 AND X

[The Area shall be open to use exclusively for peaceful purposes by all States without discrimination. Scientific research, the exploration and exploitation of its resources shall be carried out for the benefit of mankind as a whole, irrespective of the geographical position of States, whether coastal or land-locked, and taking into particular consideration the interests and needs of the developing countries.]

XII

WHO MAY EXPLOIT THE SEA-BED

(COMPARE CT. Sec.11)*/

[All exploration and exploitation activities in the Area shall be conducted by a Contracting Party or group of Contracting Parties [or natural or juridical persons under its or their authority or sponsorship].] [, subject to regulation by the Authority and in accordance with the rules regarding exploration and exploitation set out in these Articles.]

[All activities of exploration and exploitation of the resources of the Area and other related activities shall be conducted [by or on behalf of the Authority,] [or] [by a Contracting Party or group of Contracting Parties [or natural or juridical persons under its or their sponsorship], all subject to the general supervision and control of the Authority].] [, and to the rules regarding exploration and exploitation set out in these Articles.]

OR (A)

[Subject to the power of the Authority set out in the following paragraph, all activities of exploration for and exploitation of the resources of the Area shall be conducted pursuant to a licence issued by the Authority to a Contracting Party or group of Contracting Parties. A Contracting Party or group of Contracting Parties to whom a licence has been issued may authorize a natural or juridical person or persons to carry out the activities covered by the licence. Nevertheless, the Contracting Party or Parties remain responsible to the Authority and other Contracting Parties for ensuring that the activities so authorized are carried out in accordance with these Articles.

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*/ See introductory note.

In addition to licensing activities by Contracting Parties, the Authority may decide to conduct activities of exploration for and exploitation of the resources of the Area when it is in a position to finance such activities.]

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NOTE: The Group will have to consider whether to set out here, as is done in some proposals, the general rules regarding exploitation of the sea-bed. These could include rules on licensing, fees payable, areas to be allotted, work requirements, work plans, inspection, revocation of licences, integrity of investments, notice to mariners and other safety procedures. On the other hand, the Group may decide to omit them from Part I of the Articles.

XIII

GENERAL NORMS REGARDING EXPLOITATION

(CT. SECS. 12 and 13)*/

As management aims or guidelines (D.9)

[The Authority established pursuant to Article ...] [shall have exclusive jurisdiction [to administer] [over] the Area and its resources for mankind as a whole and] [shall provide for] [inter alia] the orderly and safe development and rational management of the Area and its resources and for expanding opportunities in the use thereof, and ensure the equitable sharing by States [Contracting Parties] in the benefits derived therefrom taking into particular consideration the interests and needs of the developing countries, whether land-locked or coastal.]

[In the exercise of its powers the Authority shall at all times take duly into account the primary purpose of promoting the development of developing countries inter alia by (a) avoiding or compensating, where necessary, possible adverse effects of exploitation of any part of the Area on such development, (b) contributing an appropriate part of its revenues to such development, and (c) furthering participation of developing countries in the activities undertaken by it or on its behalf. Sharing of benefits shall be equitable and, in principle, related to need, taking into consideration [the stage of economic development of each member State.]] [existing levels of development as well as potential for development of the developing countries.]

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*/ See introductory note

[The Authority and the Contracting Parties shall pay due regard to the need for minimizing adverse effects of the development of the sea-bed resources on the prices of land-based minerals.][11/]

*** *** ***

As objectives obligations with respect to exploration and exploitation (D.9)

[The exploration of the Area and the [development and] exploitation of its resources shall be carried out in an orderly, safe and rational manner, so as to provide for] expanding opportunities in the use thereof, and to ensure the equitable sharing by States [parties] in the benefits derived therefrom, taking into particular consideration the interests and needs of the developing countries, whether land-locked or coastal.]

[Exploitation of the resources of the Area shall be carried out in a rational manner so as to ensure their conservation and to minimize any fluctuation in the prices of minerals and raw materials from terrestrial sources that may result from such exploitation and adversely affect the exports of the developing countries.]

[The benefits obtained from exploitation of the resources of the Area shall be distributed equitably among all States [parties], irrespective of their geographical location, giving special consideration to the interests and needs of developing countries, whether coastal or land-locked.]

NOTE: The Group may wish to consider whether to set out here, as is done for example, in the US draft, Art. 5(1), the basic principles of benefit-sharing, or to deal with this subject in a subsequent chapter of the Articles.

11/ With reference to the three paragraphs above, the USSR delegate referred to the explanatory note to Article 9 of the provisional draft articles submitted by the USSR, reproduced in Section 11 of the Comparative Table (p. 34 of the English text).

[The proceeds from any tax levied by a State in connexion with activities relating to the exploitation of the Area, either in respect of profits realized, services provided or equipment and materials supplied, or in respect of remuneration or interest received, by individuals or bodies corporate under its jurisdiction shall be paid by the State to the Authority for distribution among the developing countries.]

XIV

SCIENTIFIC RESEARCH (CT. Sec.14)*/

Right to undertake scientific research

[1. Every State, whether coastal or not, has the right to undertake scientific research in [ocean space] [the Area]. This right is subject to such regulation of a general and non-discriminatory character as may be prescribed by the [relevant authority]] [the Authority].

Non-interference with scientific research

[1. Each Contracting Party agrees to encourage and to obviate interference with scientific research].

[1. Neither these Articles, nor any rights granted pursuant thereto shall affect the freedom of research on the sea-bed and the subsoil thereof].

Promotion of scientific research; dissemination of results; training (D.10)

[Contracting Parties] [States] shall promote international co-operation in scientific research [concerning the Area] [exclusively for peaceful purposes]:

(a) By participation in international programmes and by encouraging co-operation in scientific research by personnel of different countries;

(b) Through effective publication of research programmes dissemination of the results of research through international channels;

(c) By co-operation in measures to strengthen research capabilities of developing countries, including the participation of their nationals in research programmes.

Research not to form basis of claim

No such /research/ activity shall form the legal basis for any claim with respect to any part of the Area or its resources.

/For the purpose of this Article the term "scientific research" shall mean .../.

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*/ See introductory note.

XV

TRANSFER OF TECHNOLOGY*/

[Contracting Parties undertake to establish as soon as possible, in consultation with the Authority, and co-operate in, programmes facilitating the transfer of technology relating to the exploration of the Area and the exploitation of its resources, including wherever feasible, such technology as may be protected by patents. The Authority may serve as an intermediary for the purpose of facilitating such transfer on as wide a basis as possible and shall assist Contracting Parties by drawing up programmes for the purpose].

[Revenues derived from sea-bed exploration and exploitation shall be used, through or in co-operation with other international or regional organizations, to promote efficient, safe and economic exploitation of mineral resources of the sea-bed; to promote research on means to protect the marine environment; to advance other international efforts designed to promote safe and efficient use of the marine environment; to promote development of knowledge of the Area; and to provide technical assistance to Contracting Parties or their nationals for these purposes, without discrimination.]12/

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*/ See introductory note

12/ With reference to this paragraph, the USSR delegate referred to the explanatory note to article 9 of the provisional draft articles submitted by the USSR, reproduced in section 11 of the Comparative Table (p.34 of the English text).

[The Authority shall establish permanent facilities for the transfer of marine science technology and know-how to developing countries; and shall give opportunities for personnel of developing countries to participate as far as possible in ventures undertaken by the authority or by entities operating under the Authority.]

XVI

PROTECTION OF THE MARINE ENVIRONMENT ETC. (CT. Sec. 15)*/

Protection of the marine environment; safety of human life. (D.11)

With respect to [all] activities [of industrial exploration and exploitation][by States][in the Area][and acting in conformity with [the provisions of these Articles]], [States][The Authority] shall [take appropriate measures for and shall co-operate [with each other and with the Authority] in the adoption and implementation of international][comply with the provisions of these Articles with respect to] rules, standards and procedures for, inter alia:

(a) The prevention of pullution and contamination, and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment;

(b) The protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment;

[(c) The protection of human life at sea].

[All activities in the Area shall be conducted with strict and adequate safeguards for protection of human life and [safety][and of the][preservation] of the marine environment].

[All operations in the Area shall be carried out in such a manner as to protect and conserve the natural resources of the Area and to prevent damage to the fauna and flora of the marine environment]

[States][The Authority] shall establish rules for the operational safety of installations for exploration and exploitation of the Area and shall co-operate with one another in this regard].

NOTE: The Group may wish to consider whether or not to deal in Part I of the Articles with the subject of marine pollution in greater detail, as is done for example in the Malta draft, Arts. 80-83. (Compare also US draft, Art. 23).

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*/ See introductory note.

XVII

DUE REGARD TO THE RIGHTS ETC. OF COASTAL STATES (CT. Sec. 16)*/

Rights of coastal States (D.12)

[1. In their activities in the Area, including those relating to its resources, States [and the Authority] shall pay due regard to the rights and legitimate interests [under these Articles and international law] of coastal States in the region of such activities, as well as of all other States, which may be affected by such activities. Consultations [as appropriate][, including a system of prior notification,][by the Authority] shall be maintained with the [coastal] States concerned with respect to [all such] activities [relating to the exploration of the Area and the exploitation of its resources] with a view to avoiding infringement of such rights and interests.]

OR (A)

The first sentence of the above to read:

[All activities in the Area, including those relating to its resources, shall be carried out with due regard to the rights and legitimate interests of coastal States in the region of such activities.]

Emergency measures. (D.13(b))

[2. Coastal States shall have [subject to the provisions of these Articles]the right to adopt such measures as may be necessary to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat thereof or from other hazardous occurrences resulting from or caused by any [such] activities [in the Area].

Resources near limits of national jurisdiction

[3. Resources of the Area which lie across limits of national jurisdiction shall not be explored or exploited, except in agreement with the coastal State or States concerned. Where such resources are located near the limits of national jurisdiction, their exploration and exploitation shall be carried out in consultation with the coast State or States concerned, and where possible through such State or States]

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*/ See introductory note.

XVIII

LEGAL STATUS OF WATER SUPERJACENT TO THE AREA ETC. (CT. Sec. 17)*/

Status of water column and air space (D.13(a)) Rights under existing international law

[Except as provided in these Articles nothing][nothing herein] [neither these Articles nor any rights granted or exercised pursuant thereto] shall affect:

(a) the legal status of the waters superjacent to the Area [as high seas] or that of the airspace above those waters;

(b) the rights of coastal States with respect to measures [in accordance with international conventions] to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interest from pollution or threat thereof or from other hazardous occurrences resulting from or caused by any activities [in the Area];

(c) such rights as are clearly recognized under existing international law, inter alia, the right to lay and maintain submarine cables and pipelines.

[Except as provided in these Articles][the use of the sea-bed and the subsoil thereof for the purpose of exploration and exploitation of its resources shall not conflict with the principles of freedom of navigation, fishing research and other activities on the high seas.]

[Except as provided in these Articles nothing][Nothing herein contained shall affect the freedom to lay and maintain submarine cables and pipelines and other freedoms of the high seas which are recognized by the general principles of international law.]

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*/ See introductory note.

XIX

NON-INTERFERENCE WITH OTHER ACTIVITIES AND PROTECTION OF ACTIVITIES IN THE AREA. (CT. Sec. 18) */

Non-interference with seabed activities.

[1. All activities in the marine environment shall be conducted with reasonable regard for exploration and exploitation of the natural resources of the Area].

Non-interference of Seabed activities with other marine activities

[2. Exploration and exploitation of the natural resources of the Area must not result in any unjustifiable interference with other activities in the marine environment].

Non-interference with navigation.

[3. Exploration and exploitation of natural resources shall not be permitted in areas where interference may be caused to the use of recognized sea-lanes essential to international navigation or where scientific findings indicate the probability that exploitation may result in extensive pollution of the marine environment].

NOTE: The Group may wish to consider whether or not to include here a more detailed treatment of "non-interference rules" such as is contained in the USSR draft, Arts. 4, 10, 12, US draft article 21 and other relevant texts.

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*/ See introductory note.

XX

RESPONSIBILITY TO ENSURE OBSERVANCE OF THE INTERNATIONAL REGIME AND LIABILITY FOR DAMAGES. (CT. Sec. 19) */

International responsibility (D.14)

Every State shall have the responsibility to ensure that activities in the Area, including those relating to [the industrial exploration and exploitation of] its resources, whether undertaken by governmental agencies, or non-governmental entities or persons under its jurisdiction, or acting on its behalf, shall be carried out in conformity with the [provisions of these Articles]. The same responsibility applies to international organizations and their members for activities undertaken by such organizations or on their behalf. Damage caused by such activities shall entail liability,13/ [on the part of the State or international organization concerned, in respect of activities which it undertakes itself or authorizes.][A State Party to these Articles shall be responsible for any damage caused to another State Party to these Articles as a result of its activities on the sea-bed].

[2. A group of States acting together shall be jointly and severally responsible under these Articles].

[3. Each Contracting Party shall:

(i) Take appropriate measures to ensure that those conducting activities under its authority or sponsorship comply with these Articles.

(ii) Make it an offence for those conducting activities under its authority or sponsorship in the Area to violate the provisions of these Articles. Such offences shall be punishable in accordance with administrative or judicial procedures established by the Authorizing or Sponsoring Party.

(iii) Be responsible for maintaining public order on manned installations and equipment operated by those authorized or sponsored by it.

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*/ See introductory note.

13/ The Working Group may wish to consider whether to include reference here to the question of limits of liability as well as to other liability questions.

(iv) Be responsible for damages caused by activities which it authorizes or sponsors to any other Contracting Party or its nationals.

(v) Be responsible for carrying out all measures necessary for the restoration of any damaged property or area to its condition immediately prior to such damage].

[4. Every [Contracting Party][State] shall take appropriate measures to ensure that the responsibility provided for in paragraph 1 of this Article shall apply mutatis mutandis to international organizations of which it is a member].

XXI

SETTLEMENT OF DISPUTES. (CT. Sec. 20)*/

[All disputes arising out of the interpretation or application of these Articles shall be settled in accordance with the provisions of Article ...]

NOTE: An article of this kind which does no more than foresee more detailed provision for settlement of disputes may be all that is required under Part I of these Articles. Any further detailed consideration which the Group may wish to give to this subject may take as a starting point paragraph 15 of the Declaration of Principles.14/

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*/ See introductory note.

14/ The view has been expressed that text XXI is acceptable only if later coupled with procedures for compulsory disputes settlement.

2. Additional notes on the possible economic implications of mineral production from the international sea-bed area: report of the Secretary-General*

CONTENTS

* Originally issued as document A/AC.138/73.

CONTENTS (continued)

PREFACE

1. When considering the economic implications of international sea-bed resource use, during the summer session of 1971, the Committee on the Peaceful Uses of the Sea-bed and the Ocean Floor beyond the Limits of National Jurisdiction had before it the report of the Secretary-General entitled "Possible impact of sea-bed mineral production in the area beyond national jurisdiction on world markets, with special reference to the problems of developing countries: a preliminary assessment" (A/AC.138/36). This report suggested that the rapid development of knowledge and technology in ocean mining required periodical reviews of the subject. Moreover, during the March session of 1972, some members of the Committee requested the Secretariat to review recent developments in ocean mining. In this connexion, it was suggested that the countries where testing of nodule mining systems might be at an advanced stage, submit data to the Secretariat before 30 April 1972, to facilitate the review of these developments.

2. This report is divided into four sections: (1) a brief description of developments in ocean mining; (2) additional considerations on possible economic implications of these developments; (3) a further elaboration of some concepts of sea-bed resource development that could be used to minimize the possible adverse effects of marine mining on world markets in general, and on the export earnings of developing countries in particular; and (4) some issues of international commodity policy. 1/ The emphasis of this report on ocean-floor mineral resources is on possible ways to promote their rational exploitation.

I. TRENDS IN SEA-BED RESOURCES DEVELOPMENT

3. Technological developments and exploratory activities in 1971 have increased optimism regarding prospects for marine mining. The highlights of these developments affecting the offshore petroleum industry and mining for hard minerals are discussed below.

A. Petroleum

4. In the offshore petroleum industry the current trend is a distinct move into deeper waters to find and produce the oil that geologists have predicted would be found there. Detailed seismic surveys are being conducted in 1,000 metres of water at several locations and there is preliminary seismic work at depths up to 2,000 metres. Designs have been completed for fixed production platforms in water 210 m. deep in the Santa Barbara Channel (on the West Coast of the United States). Progress has also been made on diverless subsea well completion systems usable with floating rigs while other platforms are planned for depths of 300 m. Several new and sophisticated semi-submersible drilling rigs and drill ships are under construction which will be able to operate in deeper and rougher waters than hitherto. These newer drilling rigs and ships may cost over $15 million per unit, while in one instance the estimated cost is in excess of $23 million. 2/

1/ Submitted to the Third United Nations Conference on Trade and Development (UNCTAD III), Santiago, Chile, 13 April 1972, as document TD/113/Supp.4.

2/ K. Edmiston, "What is new in deep ocean drilling", in Oceanology, January 1972, p. 28; and Ocean Industry, February 1972, p. 41.

5. Related developments include a hole re-entry system of high precision and reliability which has been successfully tested at a depth of 200 m. 3/ Continuous improvements in pipe laying techniques in rougher and deeper waters have been reported. Progress has also been made in the design of offshore storage tanks. These will in the future considerably improve the economics of oil production in deeper waters and at great distances from the coast by eliminating the need for costly pipelines from the producing fields to land storage tanks. 4/ Important developments are also taking place in undersea working techniques as diving procedures and ancillary equipment are improved and unmanned vehicles and remote control robot devices become operational. The steady progress in all areas of deep water petroleum technology - exploration, production, storage and transportation - indicates that eventually oil production may be feasible in the outer continental shelf and upper slope. 5/

B. Metal-bearing muds and manganese incrustations

6. Sampling carried out during a geophysical probe of the sea floor across the entire North Atlantic Ocean found heavy incrustations of manganese ore - containing nickel, copper and cobalt - on exposed rocks in regions where earth movements have caused fractures in the sea-bed. The data available have caused some speculation that these incrustations on the mid-ocean ridges may be thicker and more extensive than the manganese nodules discovered over wide areas of the ocean floor in recent years. 6/ At present there is no technology available that would allow economic mining of these manganese incrustations. It will be difficult to break these crusts free from their solid attachment to the sea-floor bedrock.

7. Exploratory and engineering tests are continuing on the Red Sea metal-bearing muds. Under the sponsorship of the Government of the Federal Republic of Germany, the vessel Valdivia conducted extensive prospecting of the Red Sea from March to July 1971. It discovered a deposit of copper-zinc ooze, at a depth of 2,200 metres. New technology will have to be developed to recover these muds from the sea-bed and to extract the metals contained therein. It is reported that the metal content

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3/ Ocean Industry, February 1972, pp. 31-33, "Hole Re-Entry System passes tests in 580 foot water".

4/ "Largest floating storage barge", Ocean Industry, November 1971, p. 25.

5/ As in the previous report (A/AC.138/36), the prospects for marine hydrocarbons are discussed on the basis of an assumed maximum depth at which submarine deposits may be found. It is generally held that such deposits are associated with thick sedimentary layers which occur for the most part in proximity to land masses, rather than far from shore in deep ocean basins. It should be noted, however, that hydrocarbon exploitation in the area beyond national jurisdiction must in any event be regarded as a real possibility in the future, although present data do not provide a basis for estimating what the economic effects of such exploitation might be.

6/ "Trans-Atlantic survey finds manganese", Oceanology, October 1971, pp. 22-23.

changes, but at a site in the central part of the Red Sea the ooze yielded an average content of 5 per cent for zinc and copper. The ooze is found in deposits 30 m. thick in average. About 30 tons of samples were collected for further tests. The firm Preussag A.G. was reported to be granted offshore mining rights for an area covering these deposits, by the Government of Sudan. 7/ Scientists suggest that metal-rich muds and hot brines like those found in the Red Sea might also be encountered in other rift locations on the ocean floor.

C. Manganese nodules

(a) Exploratory activities

8. Exploratory activities increased during 1971, both by scientific expeditions that publish the results of their work and by concerns whose findings are of a proprietary nature.

9. The Soviet Union and several Eastern European countries have set up an international centre designed to co-ordinate their efforts in marine exploration. According to some sources, during a conference in Riga in 1971, the USSR indicated that joint expeditions are being planned in the Atlantic, Indian and Pacific Oceans to select prospective sites for mineral exploitation. 8/

10. Nodule deposit explorations in the Pacific have been conducted by a large number of commercial enterprises from many industrial nations. The United States company, Deepsea Ventures, has been conducting deposit exploration surveys in an area south of Hawaii. Centre National pour l'Exploitation des Océans (CNEXO), the French oceanographic agency, working in association with Le Nickel, has conducted exploratory work about 200 miles east of Tahiti where nodules high in cobalt and nickel have been found. Metallgesellschaft A.G. of the Federal Republic of Germany has also been engaged in nodule surveys in the Pacific Ocean. Kennecott Corp. has developed its own sampling and exploration equipment and techniques, and on a number of cruises since 1967 has sampled over 3,000 manganese nodule sites. 9/ Several academic institutions in the United States such as Scripps in San Diego, Calif., Woods Hole, Mass., and Lamont-Doherty Observatory of Columbia University in New York, have also conducted extensive nodule deposit surveys.

(b) Mining systems

(i) Airlift and hydraulic

11. Further developmental work is continuing in the air-lift system developed by Deepsea Ventures. Several enterprises in Japan, North America and Western Europe are at different stages of design and testing of nodule mining systems. The

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7/ "Red Sea Exploration", in Mining Magazine, Nov. 1971, pp. 401-403.

8/ "Soviet block plans big sea-bed study", The New York Times, 24 April 1971.

9/ T. N. Walthier, "The current status of ocean mining", in Mining Engineering, October 1971, pp. 51-53.

Demag Company of West Germany has designed a hydraulic mining system which could operate at water depths up to 15,000 feet. This system would have a pumping station, engine room and primary nodule processing facilities installed in a 22-metre long submerged compartment. The nodules would be collected from the sea floor by special equipment mounted on crawlers and pumped up to an intermediary submerged processing station from where they would be lifted to the mining ship. 10/

12. The Hughes Tool Company has made a major commitment of perhaps over $50 million to the development of a manganese nodule mining system. Global Marine of Los Angeles is the general contractor for the Hughes Tool Co. project, which now has two mining vessels under construction. A 600-foot, 35,000 ton vessel, estimated to cost about $40 million, is being constructed at the Sun Shipping Yard in Pennsylvania. A second vessel (320' x 107') is being built at the National Steel and Ship Building Yard in San Diego, California, according to a design of Lockheed Missiles and Space Company. The advanced pumping technology developed by the Hughes Tool Company and the odd size of this second vessel reportedly may indicate that mining would be carried out by air-lift hydraulic means with the pumping station submerged 250 feet or more below sea level.

(ii) The continuous line bucket (CLB) system

13. This system was conceived and developed by Commander Yoshio Masuda of Japan. It consists of a continuous loop of cable to which is attached a series of dredge buckets. The loop of cable is sufficiently long that it is able to reach from a surface vessel and down to the ocean floor. It was tested during the summer of 1970 at several depths (up to 3,500 m.) in locations near Tahiti where nodule deposits have been found.

14. The production capacity of the CLB system is a function of the size of the buckets, the spacing of the buckets on the dredge cable, the velocity at which the cable loop is operated and the filling efficiency of the buckets. The filling efficiency of the buckets depends on their design and on operational conditions, namely, the lateral velocity of the surface ship in relation to the vertical velocity of the cable and the length of line with attached buckets which is allowed to drag on the ocean floor. The appropriate operational practice (i.e. synchronization of cable speed, lateral ship velocity and bucket drag on the sea-floor), is intended to prevent the buckets from passing continuously over the same area of the sea-floor. The results of the 1970 tests seem to indicate that filling efficiency could be maintained at over 50 per cent of bucket capacity with appropriate operational practice. 11/

10/ "Mining system will process ore in under-water station", Ocean Industry, October 1971, p. 18.

11/ John L. Mero, "Will ocean mining prove commercial?", in Offshore Technology, April 1971, p. 131. See also "The Future Promise of Mining in the Ocean", in Canadian Mining and Metallurgical Bulletin, April 1972, pp. 21-27, and "Continuous Bucket-Line Dredging at 12,000 feet", in Offshore Technology Conference preprint (prepared for the Third Annual Offshore Technology Conference, Houston, Texas, 19-21 April 1971.

15. The basic limiting factors to production capacity in the system are: power, bucket size and cable strength. The test to be conducted during the summer of 1972 will use 16,000 m. of 120 mm. diameter polypropylene rope with a 150-ton breaking strength. The two bucket sizes to be tested will have a 0.5 m^3 and 0.3 m^3 capacity, 12/ and will be attached to the cable at 25 to 50 metre intervals. About 900 kw of power will be available for traction of the CLB system in the vessel to be used for the tests this summer. The power available and the size of buckets will limit maximum production of this CLB system to 650 tons of nodules per day. By increasing the power rating of the traction driving motors and increasing the bucket dimensions, production capacity could be increased, in principle, to about 3,800 tons of nodules per day, at which point the breaking strength of the cable (150 tons) would be approached. Cables of braided polypropylene with rated breaking strength of 500 tons are already being manufactured in Japan. By using such a cable and more powerful motors, the production capacity of the system might be increased to about 7,600 tons of nodules per day. 13/

16. The CLB test this summer will be conducted under the general direction of Mr. Masuda aided by Dr. Mero and it will be financed by a consortium of over 20 firms. This consortium was established only for financing and supervising the test, after which each participating company will be in a position to decide whether or not to lease the use of the system from the patent owner, Mr. Masuda. The main objectives of the test are:

(1) To test the CLB at sea in varying operating conditions on actual deposits of nodules that would be considered economic to mine;

(2) To obtain engineering data concerning all operating aspects of this system;

(3) To achieve routine production operation for a period of at least 10 days;

(4) To determine possible tendencies for equipment malfunction and resulting downtime;

(5) To secure about 3,000 tons of nodules from at least three separate deposits, for distribution to participants in the test; and

(6) To prepare complete engineering reports indicating the optimum design of the system and its operation, including all engineering and cost data generated in the test.

12/ The bulk density of nodules is about 1,000 kg. per m^3, therefore the buckets to be tested, if filled at 50 per cent capacity will bring up about 250 kg. and 150 kg. of nodules each.

13/ Source: Ocean Resources, Inc., La Jolla, Calif.

(c) Metallurgical processing

17. For some time, the processing of nodules was thought to be an even more difficult problem to solve than the recovery of nodules from the ocean floor. In the last two years, however, several announcements have been made indicating that a number of different procedures for the economic extraction of metals from nodules have been successfully tested.

18. Deepsea Ventures is continuing developmental work on a hydrometallurgical process which was tested in 1971 in a 1-ton/day pilot plant. The company is reported to be preparing additional process tests on a 10-ton/day pilot plant. The process starts with the crushing and drying of the nodules to expose a larger surface area and to promote reactiveness. The ground nodules are then reacted with hydrogen chloride in furnaces, and the soluble metal chlorides are subsequently leached with water. The leach liquor is then processed with solvent extraction liquids to separate copper, cobalt and nickel, which are recovered by electrolytic precipitation. The remaining manganese chloride solution is stripped of residual metals such as cadmium, zinc and chromium, and then converted into manganese metal. 14/ High rates of metal recovery - over 95 per cent - are claimed for this process.

19. The United States Bureau of Mines Research Station at Salt Lake City has announced the successful experimental processing of nodules by an acid and ammonia leaching system. High recoveries of all metals in the nodules were achieved in this rather conventional approach to nodule processing. The Kennecott Copper Co. after some 10 years of research on all aspects of nodule mining and processing indicated the development of a pyrometallurgical process technique. Though pyrometallurgical processes generally involve rather high investment and operational costs, recovery of nickel, cobalt and copper in the Kennecott process is reported to be above 90 per cent.

20. Experimental work is under way at the University of California, Berkeley, to develop a technique of differential leaching of metals from nodules. This oxide heap leaching process permits the separation of nickel, copper and cobalt without getting either manganese or iron into the solution. This process would thus permit nodule processing with rather low initial plant capital and operating costs. To date these experiments have permitted the recovery of only 60 per cent to 80 per cent of the metal content in the nodules, but it is hoped that further development might increase processing efficiency.

(d) Time horizon for nodule exploitability

21. The nature of manganese nodule exploitation, involving new technology for both the mining and the processing stages, makes it difficult to predict when the first venture will become operational. Some delegates in the Sea-Bed Committee have suggested that commercial recovery might become possible by the end of this decade. Industrial circles tend to be more optimistic. Deepsea Ventures maintains

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14/ A. B. Caldwell, "Deepsea Ventures Readying its Attack on Pacific Nodules", in Mining Engineering, October 1971, pp. 54-55.

that by 1976 they could be mining and processing nodules, if the question of exclusive rights to sites on the ocean floor can be satisfactorily resolved. 15/ The promoters of the continuous line bucket system have indicated that commercial exploitation of nodules could commence before 1975. Furthermore, the large vessel and the mining system under construction for Hughes Tool Co. are expected to become operational in 1973, thus raising the possibility that they may have the capability for commercial production in late 1973 or 1974.

II. ECONOMIC IMPLICATIONS OF SEA-BED MINERAL PRODUCTION

22. The rapid progress in sea-bed mining technology and metallurgical processing in recent years indicates the possibility of substantial mineral production from the deep sea-bed. The question now is how soon will this take place. Estimates of the long-run economic implications of sea-bed mineral production are difficult, in view of the rapid development of marine mining technology, which may in due course permit production of nickel, copper, cobalt and possibly manganese, not only from nodules, but also from metal-bearing muds. In the more distant future, when the necessary technology is developed, production may even be possible from manganese incrustations on oceanic ridges which also contain nickel, copper and other metals.

23. The amount of research and development work being devoted to the mining of manganese nodules makes it probable that metal extraction from nodules will reach the commercial stage before production from metal-bearing muds or manganese incrustations. Indeed, it is quite possible that commercial manganese nodule exploitation could start within five years. In view of the uncertainties regarding future technological developments for the exploitation of metal-bearing muds and manganese incrustations, only the processing of nodules is considered in the following assessment of the economic implications of sea-bed mineral production.

24. Developments reported since the preparation of the previous study by the Secretary-General on the possible economic impact of sea-bed mineral production (A/AC.138/36) do not seem to have affected the preliminary conclusions suggested in that report. Additional information now available, however, has brought some points into better focus. Metal recovery rates will depend on the site mined

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15/ The American Mining Congress drafted some proposed deep sea-bed legislation, which was introduced in the United States Senate as Bill S.2801 by Senators Metcalf, Allott, Bellmon, Jackson and Stevens. The Bill was referred to the Committees on Interior and Insular Affairs and Foreign Relations jointly. Similar proposed legislation has also been introduced in the United States House of Representatives. In a statement before Sub-Committee I of the Sea-Bed Committee on 14 March 1972, Dr. Vincent E. McKelvey indicated that the Executive Branch of the United States Government had not taken a position on this Bill.

as well as on the metallurgical processing method adopted. Despite the uncertainties inherent in estimates based on new technology, the figures suggested in the previous report (A/AC.138/36) for hypothetical production from a single mining operation (i.e. 1 million tons of dry nodules per year) are still thought to be valid. However, on the basis of several known samples of rich nodules, it is likely that nickel production could be at least 15 per cent greater, and perhaps as much as 50 per cent greater, than copper output. 16/ The possible impact of nodule mining on mineral markets is tentatively estimated in the following paragraphs.

A. Cobalt

25. The probable high volume of cobalt production from nodules in relation to world demand for this metal suggests that this market might be the first to be affected by sea-bed production. A single mining operation might be able to supply about 8 per cent of the world cobalt requirements by 1980. 17/ Two factors, however, would tend to moderate the impact of the increased supply on the market. The first is the possibility that demand for cobalt might expand more rapidly if prices were lower. In the past, elasticity of demand for cobalt has been rather low; however, prices have seldom remained at comparatively low levels for sufficiently long periods of time to encourage its use in new applications. A large steady supply from the nodule industry could be expected to change this situation. The second factor comes from the nature of the existing market: a single major producer in a developing country is in a position to restrict supply in response to a decline in prices. This behaviour of the price leader might change if cobalt production from nodules became the dominant source of the metal.

26. The impact of sea-bed supply on the cobalt market could be quite dramatic, if the high Co content nodules of the mid-Pacific rise were mined. 18/ In this area, west of Hawaii, a single mining operation dredging 1 million tons of nodules per year with 2 per cent Co content would be able to supply about 19,200 tons of cobalt. This is equivalent to almost the total output from land in 1969, and would amount to half of the possible 1980 world demand for cobalt (based on extrapolation of present uses for this metal).

27. In short, it is expected that cobalt production from nodules will tend to reduce prices, although it is impossible at this time to say how soon, and by how much, prices may drop. There is, however, a possible floor to the decrease in

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16/ Annual production from one 1-million ton/year operation might be approximately 16,000 tons of nickel; 13,000 tons of copper; 2,800 tons of cobalt, and 270,000 tons of manganese, if this mineral were also recovered.

17/ A/AC.138/36, p. 56.

18/ Mineral Resources of the Sea, (United Nations publication, Sales No.: E.70.II.B.4), p. 14.

cobalt price, namely the price level of nickel. 19/ Since cobalt could be a substitute for nickel in several uses, it is quite possible that if cobalt prices were to drop to the level of those of nickel, nodule processors might supply the two metals together rather than separate them.

B. Manganese

28. Manganese markets could also be affected by marine production, since demand is quite inelastic and no major new uses can be foreseen to absorb increased supplies of this mineral at lower prices. However, it is by no means certain that extraction of manganese will prove to be commercially attractive. Depending on the metallurgical process adopted the processing of nodules may yield (in addition to nickel, copper and cobalt): (1) a useless slag to be discharged; (2) a low-grade manganese ore equivalent (manganese oxide); (3) ferro-manganese; (4) pure manganese metal. It is yet too soon to speculate on the metallurgical process or processes which will be most economic in the future. It appears, however, that manganese recovery is likely to be the most expensive stage of nodule processing; most processes under consideration do not provide for the recovery of manganese. Preliminary cost estimates suggested for various methods of nodule processing seem to indicate that production of manganese oxide from nodules might not be competitive with land-based manganese ore at present prices (about $US 60 per ton of manganese in ore CIF to the United States East Coast or Gulf ports).

29. Although it is too soon to predict whether any recovery of manganese in the form of oxide will, in fact, be carried out, the prospects for doing so are not promising. But if the Mn-Fe content of the nodules cannot be sold, the processor will incur a certain cost in discarding the useless slag (from $1 to $5 per ton of nodules). Since the costs of mining, and that of recovering the other metals will have already been paid for, and considering the alternative cost of waste disposal, it is conceivable that some uses for the iron-manganese residue could be found if it were sold at a very low price.

30. It is conceivable that production of ferro-manganese and manganese metal from nodules might be commercially viable. The price of ferro-manganese 20/ in the United States is about $182 per ton and that of manganese metal (around $650 per ton) is more than ten times the price of manganese in ore form. This means that despite the rather high processing costs for manganese alone (perhaps ranging from $20 to over $100 per ton), nodule mining enterprises might find it attractive to produce ferro-manganese and manganese metal. However, present markets for these two commodities are quite limited, and additional supplies are bound, at least initially, to depress prices. As production of manganese metal

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19/ The price of cobalt at present is about $US 2.20 per pound and the price of nickel $US 1.30 per pound.

20/ Standard quality, 74-76 per cent Mn.

and ferro-manganese increases, the over-all structure of manganese markets might change. There could be an increase in the share of manganese utilized in the form of metal and ferro-manganese, at the expense of ore. What is important is that the three markets (ore, ferro-manganese and metal) are interrelated, and that irrespective of changes in the structure of supply, the aggregate demand for manganese in all forms is not likely to be much affected. It will probably remain essentially a function of steel output, which consumes about 94 per cent of total manganese production.

C. Nickel

31. Nickel recovery is expected to be the mainstay of the nodule industry, accounting for over 50 per cent of gross revenues. 21/ Demand for nickel is expected to grow fairly rapidly for the next two or three decades, even at the present rather high prices. The increase in demand could be even greater if nickel prices decline. In view of this highly dynamic outlook it does not appear probable that sea-bed mining would have serious adverse impact on nickel markets.

32. The favourable market during the second half of the 1960s, with its steadily rising prices, induced land-based producers to expand their capacity. If all the expansion plans reported in 1970 were to materialize, world nickel production capacity by 1975 would be increased by 88 per cent. 22/ Even accepting a relatively conservative view, production capacity would still increase from 650,000 tons per year in 1970 to about 1,050,000 tons per year by 1975. This would still be a considerable increase, amounting to a cumulative annual rate of 10 per cent.

21/ Any estimate of future revenues from nodule operations is faced with the difficulty of what prices to use, since these may be affected by marine production. Assuming that the first venture could sell its output at existing market prices, and that a manganese ore equivalent would be produced, the annual gross revenue from the sale of minerals could be estimated as follows:

Commodity	Annual production* in metric tons	Approx. market price (US $)	Annual gross revenue
Manganese ore	270,000	$50 per ton	$13,500,000
Nickel	16,000	$1.30 per pound	$45,750,000
Copper	13,000	$0.50 per pound	$14,300,000
Cobalt	2,800	$2.20 per pound	$13,550,000
		Total	$87,100,000

* See foot-note 13.

22/ E. Boudet, M. Janjou et C. Deschamps, "Perspective de développement de la production mondiale de nickel", in Annales des Mines, Mars 1971, pp. 23-42.

D. Copper

33. Of the four minerals concerned, production of copper from nodules is likely to have the least immediate impact. Firstly, the demand for copper is about 10 times larger than that for nickel; secondly, metal production from nodules will be approximately 4 tons of copper for each 5 tons of nickel, although as noted above, the ratio could be as large as 1 to 2; and thirdly, the economics of nodule mining is mainly dependent on nickel production. The effect of sea-bed mining on copper markets under present conditions would probably be equivalent to one tenth of the impact on nickel markets.

34. This situation would change, of course, if the demand for nickel were to increase at a much faster rate than the demand for copper. If, for instance, demand were to grow by 10 per cent a year for nickel and by 4 per cent for copper, at the end of three decades demand for copper would amount to about twice the volume of the demand for nickel. Under such conditions, the possibility of nodule mining affecting copper markets would increase appreciably. Of course, the materialization of such a hypothetical situation would imply a major change in the consumption patterns of the two metals, which in recent years have increased at approximately the same rates.

35. If it is assumed that the major increase in nickel supply would be derived from nodules (and reference has already been made to forecasts of increases in land-based production), the expansion required in the marine mining industry would be indeed gigantic. Taking the extreme example that total increase in demand for nickel from 1975 to 1990 (growing at 10 per cent a year) would be met from nodule mining, it would be necessary to have approximately 260 nodule mining ventures in operation by that time. It would also follow that to keep up with this 10 per cent annual growth of demand, by 1990 an additional 31 new manganese nodule ventures would have to become operational to meet the increase for that year alone. 23/

36. Although extreme, this example none the less serves to underline the many uncertainties inherent in forecasting the economic implications of future mineral production from the international sea-bed area, and points to the need for a continuous effort in planning and management.

III. PROMOTING THE RATIONAL DEVELOPMENT OF SEA-BED RESOURCES

37. Development of the resources of the international area poses novel challenges to the international community. Exploitation of sea-bed resources would substantially expand the world resource base at a time when considerable concern is being expressed in some quarters about the adequacy of world resources to

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23/ Based on the production of 1 million tons of dry nodules per year, with 1.5 per cent nickel content and a metal recovery factor of 96 per cent.

sustain increasing levels of production in the long run. On the other hand, it is quite possible that large-scale development of sea-bed resources would affect, to varying degrees, some traditional on-land producers. Moreover, the advanced technology needed to explore and exploit these resources is being developed by the most advanced industrial countries, and this raises the possibility of widening further the technological gap between industrial and developing countries.

38. As noted, the time horizons for development of these resources are still uncertain, although there are strong indications that nodule exploitation could commence within five years. Some effect from increased competition on manganese and cobalt markets could be felt as soon as such exploitation began. It is likely that the impact of large-scale nodule exploitation will be felt more strongly in the 1980s.

39. These considerations suggest the importance of early and careful study of what is entailed in rational development of the international area and its resources. It is evident, of course, that there are many ways of promoting such rational development, particularly in the light of the differing approaches made to the nature and powers of the types of international machinery that have been proposed or suggested. Similarly, it is also evident that much more information, and organization for retrieval of information, is necessary for such purposes. The following sections provide a brief review of some of the particular considerations that would need to be borne in mind in appraising what is the primary concern of the present report, namely, the economic implications of sea-bed resource development and the means of minimizing any adverse economic effects caused by the fluctuation of prices of raw materials as a result of this development. The following pages present some theoretical and tentative considerations on possible ways to promote the rational development of sea-bed resources and they deal with a very few of many alternative options.

A. Planning sea-bed resource development

(a) What could be planned

40. This report is primarily concerned with the economic implications of sea-bed resource development. However, the interest in promoting the rational utilization of sea-bed resources should not obscure a broader issue, namely, that the development of these resources may affect, or may be affected by, other uses of the ocean. For example, fishing, shipping, cable communication, and the use of the ocean as a dumping ground for wastes are all variables in the global picture of alternative and conflicting ocean uses. 24/ It can be expected that, with the

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24/ The Economic and Social Council has shown concern for this issue by requesting in its resolution 1537 (XLIX) a background study on traditional and foreseeable uses and conflicts in the use of the oceans. The report has been submitted to Member States for comments; the Secretary-General has requested suggestions on ways and means of strengthening international co-operation in marine affairs.

continuous development of marine activities, conflicts in the use of the ocean space and its resources will increase. In the light of the objectives laid down in the Declaration of principles contained in General Assembly resolution 2749 (XXV), the international community will have to face the problem of co-ordinated use of ocean space and its resources, in ways which would minimize conflicts and protect the marine environment.

(b) Data availability and planning

41. Increasingly detailed information will no doubt be required when proceeding to the stage of discussion at the Law of the Sea Conference on the various specific features of the international régime. Once the international machinery is established, it can be foreseen that one of its first tasks will be to organize the necessary information network to supply the data needed to orient the decision-making process.

42. Two lines of action are needed to create an efficient system of information: (1) access to existing data related to marine matters, and (2) filling up the gaps in the network. Several data banks already exist. What is needed now is not necessarily a centralized storage of all ocean-related data but an inventory of existing data banks with means for rapid access to their contents. 25/ Of particular importance for sea-bed resource management would be information on sea-bed geology, ocean bottom topography, ocean currents, and surface conditions.

43. Notwithstanding the recent increase in research activities, very large gaps in knowledge still exist. 26/ The most important information areas for sea-bed resource management are: (1) distribution of mineral resources on the ocean floor and in its subsoil with indication of their location and economic importance; (2) technological developments related to the exploration, exploitation and processing of sea-bed resources; and (3) environmental hazards resulting from marine mineral activities.

(c) The objectives to be sought

44. The objectives to be attained by an international régime in general are laid down in the Declaration of principles contained in General Assembly resolution 2749 (XXV). Based upon the decisions of the conference on the law of the sea on the nature of the régime and of the international machinery, the objectives to

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25/ A similar proposal has been put forward by the Preparatory Committee of the United Nations Conference on the Human Environment in calling for an information referral system.

26/ The international community is cognizant of these deficiencies, and is promoting several programmes of marine research, among which should be noted the Long-Term and Expanded Programme of Oceanographic Research (LEPOR).

be envisaged presumably would be those inferable from the Declaration as well as from proposals and suggestions made in the Committee and elsewhere. As far as the development of sea-bed resources is concerned these might perhaps be summed up as providing the following guidelines for planning:

(1) Encourage the use of the area and its resources in such a manner as to foster the healthy development of the world economy and balanced growth of international trade, and to minimize any adverse economic effects caused by the fluctuation of prices of raw materials resulting from such activities.

(2) Obtain the maximum net benefit for the world community, including financial benefits, which would be shared taking into consideration the special interests and needs of the developing countries, whether coastal or landlocked.

(3) Provide for the orderly, efficient, balanced development and use of living and non-living marine resources (conservation).

(4) Preserve the quality of the marine environment.

45. A central issue to which resolution 2750 A (XXV) was addressed is the possibility that the future production of marine minerals might cause considerable impact on the trend of market prices of these minerals. This concern was stressed in the Declaration of principles, which postulated that the development of the area and its resources should be carried out in such a manner as to "minimize any adverse economic effects caused by the fluctuation of prices of raw materials". This consideration deserves some further analysis.

46. In situations of price fluctuations somebody's loss is someone else's gain. If prices rise sharply due to temporary shortages, consumers are penalized but producers benefit from the situation. If, on the other hand, the short term demand-supply imbalance causes prices to drop, consumers benefit at the expense of producers. Though both cases have disruptive effects, it seems that one of the prime objectives in the development of marine mineral production will be to avoid adverse effects to traditional suppliers in developing countries. It is obvious that a decrease in raw material prices would adversely affect the economy of several developing countries exporting these minerals. It should also be remembered that a much larger number of developing countries are importers of these minerals (in raw material or processed form) and a drop in prices would be beneficial to them. However, the major beneficiaries of lowered prices would be developed countries since they are the main importers.

(d) Some special problems

47. Two technico-economic dimensions will influence the design of appropriate control mechanisms for sea-bed resource development. The first is the time horizon. The average gestation period of a marine mining venture might range from 6 to 10 years; negotiation of a site for exploitation; design and building of the marine mining system; and processing plant would all need to be complted before successful operations could begin. This means that the planning of marine resource

utilization, to be carried out by the international machinery will have to look at least one decade into the future. Even if considerable progress has been made in site evaluation and system design by the time the exploitation permit or contract is granted, it will take some two to four years before the output reaches the markets. But before the interested party makes the decision to go ahead with the venture, it will need to know the rules governing sea-bed mineral exploitation. The general legal arrangements affecting the parties involved in marine mining ventures will, of course, be defined by the international régime. Within this framework, any "fiscal" and regulatory measures to be determined by the machinery will require a considerable lead time.

48. The other technico-economic consideration is that the processing of some sea-bed minerals, such as manganese nodules, will yield simultaneously several metals in proportions quite disparate from world demand. For each ton of cobalt produced, approximately 97 tons of manganese, 5 tons of nickel and 4.9 tons of copper could also be recovered. On the other hand, present world demand in proportion to 1 ton of cobalt is of the order of 381 tons of manganese, 27 tons of nickel, 279 tons of copper. 27/ Therefore one nodule mining venture by 1980 could be capable of supplying about 7.9 per cent of the probable world demand for cobalt, 2 per cent of manganese, 1.3 per cent of nickel and only 0.13 per cent of copper. It is possible that eventually the processing plants might also be capable of recovering several other metals found in trace quantities in the nodules. At the present time it is impossible to provide any reasonable estimate of the likely volume of production of these trace metals and their possible impact on world markets.

(e) The equivalent fiscal charge principle

49. Theoretically, in the absence of any regulatory mechanisms, sea-bed resources would tend to be developed when, and as long as, the available marine mining technology would make these ventures economically competitive with land-based alternatives. However, the use of market indicators for "efficient" resource allocation presupposes that these indicators have not been distorted. The most obvious possibility of distortion would occur if major subsidies were granted for, or disincentives imposed on, sea-bed resource development as compared to traditional sources of mineral supply.

50. The application of the principle of equivalent fiscal and other regulatory measures for all sources of supply irrespective of origin, would encounter enormous difficulties, considering the existing differences in economic and social systems. Some countries, for instance, use the argument of infant industry to grant special incentives to new industries that they wish to promote. Others with very favourable competitive advantage derive a larger fiscal charge from similar industries. In some cases, strategic or protectionist considerations have induced the Government to grant outright subsidies for domestic production of some special minerals. These practices indicate that in reality the "fiscal charge" in

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27/ Document A/AC.138/36.

land-based operations might range from a negative tax (subsidy) to a very steep charge of almost 50 per cent of the market value of some minerals. Given such a wide range of possibilities the "average fiscal charge" would be of very limited usefulness in establishing an "equivalent levy" for sea-bed mining operations. Therefore, the determination of an appropriate "fiscal" levy for resource exploitation in the international area would have to be a politico-economic decision taking into account: (1) the financial and technical situation of sea-bed mining operations; (2) the policy objective of generating maximum long-run financial benefits for the machinery and the international community; and (3) stabilization objectives for the minerals concerned.

B. One possible strategy to control the impact of sea-bed mining

51. The nature of the nodule industry with production of the four major metals in quantities quite different from the actual volumes of demand for these metals, will make the task of controlling the possible impact of sea-bed mining on world markets exceedingly complex. The control of possible adverse economic effects of sea-bed mineral production will have to be reconciled with the objectives of generating maximum revenues for the international machinery and actively promoting the expansion of the world resource base. Therefore, a rather sophisticated system might be required to strike an acceptable compromise among these conflicting goals. No one single policy instrument would be sufficient to produce all the desired results. Several control mechanisms would be required to provide the necessary flexibility for the machinery to respond to the problems encountered in each mineral market, without necessarily choking off development of the other minerals. A number of alternatives could possibly be devised to meet these needs; at this stage only one possible strategy is explored, in the remainder of this section, to illustrate the main factors that might be involved in exploitation of manganese nodules. It is hoped that this preliminary exercise will stimulate discussions of this issue. The Secretariat will examine, in future reports, other alternative approaches that may emerge in further consideration of this problem.

52. The strategy examined in this report would require the co-ordinated use of an exploitation policy with "fiscal" and compensatory action by the machinery. Commodity arrangements could also be envisaged to supplement these instruments. Each policy instrument in itself would provide limited results in relation to the several objectives pursued, but an appropriate combination of these policy tools might bring about the desired effect.

53. The exploitation policy would be designed to control the rhythm of production. It has been shown that nodule processing will affect each mineral market in substantially different ways. Manganese and cobalt markets could be affected by the very first large-scale nodule operation, nickel markets might only feel a substantial impact after the nodule industry expands considerably, and a serious impact on copper markets may only come much later when (and if) substantial changes in the nodule industry and in metal markets occur. Thus, whatever pace

of exploitation is decided upon, some mineral markets would be affected. Since copper is the most important mineral export of developing countries, 28/ the exploitation policy might have to be geared to prevent a major impact on this metal market.

54. The "fiscal" policy would have the primary objective of providing the maximum possible revenue for the machinery compatible with the creation of necessary prerequisites for the development of the nodule industry. At the same time the "take" of the authority could act as a built-in price stabilizer.

55. To the extent that the exploitation policy and the proposed levy per ton of mineral produced were unable to prevent some detrimental impact on the exports of some developing countries (perhaps for some manganese and cobalt producers), compensatory measures could be used. They would be in line with the provisions of paragraph 2 of General Assembly resolution 2750 A (XXV) calling for minimizing "any adverse effects caused by the fluctuation of prices of raw materials". Compensatory schemes could also be supplemented by commodity arrangements which might be negotiated for those minerals facing serious market fluctuations. 29/

56. A comprehensive policy would be directed in part to promoting a desirable measure of long-run equilibrium for the minerals to be produced from the sea-bed. The decisions on specific policy actions would require, therefore, the aid of long-term planning techniques. In essence, the guidelines for action might be derived from studies of market conditions based on five, ten and twenty years forecasts of demand and supply from traditional sources in conformity with several possible alternative volumes of sea-bed production for the various minerals.

(a) The exploitation policy

57. Once the long-term forecasts of demand-supply conditions are available, the machinery would be in a position to decide upon an appropriate exploitation policy. It must be noted that there are two different issues involved in any possible exploitation policy: (1) the method of allocation of production permits; and (2) the actual number and size of mining undertakings which would start operations each year. 30/

58. The manner in which exploitation of sea-bed resources is to be conducted will be defined by the régime. The Committee has under consideration several proposals regarding the possible granting of concessions of sea-bed resources to interested parties, or conversely, reserving the exploitation of resources for the machinery directly through contracts or through joint-ventures. Appropriate procedures for

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28/ For an estimate of the importance of copper to developing countries, see A/AC.138/36, pp. 34-35.

29/ See section IV.

30/ For other possible methods in this regard, see also section IV.

financial and technical responsibility and agreed time-tables for site development could be included in an allocation scheme. One feature to be encouraged in exploitation arrangements could be various forms of participation by developing countries, thus spreading technological expertise.

59. The crucial question remains: how to make the exploitation policy instrumental in attaining effective management of sea-bed mineral production, so as to obtain the maximum net benefits for the world community with the minimum disturbance of mineral market prices. Perhaps a hypothetical example would be useful in this connexion. Assuming that short- and long-term forecasts of several alternative supply and demand conditions have provided the machinery with the necessary guidelines for desirable development of each sea-bed mineral, the machinery would then be in a position to estimate the maximum increase in nodule production - say, over the next decade - compatible with the established goals of market stabilization.

60. If three mining operations were under way for 1980, 31/ given the joint-products nature of the nodule industry, the markets for cobalt, and possibly manganese, would experience noticeable price drops, while there would be little effect on the nickel market and virtually none on the copper market. If 10 mining operations were under way, the impact on manganese (if produced) and cobalt would probably be severe, 32/ the markets for nickel would experience a more noticeable impact (nodules supplying about 13 per cent of total estimated demand), while copper from nodules would still account for only 1.3 per cent of estimated world demand. Determination of the level of production would require to decide inter alia on the maximum number of new sea-bed mining operations to be allowed for each year and this will require close co-ordination with the use of other regulatory policy instruments. It is assumed for the sake of analysis that one basic objective of the exploitation policy might be to prevent a serious impact on copper markets.

61. Once the policy objectives of the machinery have been decided upon, it will be possible to determine the maximum number of new mining operations for the period considered. If the number of applications for exploitation permits or contracts is greater than the guidelines established some indirect devices (higher initial cash payments and levy per ton of metal produced) and, if needed, direct means (limitation of the number of permits) could be used to discourage production much beyond the desired levels.

62. This procedure would only work if it were possible to establish a sufficient correlation between the number of exploitation permits granted and future

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31/ Assuming a hypothetical standard operation of 1 million tons of nodules per year. See document A/AC.138/36, pp. 52 and ff.

32/ If all these operations decided to recover manganese and cobalt despite the expected price drops.

production forthcoming from those sites, taking into account the likely gestation period. If very large "blocks" of the ocean floor were allocated to interested parties, without some form of control over the number of exploitation permits, there would be little scope in designing an appropriate exploitation policy for market stability. Such a stabilization objective could be attained if permits were granted for an area of the ocean floor sufficient to sustain the full scale operation of say, one mining venture throughout the assumed useful life of the equipment (for example 20 years).

63. The machinery will need to have considerable knowledge of nodule distribution and marine procedures for the administration of this policy. It is known that in some locations nodule density may reach as high as 120,000 tons/km^2, though sites with density as low as 6,000 tons/km^2 may be economically attractive. For the sake of simplicity, it is assumed that the initial choice sites to be exploited would have an approximate density of 20,000 tons/km^2. This means that a site would have to cover only an area of 3,000 km^2 to sustain for 20 years the operation of one mining rig recovering 5,000 tons of nodules per day (300 days/year - assuming 50 per cent nodule recovery).

64. But if the objective of the exploitation policy is to ensure control over production, the simple allocation of an x number of, say 3,000 km^2, sites for exploitation would not be enough. The mining enterprises could, theoretically, produce two, three or even four times the volume of nodules originally envisaged, by putting 2, 3 or 4 rigs in operation on that site. It could be countered that with more intensive utilization than originally intended (say four rigs), the site would be mined out at the end of, say, five years when that enterprise could be excluded from further activities in the international area. This threat would not necessarily discourage the enterprise from going ahead with the use of more than one mining rig on the site. With the existing provisions for accelerated depreciation in most industrial countries, such an enterprise would have probably amortized the whole initial investment in mining equipment, which at that time could be sold or leased to other enterprises. It is important, therefore, that the exploitation policy take into account not only the number of new sites made available, but also the size and number of the mining rigs to be used on the site (in other words the desirable level of production). Therefore, another type of concession could be granted on the basis of a total production volume per year for specific minerals (metals) rather than on the basis of exclusive rights to a given area. An alternative method to control the level of production, other than through concessions (whether by area or by fixed production) would be to have the machinery undertake exploitation itself or maintain a controlling interest through joint ventures or contracts.

(b) The levy of the international machinery

65. The "take" of the international machinery could be made into an effective control instrument to complement the exploitation policy. If the revenues of the machinery were to be derived by means of a levy per ton of mineral (or metal) produced, this levy would act as a "built-in" stabilizer. This device could automatically discourage further recovery from nodules of those minerals facing

obvious situations of over-supply, thus reducing the need for the machinery to intervene with discretionary control measures. The levy per ton would complement the exploitation policy in pursuing the desired long-term market equilibrium and it would also be instrumental in promoting the desired readjustments in cases of unexpected short-term market fluctuations.

66. The way in which the levy per ton of metal produced would function as a built-in stabilizer is quite simple. The ocean mining enterprises would have the following operational function for each metal recovered:

net revenue = market price - (cost of production/ton + levy/ton)

For the sake of simplicity it is assumed that the cost of production of each ton of metal produced is constant. Since the levy per ton would be a fixed sum (or a percentage of market price) adding to the enterprise's costs, in the case of a drop in price of a metal the net revenue of recovering that metal could eventually be wiped out or even turn into a loss. 33/ Therefore, further recovery of that metal would be discouraged. Once investments are made in physical facilities to recover a given metal, production would not be immediately halted by a drop in market price below the level required to cover production costs, overhead, depreciation and a return on investment. Production of the "uneconomic" metal would continue as long as the price (net of levy) would be sufficient to cover the specific operational costs associated with the processing of that metal. The levy per ton, by increasing the actual cost of recovering each ton of metal (cost of production, + levy), or conversely reducing the net price (market price - levy), would make the ocean mining enterprise more sensitive to price fluctuations than the traditional mining ventures. 34/

67. As an example one may take the hypothetical case of manganese, which for the last 15 years has been essentially a buyers market with prices dropping from a high of $145 per ton of manganese content in ore (c.i.f., United States eastern seaboard ports) in 1957 to a low of $54 per ton in 1970. 35/ Given the inelastic nature of demand for manganese, and the existing tendency for over-supply, this is one of the minerals which would be most affected if it

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33/ It may be noted in this connexion that a levy representing an invariable percentage of the market price would affect the selling price of output differently from a levy fixed in money terms.

34/ Many land-based mining operations are, of course, subject to payment of royalties in addition to taxes on profits. The levy per ton envisaged for sea-bed operations would be the equivalent of the sum total of royalties, corporate tax, and other fiscal charges paid by traditional mining ventures.

35/ UNCTAD, TD/B/C.1/105, Problems of the world market for manganese ore, table A.14.

is produced from nodules. Moreover, several developing countries are exporters of manganese ore, hence the particular interest in stabilizing this market.

68. At the present market price for manganese ore ($60 per ton at 48 per cent Mn), it is not likely that production of manganese ore equivalent from nodules could become competitive with land producers, if it were subject to a levy per ton equivalent.

69. The recovery of manganese from nodules is known to be the most complex and costly stage of the metallurgical processing. One estimate for instance, 36/ puts the cost of recovering a low-grade manganese ore equivalent at $45 a ton. The same author estimates that the Mn-Fe in the nodules might be valued at $35 per ton. Despite the many unknowns in the equation, it is the general consensus of experts that the recovery of a manganese-ore equivalent from nodules would at best be of marginal interest. (See section II.) Indeed, several designs of metallurgical processing under consideration do not provide for the recovery of manganese.

70. One of the advantages of the levy per ton as an indirect control device is that it could be tailored to discourage additional supply when prices drop to a minimum acceptable floor. Based on the estimated cost of manganese recovery from nodules, the levy per ton could be set in such a way as to make manganese recovery clearly uneconomical if prices were to drop below the desirable floor level.

71. Notwithstanding the considerable disincentive implied in the considerations above, a certain extent of manganese recovery might still remain in the realm of possibility. First, some Governments in major industrial countries dependent on manganese imports, might wish to subsidize manganese recovery, in order to diversify sources of supply. Second, it is very likely that most of the manganese that might eventually be supplied by the nodule industry would be in the form of a different commodity, superior for certain purposes to that supplied by land-based mines. This means that the plants that might recover manganese would probably produce ferro-manganese or pure manganese metal. The market for ferro-manganese is, of course, much smaller than that for ore. At present, only a few industries require pure manganese metal and it is estimated that the production from one single nodule operation would be enough to supply the present world demand. However, it is conceivable that the steady large-scale

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36/ John Mero, "Potential economic value of ocean floor manganese nodule deposits", paper presented at the Conference/Workshop on Ocean Manganese Deposits, at the Lamont-Doherty Geological Observatory, New York, 21 January 1972.

availability of this commodity might eventually induce an increasing number of industries to use pure metal even if it cost much more than high-grade ore. 37/

72. The possibility of change in the structure of manganese markets, with an increase in the shares of ferro-manganese and pure metal, although hypothetical, is indicative of the complexities involved in effectively implementing the stabilization objectives that might be desired by the world community.

73. Another attractive feature of the levy per ton is its efficiency as an instrument to collect revenues. If the "take" of the machinery were based on the net revenues of the marine mining ventures, it is conceivable that the yields might eventually be disappointing. Prices of some minerals in the absence of controls might drop with the expansion of the nodule industry, thus reducing the net revenue of marine mining enterprises to the point where nodule mining would be only marginally profitable. At this stage the nodule industry would be the major supplier of cobalt, nickel, and perhaps manganese, and an important producer of copper, but net revenues would be quite modest, thus depressing the "take" of the machinery if based on net revenue. On the other hand, if a levy per ton of mineral recovered from nodules were imposed, the revenues of the machinery would increase pari passu with the expansion of sea-bed mineral production. The international community would therefore have considerably larger revenues at its disposal.

74. The levy per ton would also have the advantage of simplicity. Great difficulties can be foreseen in any attempt to translate the existing fiscal structures, applicable to petroleum and mining, into those that will eventually operate in the area beyond national jurisdiction. A rather large and cumbersome machinery would be required to administer such a "fiscal" system and recurrent contentions could be expected in the determination of taxable "profits" or net revenues. These difficulties might be overcome by instituting a single levy per ton of mineral (or metal) to be produced from the area.

75. While the actual operation of the levy system could be expected to be simple and straightforward, the initial determination of what these levies would be is by no means simple. Various factors determining the economics of each operation would have to be taken into account and, in particular, the implications of simultaneous production of several joint-products.

(c) Compensatory measures

76. The third component of a broad strategy to minimize the possible adverse impact of sea-bed exploitation would be some form of compensatory measures. As

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37/ It has been suggested in industrial circles that electrolytic pure manganese metal might be sold at around $US 0.30 per pound, that is, 10 times more than the price of manganese ore. The price of ferro-manganese ranges between 3.5 to 4 times that for ore ($180 to $220 per ton).

pointed out before, the nature of the nodule industry and the exploitation and "fiscal" policies of the machinery indicate that in the early stages of sea-bed mining only the exporters of cobalt and perhaps manganese might be affected, and this raises the question of compensatory assistance.

77. The design and management of compensatory schemes would involve some complex issues (see section IV of this report). Detailed studies will be required of alternative schemes and their implications for the traditional developing countries exporters of the minerals affected.

(d) Other arrangements

78. Additional measures for market stabilization of some minerals might also be desirable in the future. As noted in the previous report (A/AC.138/36), commodity agreements are generally designed to maintain the status quo among suppliers and as such would be of limited relevance in the initial stages of sea-bed mining.

79. These arrangements are generally difficult to administer. Section IV deals with the possible scope of commodity arrangements for the mineral markets that might be affected by sea-bed mining.

IV. SOME ISSUES OF INTERNATIONAL COMMODITY POLICY 38/

80. The following notes are designed to throw light on the nature of the economic effects, particularly upon world markets, of production of minerals from the

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38/ This section contains the main part of a report (TD/113/Supp.4), prepared by the UNCTAD secretariat for the third United Nations Conference on Trade and Development, which briefly discusses, in the light of information so far available on the subject, the main issues of international commodity policy arising from the potential production of minerals from the area of the sea-bed beyond the limits of national jurisdiction.

At the sixth session of the UNCTAD Committee on Commodities the UNCTAD secretariat reported on its co-operation with the Department of Economic and Social Affairs of the United Nations in the preparation of relevant studies pursuant to General Assembly resolution 2750 A (XXV). In the discussion of this subject at the Committee's sixth session, representatives of developing countries stated that they attached great importance to the subject matter of General Assembly resolution 2750 A (XXV); that the co-operation envisaged in the resolution should be regarded as referring to UNCTAD at the intergovernmental as well as the secretariat level; that provision should be made for the Committee on Commodities to be informed of, and to discuss, developments in this field on a continuing basis; and that an opportunity should be provided for an examination of the matter at the third session of the Conference. (TD/B/370, paras. 234-236.) Similar views were expressed at the eleventh session of the Trade and Development Board. (See the Board's report on that session, Official Records of the General Assembly, Twenty-sixth session, Supplement No. 15, part three, paras. 152-153.)

sea-bed, and on the character of possible arrangements to obviate, remedy or minimize any adverse impact of such production on developing countries which are established land producers of the minerals concerned.

81. The mineral resources of the sea-bed which, in the light of present knowledge, are most likely to be commercially exploitable in the foreseeable future are "manganese" nodules - containing copper, cobalt, manganese and nickel - and, less immediately, petroleum and natural gas. 39/ 40/ Pilot-scale mining of manganese nodules has already been carried out, and it is reported that a syndicate expects to start exploiting particular nodule deposits in the Pacific Ocean within a few years. 41/ The volume of manganese nodules on the sea-bed is reported to be vast, and to be growing at an estimated annual rate which exceeds the present annual consumption of the component metals. 42/ The proportions of the various metals contained in manganese nodules differ from those of current world metal requirements as reflected in the composition of world production of 1968, as the following figures show:

	Metal in sea-bed nodules	Metal in world production
	(per cent)	
Manganese	90	56
Copper	4.5	40
Nickel	4.6	4
Cobalt	0.9	(0.15)
	100	100

The developing countries at present account for the bulk of international trade in manganese ore, cobalt and copper, but for only a small proportion of trade in nickel.

82. In considering the implications of production of minerals from the sea-bed, allowance should be made for the possibility of new major mineral discoveries on the sea-bed in the future, as well as for future improvements in the techniques of mining from the sea-bed, and thus for the possibility that production could occur on a larger scale, and cover a wider range of minerals, than can be foreseen at the present stage.

39/ For a useful summary of presently available information on the prospects of exploitation of the mineral resources of the sea-bed, see document A/AC.138/36.

40/ Ibid., para. 10.

41/ Ibid., para. 139.

42/ Ibid., para. 152.

A. General nature of consequences

83. Since the sea-bed would constitute a completely new source of supply of whatever mineral was being produced, and since it can reasonably be assumed that such production would not occur unless it was competitive with output from land sources, sea-bed production would tend to have a depressing effect on the market price of the mineral concerned. The magnitude of the impact upon supplies and prices would depend upon the technical qualities of the sea-bed mineral, the particular circumstances of sea-bed production - the volume of additional supplies in comparison with land-based output, the costs of production and marketing, and taxation rates - as well as upon the conditions of supply and demand, including the responsiveness of prices to a given increment in supplies. If the pre-existing situation with regard to the mineral concerned was one exhibiting an upward trend in the mineral's price, the effect of sea-bed production would be to slacken or halt, or even reverse, the upward trend; if, on the other hand, the market price was constant or declining, the effect would be to bring about a decline or to accentuate a pre-existing decline. Generally speaking, therefore, although reliable quantification is not possible - both because of the absence of firm information on the circumstances of sea-bed production and because of the intrinsic difficulties of estimating market effects - the introduction of sea-bed production could be expected to result in a lower market price of the mineral(s) concerned than would otherwise have prevailed.

B. Consequences for consuming countries

84. It follows from the foregoing that the greater availabilities and presumed lower marginal costs associated with the production of minerals from the sea-bed would bring direct benefits to the consumers of the minerals concerned, who are, by and large, the mineral-using industries in developed countries. As is typical in primary production, the productivity gain resulting, in this case, from technological progress making lower-cost sea-bed production possible would be largely passed on to the consumers, in the form of lower prices, in the absence of any countervailing measures. 43/

43/ Compare Nicholas Kaldor's remarks that "whereas the benefits of technical progress in manufacturing are largely retained by the producers (in the form of higher real wages and profits) the benefits of technological progress in primary production are largely passed on to the consumers, in the form of a higher real income. (The exceptions to these are to be found in those cases - such as oil - where the distribution of the commodity is controlled by large international concerns.)". "Stabilizing the terms of trade of under-developed countries", Economic Bulletin for Latin America, vol. VIII, No. 1, March 1963.

C. Consequences for land producers

85. As previously mentioned (para. 83), sea-bed production would exert a downward pressure on the market prices of the minerals concerned. This would happen particularly in the case of those minerals, such as cobalt and manganese, which would be jointly mined with the more valuable minerals, nickel and copper, and which would be recoverable from manganese nodules in relatively greater proportions than those of world demand for the component metals. 44/ The strong possibility of a sharp impact of sea-bed mining upon the market prices of certain minerals is indicated by illustrative calculations which show that five sea-bed mining operations, each harvesting 5,000 tons of nodules per day, would yield, annually, quantities of manganese equivalent to over one half of the current annual rate of manganese exports of the developing countries as a group, and quantities of cobalt equivalent to the entire annual cobalt output of the developing countries. 45/

86. Secondly, because aggregate demand for many minerals is not very responsive to falls in their prices, output from the sea-bed would tend to displace marginal land production (or such land output as was previously marketed in the country in which the new supplies emanating from the sea-bed were consumed). This adverse quantitative effect would be compounded by the restrictive effects on land production of its diminished profitability and the accompanying decline in investment resources.

87. The over-all consequence of the price and volume effects mentioned in paragraphs 85 and 86 would be that the total earnings of land producers from the minerals concerned would decline or would grow less rapidly than they would have done otherwise - in any event, they would be smaller than in the absence of production from the sea-bed. The severity of the impact would vary among countries and producing enterprises according to relative efficiencies; patterns of trade and market structures.

88. However, as world demand for the minerals concerned is expected to continue growing, at rates of possibly 5 per cent or more per year, the addition of supplies from the sea-bed would not necessarily prevent established producers from land-based sources from expanding their own exports, and would not necessarily result in declines in market prices below pre-existing levels. 46/

44/ The incremental cost of recovery of the mineral from the nodules, in relation to the prevailing market price, would be a further relevant factor.

45/ Document A/AC.138/36, tables 1 and 17 and paras. 155-160.

46/ The more rapid the growth of world demand for a particular mineral, the greater is the possibility of concurrent increases in available supplies from both the sea-bed and land sources without a resultant decline in market prices. Thus, if cobalt were increasingly used as a substitute for nickel, world requirements of cobalt would increase much more rapidly than they would otherwise, and the impact of a given volume of marine production of cobalt on market prices would be moderated. (In that event, however, a given volume of nickel recovered from nodules would have a more severe impact on the market price of nickel than it would otherwise.)

On the other hand, mineral sea-bed production could not be assumed to have such a moderate impact on world mineral markets unless the rates at which new supplies were marketed were strictly controlled by the international authority which it is envisaged should be established.

89. Although the most important effect of sea-bed production of minerals on world markets concerns the trend and level of prices of the commodities in question, such output might also accentuate short-term price fluctuations. This might occur if the flow of supplies from the sea-bed was irregular; it might also occur if the bulk of sea-bed production was undertaken by vertically integrated commercial enterprises, with the concomitant result that the world's "free market" for each mineral concerned would account for a declining proportion of total physical transactions, so becoming more of a residual market with greater price sensitivity to given changes in supply or demand.

90. The economic impact of competing production of minerals from the sea-bed, which might be expected to be adverse to varying extents for the export incomes of all established producers (in relation to the incomes which they would otherwise earn), might be particularly adverse for typical developing producing countries. This could be so for a variety of reasons:

(a) Developing producing countries typically depend more heavily on the minerals concerned (such as copper and manganese ore) for their export incomes and government revenues than do developed producing countries;

(b) The share of developing countries in world trade in certain minerals (notably manganese ore) has been declining owing to the more rapid progress made in the developed countries' production for export;

(c) The developing countries are likely to participate directly to only a small degree in the production of minerals from the sea-bed, for, because of its technically sophisticated nature and its high capital requirements, this production will no doubt be undertaken principally by interests from the affluent and technologically advanced countries;

(d) Developing countries, which are increasingly processing land minerals before export, would lose such potential export income to the extent that minerals produced from the sea-bed were processed on the mainland of the producing enterprise's "home country". Moreover, the stimulus which sea-bed production would undoubtedly impart to the existing technological trend towards the direct processing of mineral concentrates, and the avoidance of intermediate processes which are now partly carried out in developing producing countries, would aggravate the loss of potential export income on the part of developing countries;

(e) The need for large-scale capital investments for the exploration and mining of sea-bed resources might adversely affect the flow of private investment into similar activities in developing countries;

(f) Because fewer alternative investment and employment opportunities exist in developing than in developed countries, particularly heavy economic and social costs will be incurred in any reallocation of resources that may be necessitated by the competition from sea-bed production.

D. Some implications for policy

91. The essential problem which would arise from the production of minerals from the sea-bed would thus be the adverse impact of such production - in the absence of special arrangements - on the economic well-being of the developing producing countries concerned, and the consequential difference between the social costs and benefits of sea-bed production and its costs and benefits judged simply in terms of normal commercial criteria. The implication of this conclusion for international policy is that firm arrangements would be required in advance of the production of minerals from the sea-bed in order to ensure that such activity would not adversely affect the interests of developing producing countries or, better, would bring them, and to other developing countries, positive benefits.

92. There would appear to be two possible approaches to the problem of protecting the trade interests of the developing countries which are established exporters of the minerals in question: (a) an approach designed to obviate or minimize any potential adverse effects; and (b) an approach under which the affected countries would receive compensation for the estimated adverse impact upon their export earnings.

(a) The preventive approach

93. The preventive approach would consist essentially of arrangements to ensure that output from the sea-bed will not result in prices which are not remunerative to reasonably efficient developing countries which are established producers of the minerals concerned (from land-based sources). For this purpose, it would be necessary that the rate of production from the sea-bed, or the rate of disposal of such output, or the selling prices or related terms of its disposal, should be strictly controlled by the proposed international authority, in order that the market prices for the minerals concerned are not depressed below levels declared by the international community as remunerative and equitable. Thus, an appropriate pricing policy might involve the setting of "floor" selling prices in respect of output from the sea-bed, supplemented by the imposition as necessary of import levies by importing countries in order to forestall price-cutting by any private producers who might be permitted to operate under the international régime. 47/ If such import levies were imposed, the proceeds would presumably be remitted to the sea-bed authority.

47/ The arrangements should be kept as simple as possible. If, however, it became necessary to conclude comprehensive international commodity arrangements for the minerals concerned, in order effectively to protect the interests of producing developing countries, the operation of an international buffer stock of each relevant mineral by the international authority could, as in the case of the International Tin Agreement, be a useful adjunct to other measures for maintaining prices within any agreed price ranges.

94. If the interests of established producing countries were protected through the setting of minimum selling prices for sea-bed minerals at levels designed to be remunerative to producers from land-based sources, a greater proportion of the net revenues of the sea-bed authority would become available to assist the economic development of non-producing developing countries, including land-locked countries, as envisaged by the General Assembly in its resolution 2750 A (XXV).

(b) The compensatory approach

95. Under the alternative, compensatory approach referred to in paragraph 92, compensation would be paid to developing exporting countries whose interests were adversely affected by production of minerals from the sea-bed. This compensation would be paid to the extent possible out of the net revenues accruing to the international authority from the exploitation of the sea-bed, either in the form of royalties, fees and taxes (if the international authority did not itself carry out the production activities), or in the form of profits (if the sea-bed authority engaged directly in the exploitation of the sea-bed). By means of this approach, an appropriate proportion of the net receipts of the sea-bed authority would be utilized for the purpose of compensating developing producing countries.

96. The formulation of workable compensation arrangements would, however, pose issues of considerable complexity. One issue relates to the criteria by which the extent of the "adverse impact" on the producing countries concerned would be measured: one possible yardstick might be the extent of any shortfall of proceeds from exports of the mineral(s) concerned below recent realized levels, or below the levels they might reasonably have been expected to reach in the absence of sea-bed production; allowance might or might not be made for the loss of benefits from any additional processing of the mineral suffered as a result of sea-bed production. Other issues are whether the arrangements should be on a commodity-by-commodity basis, or should cover collectively all the minerals concerned; whether the arrangements should have a specified duration, and how frequently they should be reviewed. Regarding the apportionment of compensation funds, the amount of the compensation should presumably be assessed by reference to the potential export income lost as a result of sea-bed production, account being taken also of total foreign exchange availabilities, the degree of development of the country concerned and the scope for alternative employment of manpower and other resources.

97. A critical question relating to the compensatory approach is whether the net income of the sea-bed authority would be sufficient to implement a programme of compensation payments as outlined above. Although it is impossible to be precise on this point, it would seem that, in cases in which the developing countries accoutn for most, or an appreciable part, of the international trade in the minerals in question, the net income accruing to the proposed international authority from sea-bed production would almost certainly fall short of the amount required to compensate developing producing countries for export proceeds lost as a result of sea-bed production, if the loss were regarded as including the growth of exports which would have otherwise taken place. This would be

true in the case of cobalt, manganese ore 48/ and copper, although probably not in the case of nickel, in the world exports of which the developing countries account for only a small proportion. There are two reasons why the loss in export earnings would probably exceed the net revenue of the sea-bed authority: first, the demand for most minerals is such that, other things being equal, an increase in available supplies often leads to a more than proportionate decline in prices, with a resultant fall in total proceeds; second, the net revenues of the sea-bed authority could not realistically be expected to exceed 10-30 per cent of the gross proceeds from the sale of sea-bed minerals, with the possible exception of petroleum. In these circumstances, in order to apply the compensatory approach, it would seem necessary that arrangements should be made to ensure that the shortfall in the required amount of financial compensation would be made good by consuming countries and/or the international financial institutions.

98. On the other hand, if developing exporting countries were to be compensated merely with a veiw to sustaining their historical export incomes from the minerals concerned, the net revenues of the sea-bed authority might well be sufficient for the purpose, although even this would be somewhat doubtful in respect of cobalt, manganese ore and copper. In any case, the latter, static approach would appear to be inconsistent with the International Development Strategy for the Second United Nations Development Decade, which envisages a positive contribution to meeting the trade and development needs of the developing countries through the formulation of a coherent set of international measures for development.

E. Other considerations

99. Whatever the nature of the arrangements made to protect the interests of the developing producing countries, a fundamental condition concerning sea-bed production should presumably be that no overt or disguised stimulus should be given to such production, since it would be at the expense of the mining industries on land, including those of the developing countries. As a corollary to this condition, if production activities were carried out by national enterprises, rather than directly by the international authority, provisions as to taxation and the conditions governing entry of the product into the home country of the producing enterprise, should be such that supplies originating from the sea-bed should not receive preferential treatment by comparison with land production. Consideration would also need to be given to the possibility of avoiding the inbuilt "preference" for sea-bed production which would arise from the carrying out of such production by integrated enterprises based in developed countries.

48/ For example, in respect of manganese ore, it has been estimated that one sea-bed mining operation would result in a loss of potential export income to land-based producers of manganese ore amounting to about $15 million per year (document A/AC.138/36, annex II, para. 36).

100. In view of the possibility of market disruption, it would seem important to ensure, from the outset, that particular sea-bed mining projects would result in an over-all net gain to the international community, and especially to developing countries. The General Assembly, in resolution 2750 A (XXV), envisaged the transfer to non-producing, including land-locked, developing countries of equitable shares of the benefits derived from the operations of the sea-bed authority, as well as the protection of the interests of producing developing countries. This particular objective would seem to call for the imposition of the maximum rates of royalties, taxation and fees which "the traffic will bear" in regard to sea-bed production, if the international authority did not itself carry out the production activities. The combined imposts should, at minimum, have an incidence at least equivalent to that of the average of national imposts on land production of the minerals concerned.

A CONCLUDING REMARK

101. In submitting this report, the Secretary-General is fully conscious of the fact that very considerable additional work will have to be carried out in order to explore the various approaches which could conceivably be applied to the problems under study. In accordance with resolution 2750 A (XXV), the Secretariat will endeavour, in co-operation with UNCTAD, to provide to the Committee, when appropriate, additional information and reports on the complex and rapidly changing subject of possible effects of sea-bed mining on world mineral markets.

III. DOCUMENTS ANNEXED TO PART III

1. List of subjects and issues relating to the law of the sea to be submitted to the Conference on the law of the sea sponsored by Algeria, Argentina, Brazil, Cameroon, Chile, China, Colombia, Congo, Cyprus, Ecuador, Egypt, El Salvador, Ethiopia, Fiji, Gabon, Ghana, Guatemala, Guyana, Iceland, India, Indonesia, Iran, Iraq, the Ivory Coast, Jamaica, Kenya, Kuwait, Liberia, the Libyan Arab Republic, Madagascar, Malaysia, Mauritania, Mauritius, Morocco, Nicaragua, Nigeria, Pakistan, Panama, Peru, the Philippines, Romania, Senegal, Sierra Leone, Somalia, Spain, Sri Lanka, the Sudan, Trinidad and Tobago, Tunisia, the United Republic of Tanzania, Uruguay, Venezuela, Yemen, Yugoslavia and Zaire.*

Explanatory note

The present list of subjects and issues relating to the law of the sea has been prepared in accordance with General Assembly resolution 2750 C (XXV).

The list is not necessarily complete nor does it establish the order of priority for consideration of the various subjects and issues.

Since the list has been prepared following a comprehensive approach and attempts to embrace a wide range of possibilities, sponsorship or acceptance of the list does not prejudice the position of any State or commit any State with respect to the items on it or to the order, form or classification according to which they are presented.

Consequently, the list should serve as a framework for discussion and drafting of necessary articles until such time as the agenda of the Conference is adopted.

List of subjects and issues relating to the law of the sea

1. International régime for the sea-bed and the ocean floor beyond national jurisdiction

   1.1 Nature and characteristics

   1.2 International machinery: structure, functions, powers

   1.3 Economic implications

   1.4 Equitable sharing of benefits bearing in mind the special interests and needs of the developing countries, whether coastal or land-locked

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* Originally issued as document A/AC.138/66 and Corr.2.

1.5 Definition and limits of the area a/

2. Territorial sea

2.1 Nature and characteristics, including the question of the unity or plurality of régimes in the territorial sea

2.2 Historic waters

2.3 Limits

2.3.1 Delimination of the territorial sea

2.3.2 Breadth of the territorial sea. Global or regional criteria. Open seas and oceans, semi-enclosed seas and enclosed seas

2.4 Innocent passage in the territorial sea

2.5 Freedom of navigation and overflight resulting from the question of plurality of régimes in the territorial sea

3. Contiguous zone

3.1 Nature and characteristics

3.2 Limits

3.3 Rights of coastal States with regard to national security, customs and fiscal control, sanitation and immigration regulations

4. Straits

4.1 Straits used for international navigation

4.2 Innocent passage

5. Continental shelf

5.1 Nature and scope of the sovereign rights of coastal States over the continental shelf

5.2 Outer limit of the continental shelf: applicable criteria

5.3 Question of the delimination between States

5.4 Natural resources of the continental shelf

5.5 Régime for waters superjacent to the continental shelf

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a/ To be considered in the light of the procedural agreement as set out in paragraph 22 of the report of the Committee (Official records of the General Assembly Twenty-sixth Session, Supplement No. 21, (A/8421)).

5.6 Scientific research

6. Exclusive economic zone beyond the territorial sea

6.1 Nature and characteristics, including rights and jurisdiction of coastal States in relation to resources, pollution control, and scientific research in the zone

6.2 Resources of the zone

6.3 Freedom of navigation and overflight

6.4 Regional arrangements

6.5 Limits: applicable criteria

6.6 Fisheries

6.6.1 Exclusive fishery zone

6.6.2 Preferential rights of coastal States

6.6.3 Management and conservation

6.6.4 Protection of coastal States' fisheries in enclosed and semi-enclosed seas

6.6.5 Régime of islands under foreign domination and control in relation to zones of exclusive fishing jurisdiction

6.7 Sea-bed within national jurisdiction

6.7.1 Nature and characteristics

6.7.2 Delineation between adjacent and opposite States

6.7.3 Sovereign rights over natural resources

6.7.4 Limits: applicable criteria

6.8 Prevention and control of pollution and other hazards to the marine environment

6.8.1 Rights and responsibilities of coastal States

6.9 Scientific research

7. High seas

7.1 Nature and characteristics

7.2 Freedom of navigation and overflight

7.3 Rights and duties of States

7.4 Management and conservation of living resources

8. Rights and interests of land-locked countries

8.1 Free access to the high seas

8.2 Free access to the international sea-bed area beyond national jurisdiction in accordance with the régime to be established, and other arrangements relating to such access

8.3 Developing land-locked countries' interests in regard to fisheries

8.4 Participation of land-locked States in international régime

8.5 Particular interests and needs of developing land-locked countries in the international régime

9. Rights and interests of shelf-locked States and States with narrow shelves or short coastlines

9.1 International régime

9.2 Fisheries

9.3 Special interests and needs of developing shelf-locked States and States with narrow shelves or short coastlines

10. Rights and interests of States with broad shelves

11. Preservation of the marine environment

11.1 Sources of pollution and other hazards and measures to combat them

11.2 Measures to preserve the ecological balance of the marine environment

11.3 Responsibility and liability for damage to the marine environment and to the coastal State

11.4 Rights of coastal States

12. Scientific research

12.1 Nature, characteristics and objectives of scientific research of the oceans

12.2 Regulation of scientific research

12.3 International co-operation

13. Development and transfer of technology

13.1 Development of technological capabilities of developing countries

13.1.1 Sharing of knowledge and technology between developed and developing countries

13.1.2 Training of personnel from developing countries

13.1.3 Transfer of technology to developing countries

14. Regional arrangements

15. Archipelagos

16. Enclosed and semi-enclosed seas

17. Artificial islands and installations

18. Régime of islands: (a) under colonial dependence or foreign domination or control, or (b) under sovereignty of a foreign State and located in the continental shelf of another State in a different continent

19. Responsibility and liability for damage resulting from the use of the marine environment

20. Settlement of disputes

21. Peaceful uses of the ocean space: zones af peace and security

22. Archaeological and historical treasures on the sea-bed and ocean floor beyond the limits of national jurisdiction

23. Transmission from the high seas

2. Amendments to document A/AC.138/66 and Corr.2 submitted by:

(1) Malta*

Item 1

Add further subitem:

1.6 Harmonization of uses of the area

Item 2

Reformulate subitem 2.3 as follows:

2.3 Limits and baselines

Add further subitem:

2.6 Protection of international interests

Item 3

Add further subitem:

3.4 Protection of international interests

Item 4

Delete subitems 4.1 and 4.2

Item 5

Reformulate subitems 5.1 and 5.2 as follows:

5.1 Nature and scope of the sovereign rights and responsibilities of States in connexion with the continental shelf

5.2 Outer limit of the continental shelf: applicable criteria and limits

Item 6

Reformulate subitems 6.1 and 6.3 as follows:

6.1 Nature and characteristics, including rights, duties and jurisdiction of coastal States in relation to resources, pollution control and scientific research in the zone

6.3 Protection of international interests including navigation and overflight

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* Originally issued as document A/AC.138/67.

Item 7

Add following subitems:

7.5 Submarine pipelines and cables

7.6 Slavery, piracy, narcotic drugs

7.7 Hot pursuit

7.8 Other matters

Item 8

Reformulate title as follows:

8. Rights, interests and obligations of land-locked countries

Item 9

Reformulate title as follows:

9. Rights, interests and obligations of shelf-locked States and States with narrow shelves or short coastlines

Item 10

Reformulate as follows:

10. Rights, interests and duties of States with broad shelves

Item 11

Add further subitems:

11.5 International co-operation

Item 12

Reformulate subitem 12.2 as follows:

12.2 Freedom of scientific research and its limitations

Item 15

Reformulate as follows:

15. Archipelagos and islands

Item 18

Delete

). United States of America*

1. Item 4

Add an additional subitem:

4.3 Free transit

2. Item 6

(1) Amend title to read as follows:

6. Exclusive economic zone or other coastal State economic jurisdiction or rights beyond the territorial sea

(2) Amend subitem 6.3 to read as follows:

6.3 Freedom of navigation and overflight and other uses

3. Item 7

Amend subitem 7.2 to read as follows:

7.2 Freedom of navigation and overflight and other uses

4. Item 11

Amend subitem 11.4 to read:

11.4 Rights and obligations of coastal States

5. Item 12

(1) Insert a new subitem 12.2 to read as follows:

12.2 Freedom of research and access to scientific information

(2) Renumber present subitems 12.2 and 12.3 as 12.3 and 12.4

6. Item 21

Amend the title to read as follows:

21. Peaceful uses of ocean space

7. Insert a new item 22 to read as follows:

22. Zones of peace and security

8. Renumber present items 22 and 23 as items 23 and 24 respectively

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* Originally issued as document A/AC.138/68.

(3) Greece and Italy*

Item 18 should be amended to read as follows:

18. Régime of islands

(4) Japan**

Item 6

1. Amend the title to read:

   6. Exclusive economic zone or preferential rights of coastal States beyond the territorial sea.

2. In subitem 6.1, delete in the zone.

3. In subitem 6.2, delete of the zone.

(5) Union of Soviet Socialist Republics***

1. Add the following subitem under item 1:

   1.6 Use exclusively for peaceful purposes.

2. Reformulate subitems 2.1, 2.3.2 and 2.5 as follows:

   2.1 Nature and characteristics
   2.3.2 Breadth of the territorial sea
   2.5 Freedom of navigation and overflight.

3. Reformulate title of item 4 to read Straits used for international navigation.

   Delete subitems 4.1 and 4.2.

4. Reformulate title of item 6 to read Preferential rights of coastal States beyond the territorial sea.

   In subitem 6.1 delete in the zone.
   In subitem 6.2 delete of the zone.
   Delete subitems 6.6.1 and 6.6.2
   Reformulate subitem 6.9 as follows:

   International co-operation in the study and rational exploitation of living marine resources.

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* Originally issued as document A/AC.138/69.

** Originally issued as document A/AC.138/70.

*** Originally issued as document A/AC.138/71.

5. Reformulate subitem 7.2 as follows:

Freedom of navigation and other freedoms.

6. Reformulate subitem 12.2 as follows:

Co-ordination of scientific research.

7. Delete item 14 Regional arrangements.

8. Reformulate item 21 as follows:

21. Peaceful uses.

9. Add the following new item to the draft list:

Measures which must be taken to ensure the universal participation of States in multilateral conventions relating to the law of the sea, including the Geneva Conventions of 1958.

(6) Afghanistan, Austria, Belgium, Bolivia, Czechoslovakia, Hungary, Mali, Nepal and Zambia*

(Note: The numbers and words in brackets are to be deleted, and those underlined are to be inserted.)

6. Preferential or exclusive economic zone beyond the territorial sea

6.1 Nature and characteristics, including rights /and jurisdiction/ of coastal as well as land- and shelf-locked States in relation to resources, pollution control, and scientific research in the zone

.....

6.6.1 Preferential or exclusive fishery zone of coastal States

6.6.2 /Preferential/ rights of /coastal States/ the land- and shelf-locked countries

.....

6.6.4 Protection of /coastal/ States' fisheries in enclosed and semi-enclosed seas

6.6.5 Régime of islands under foreign domination and control in relation to /zones of exclusive fishing jurisdiction/ fishery zones

6.7 Sea-bed /within national jurisdiction/ beyond the territorial sea

6.7.3 /Sovereign/ Preferential rights of coastal States over natural resources and participation of the land- and shelf-locked countries in the exploitation of natural resources

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* Originally issued as document A/AC.138/72 and Corr.1.

8. /Rights and interests of/ Land-locked countries

8.1 General principles of the law of the sea concerning the land-locked countries

8.2 Rights and interests of land-locked countries

/8.1/ 8.2.1 Free access to /the high seas/ and from the sea

8.2.2 Free transit

8.2.3 Transport and communications: means and facilities

8.2.4 Equality of treatment in the ports of the transit States

/8.2/ 8.2.5 Free access to the international sea-bed area beyond national jurisdiction /in accordance with the régime to be established, and other arrangements relating to such access/

/8.3 Developing land-locked countries' interests in regard to fisheries/

/8.4 8.2.6 Participation /of land-locked States/ in the international régime, including the machinery and in the equitable sharing of the benefits of the area

8.2.7 Rights and special interests of the land-locked countries with regard to the living resources of the sea

/8.5/ 8.3 Particular interests and needs of developing land-locked countries in the international régime and with regard to the living resources of the sea

9. /Rights and interests of/ shelf-locked States and States with /narrow shelves or/ short coastlines

9.1 /International régime/ Rights and interests of the shelf-locked States and States with short coastlines

9.1.2 Free access to and from the high seas

9.1.3 Free access to the international sea-bed area beyond national jurisdiction

9.1.4 Participation in the international régime, including the machinery, and in the equitable sharing of the benefits of the area

9.1.5 Rights and special interests of shelf-locked States and States with short coastlines with regard to the living resources of the sea

/9.2 Fisheries/

/9.3 9.2 /Special/ Particular interests and needs of developing shelf-locked States and developing States with /narrow shelves or/ short coastlines with regard to the living resources of the sea

.....

11. Rights and interests of States with narrow shelves

Renumber subsequent items in document A/AC.138/66 accordingly.

(7) Turkey*

1. Paragraph 2

Add the following subparagraphs:

2.6 Islands

2.7 Delimitation of the territorial sea between adjacent or opposite States, including that of islands

2. Paragraph 5

Replace the existing text of subparagraph 5.3 by the following:

5.3 Delimitation of the continental shelf between adjacent or opposite States, including that of islands

3. Add the following paragraph:

24. Relationship of the texts prepared under resolution 2750 C (XXV) to the 1958 Conventions on the Law of the Sea (A/AC.138/48) and their effects on those Conventions.

(8) France, Netherlands and United Kingdom of Great Britain and Northern Ireland**

1. Item 4

(1) Amend title to read as follows:

4. Straits used for international navigation

(2) Delete subitems 4.1 and 4.2

2. Item 6

Amend title to read as follows:

6. Exclusive economic zone or other coastal State economic jurisdiction or rights beyond the territorial sea.

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* Originally issued as document A/AC.138/74 and Corr.1.

** Originally issued as document A/AC.138/76.

3. Item 12

(1) Insert a new subitem 12.2 to read as follows:

12.2 Freedom of research and access to scientific information

(2) Renumber present subitems 12.2 and 12.3 as 12.3 and 12.4.

(9) Poland*

1. Item 4

4.1 Add the following words at the end of the present text of the subitem:

including the question of the free transit.

2. Item 7

Reformulate subitem 7.2 as follows:

7.2 Freedom of navigation, overflight , fishing and laying of submarine cables and pipelines.

(10) Japan**

Item 6

In the existing title of item 6 as amended by Japan in document A/AC.138/70, after Exclusive add or other.

(The revised title should read as follows:

6. Exclusive or other economic zone or preferential rights of coastal States beyond the territorial sea.)

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* Originally issued as document A/AC.138/77.

** Originally issued as document A/AC.138/78.

3. List of subjects and issues relating to the law of the sea to be submitted to the conference on the law of the sea, submitted by Malta*

Explanatory note

It is considered that the attached list of subject headings, each grouping a number of subjects and issues relating to the law of the sea, fulfils for all practical purposes the aims of resolution 2750 C (XXV). This list is comprehensive and does not prejudice the position of any State or commit any State with regard to any particular subject or issue which may be considered.

The list is designed (a) to serve as a useful framework for discussion and for the drafting of articles, (b) to suggest a rational order of priority for the consideration of groups of interconnected subjects and issues and (c) to facilitate, should it be so desired, a reallocation of subjects and issues to the three sub-committees of the Committee on the Peaceful Uses of the Sea-bed and the Ocean Floor beyond the Limits of National Jurisdiction, taking into account the text of the agreement on the organization of work read out by the Chairman of the Committee on 12 March 1971.

While a reallocation of subjects and issues may not be essential, it is believed that it would be useful were subjects and issues reallocated as follows:

Sub-Committee I: subjects and issues under heading 4;

Sub-Committee II: subjects and issues under headings 1, 2 and 3;

Sub-Committee III: subjects and issues under heading 5.

Heading 6 would be considered in plenary at the appropriate time.

Were the suggested reallocation of duties between the sub-committees to take place, major questions of priority would arise only with regard to the work.

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* Originally issued as document A/AC.138/75 and Corr.1.

of Sub-Committee II. These could be resolved by commencing the examination of the subjects and issues under heading 1 in sub-committee while debate on the subjects and issues under headings 2 and 3 could take place simultaneously in plenary to prepare these matters for sub-committee consideration when consideration of questions under heading 1 is completed.

List of subject headings grouping subjects and issues relating to the law of the sea

1. Definitions and general principles relating to the law of the sea

Under this heading would be considered all articles contained in the 1958 Geneva Conventions on the Law of the Sea and all subjects, items and issues contained in the draft conventions, draft treaty articles, working papers and draft lists of subjects and issues (including particularly the list of subjects and issues contained in document A/AC.138/66 and the amendments thereto) submitted to the Committee which concern the definition of general concepts and the formulation of general principles relating to the law of the sea, to the marine environment as a whole, its preservation, its uses, and the rights and responsibilities of States therein.

2. Coastal State jurisdiction

Under this heading would be considered all articles contained in the 1958 Geneva Conventions on the Law of the Sea and all subjects, items and issues contained in the draft conventions, draft treaty articles, working papers, and draft lists of subjects and issues (including particularly the list of subjects and issues contained in document A/AC.138/66 and the amendments thereto) submitted to the Committee which concern the limits, extent and manner of delimitation of coastal State jurisdiction for some or for all purposes in the marine environment.

3. Marine environment under national jurisdiction

Under this heading would be considered all articles contained in the 1958 Geneva Conventions on the Law of the Sea and all subjects, items and issues contained in the draft conventions, draft treaty articles, working papers and draft lists of subjects and issues (including particularly the list of subjects and issues contained in document A/AC.138/66 and the amendments thereto) submitted to the Committee which concern the nature, characteristics and scope of the rights and responsibilities of States with regard to the exploitation of living and non-living resources, navigation and other uses of the sea in those portions of the marine environment under their jurisdiction; and regional arrangement.

4. Marine environment beyond national jurisdiction

Under this heading would be considered all articles contained in the 1958 Geneva Conventions on the Law of the Sea not involving general principles, and all subjects, items and issues contained in the draft conventions, draft treaty articles, working papers and draft lists of subjects (including particularly the list of subjects and issues contained in document A/AC.138/66 and the amendments thereto) submitted to the Committee which concern basic principles; the rights and duties of States, institutional arrangements (or machinery) for the sea-bed and its resources and/or for other uses or portions of the marine environment beyond national jurisdiction, including economic implications of resource exploitation and equitable distribution of benefits; the needs and problems of land-locked countries; and arrangements for the settlement of disputes.

5. International co-operation in scientific research and in the promotion and transfer of technology

Under this heading would be considered all subjects, items and issues contained in the draft conventions, draft treaty articles, working papers and draft lists of subjects and issues (including particularly the list of subjects and issues contained in document A/AC.138/66) submitted to the Committee which concern international co-operation in scientific research and in the development of technology and its transfer to technologically less developed countries; the preservation of the marine environment (including, inter alia, the prevention of pollution).

6. Relationship of the draft articles prepared to, and their effects upon, the 1958 Conventions on the Law of the Sea

4. Draft article on fishing (basic provisions and explanatory note) submitted by the Union of Soviet Socialist Republics*

Basic provisions

1. In the areas of the high seas directly adjacent to its territorial sea or fishery zone (not exceeding 12 miles), a developing coastal State may annually reserve to itself such part of the allowable catch of fish as can be taken by vessels navigating under that State's flag.

With the growth of the fishing fleet of the developing coastal State the above-mentioned part of the allowable catch of fish reserved by that State may increase accordingly.

The developing coastal State shall notify the size of the reserved part of the catch to the international fisheries organization whose competence covers the particular area, and also to States engaged in fishing in the above-mentioned areas.

2. In the areas of the high seas directly adjacent to its territorial sea or fishery zone (not exceeding 12 miles), any coastal State may annually reserve to itself such part of the allowable catch of the stock of anadromous fish spawning in its rivers as can be taken by vessels navigating under that State's flag.

3. The part of the allowable catch of fish which is not reserved in accordance with paragraphs 1 and 2 above may be taken by vessels navigating under the flags of other States, including land-locked States, without detriment to the reproduction of the stocks of fish.

4. In those of the areas referred to above where fishing regulatory measures are carried out through international fisheries organizations, such regulatory régime shall remain effective in the future.

Control over the observance of the fishing regulatory measures in such areas shall continue to be exercised on the basis of the provisions adopted within the framework of the respective international fisheries organizations.

5. In the areas referred to in this article which are not covered by the measures specified in paragraph 4, the coastal State may itself establish fishing regulatory measures on the basis of scientific findings. Such measures shall be established by the coastal State in agreement with the States also engaged in fishing in the said areas.

Regulatory measures shall not discriminate in form or in substance against fishermen of any of those States.

6. The coastal State may itself exercise control over the observance of the fishing regulatory measures initiated by it under paragraph 5.

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* Originally issued as document A/AC.138/SC.II/L.6.

In cases where the competent authorities of the coastal State have sufficient reasons for believing that a foreign vessel engaged in fishing is violating these measures, they may stop the vessel and insepct it, and also draw up a statement of the violations. The consideration of cases which may arise in connexion with violations of the said measures by a foreign vessel, as well as the punishment of members of the crew guilty of such violations, shall be effected by the flag-State of the vessel which has committed the violation. Such State shall notify the coastal State of the results of the investigation and of measures taken by it.

7. Disputes between States on matters connected with the application of the provisions of this article may, at the request of one of the parties to the dispute, be settled by arbitration unless the parties agree to settle it by another means of pacific settlement provided for in Article 33 of the United Nations Charter.

Explanatory note

The Soviet Union attaches great importance to reaching agreed decisions on problems of fishing on the high seas, which are under discussion in the United Nations Committee on the preparations for a conference on the law of the sea. The USSR considers that the solutions to these problems should ensure for all countries practical possibilities of using the fishery resources of the high seas to satisfy the needs of their peoples.

We regard with understanding the interest of developing countries in a rational use of fishery resources in the areas of the high seas adjacent to their coasts. We realize that, due to the prolonged colonial exploitation to which they have been subjected, the developing countries possess far less economic and technical means for fishing than the developed States possessing distant-water fishing vessels.

Taking all this into account, the Soviet Union favours the granting to the developing coastal States of such special rights in regard to fishing as would permit them to make extensive use of the fishery resources of the adjacent areas of the high seas in their interests and to develop their national fishing industries.

We believe that on the whole the solution of fishing problems at the international level could be found by ensuring reasonable harmony between the interests of the developing coastal States and the interests of other countries, including land-locked countries.

This position of the USSR has been set forth in the Committee on the preparations for a conference on the law of the sea, in particular at its third session held in New York in March last.

It has also found expression in the draft basic provisions for an article on fishing transmitted to the States members of the Committee together with this note.

The main provision of the draft is the one which states that a developing coastal State may annually reserve to itself in the areas of the high seas adjacent to its territorial sea or fishing zone (not exceeding 12 miles) such part of the stocks of fish as can be taken by vessels navigating under its flag.

The draft provides that, with the growth of the fishing fleet of a particular State, the part of the stock of fish reserved by it may increase accordingly.

Thus, a developing coastal State would be entitled to take all the fish which could be taken by its fishing vessels; at the same time, provision would be made for the future development of its national fishing industry and for the increase in its catch.

Of course, in solving the problems of fishing the legitimate interests of the peoples of other States to use the fishery resources of the world oceans should not be overlooked. It is our view that, should the stocks of fish not taken by a coastal State perish without being used by other States, it would be an unjustifiable waste of valuable food resources so necessary to mankind. The

Soviet draft basic provisions for the article on fishing provide that the part of the stocks of fish which is not reserved by a developing coastal State can be taken by other States without detriment to the reproduction of the stocks of fish.

The Soviet draft pays adequate attention to questions relating to the regulating of fishing and ensuring the conservation of stocks of fish.

It takes into account the fact that in certain areas of the high seas a system of fishing rules and control over fishing which has proved its value in practice is functioning and is being improved; these rules have been developed on the basis of scientific findings and are applied within the framework of the respective international fisheries organizations.

Since such a regulating and controlling system does not exist for all areas of the high seas, we deem it desirable that a coastal State be entitled to establish, on the basis of scientific findings, fishing regulatory measures for those areas of the high seas adjacent to its coast which are outside the competence of international fisheries organizations.

The coastal State would be entitled in the said areas to exercise control over the observance of the fishing rules so established, including the right to stop and inspect a vessel violating such rules. It is understood that in establishing the said rules coastal States will co-operate with the countries engaged in fishing in those areas.

The Soviet draft also contains a provision relating to the settlement of disputes which may arise in connexion with the application of the article on fishing.

We believe that the Soviet draft basic provisions for the article on fishing which, with regard to the recognition of special fishing rights for the developing countries, go further than the proposals advanced by other States in the Committee on the preparations for a United Nations conference on the law of the sea could serve as a basis for the elaboration by the Committee of agreed decisions on the problems of fishing.

As is known, the problem of fishing is being considered in the said Committee together with other problems of the law of the sea. The Soviet Union is willing to co-operate and is taking into account the wishes of the developing countries on these problems as well, and in particular with regard to the establishment of a sea-bed régime.

The Soviet draft treaty on the use of the sea-bed for peaceful purposes submitted to the Committee on 22 July 1971 provides that the exploitation of its resources shall be carried out "for the benefit of mankind as a whole irrespective of the geographical location of States, whether coastal or land-locked, and taking into particular consideration the interest and needs of the developing countries." The USSR would be agreeable to the inclusion of the sea-bed treaty of an article on the equitable distribution of benefits derived from the exploitation of the sea-bed resources, if an agreed solution were in evidence on the problems of fishing and also on such questions as the establishment of a 12-mile limit for the breadth of the territorial sea and the safeguarding of freedom of passage through straits used for international shipping.

The USSR has invariably shown its willingness to co-operate in settling questions of the law of the sea and will continue to seek an agreed solution to them.

5. Draft articles on straits used for international navigation submitted by the Union of Soviet Socialist Republics*

Article ...

1. In straits used for international navigation between one part of the high seas and another part of the high seas, all ships in transit shall enjoy the same freedom of navigation, for the purpose of transit through such straits, as they have on the high seas. Coastal States may, in the case of narrow straits, designate corridors suitable for transit by all ships through such straits. In the case of straits where particular channels of navigation are customarily employed by ships in transit, the corridors shall include such channels.

2. The freedom of navigation provided for in this article, for the purpose of transit through the straits, shall be exercised in accordance with the following rules:

(a) Ships in transit through the straits shall take all necessary steps to avoid causing any threat to the security of the coastal States of the straits, and in particular warships in transit through such straits shall not in the area of the straits engage in any exercises or gunfire, use weapons of any kind, launch their aircraft, undertake hydrographical work or engage in other acts of a nature unrelated to the transit;

(b) Ships in transit through the straits shall strictly comply with the international rules concerning the prevention of collisions between ships or other accidents and, in straits where separate lanes are designated for the passage of ships in each direction, shall not cross the dividing line between the lanes. They shall also avoid making unnecessary manoeuvres;

(c) Ships in transit through the straits shall take precautionary measures to avoid causing pollution of the waters and coasts of the straits, or any other kind of damage to the coastal States of the straits;

(d) Liability for any damage which may be caused to the coastal States of the straits as a result of the transit of ships shall rest with the flag-State of the ship which has caused the damage or with juridical persons under its jurisdiction or acting on its behalf;

(e) No State shall be entitled to interrupt or stop the transit of ships through the straits, or engage therein in any acts which interfere with the transit of ships, or require ships in transit to stop or communicate information of any kind.

3. The provisions of this article:

(a) shall apply to straits lying within the territorial waters of one or more coastal States;

(b) shall not affect the sovereign rights of the coastal States with respect to the surface, the sea-bed and the living and mineral resources of the straits;

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* Originally issued as document A/AC.138/SC.II/L.7.

(c) shall not affect the legal régime of straits through which transit is regulated by international agreements specifically relating to such straits.

Article ...

1. In the case of straits over which the airspace is used for flights by foreign aircraft between one part of the high seas and another part of the high seas, all aircraft shall enjoy the same freedom of overflight over such straits as they have in the airspace over the high seas. Coastal States may designate special air corridors suitable for overflight by aircraft, and special altitudes for aircraft flying in different directions, and may establish particulars for radio-communication with them.

2. The freedom of overflight by aircraft over the straits, as provided for in this article, shall be exercised in accordance with the following rules:

(a) Overflying aircraft shall take the necessary steps to keep within the boundaries of the corridors and at the altitude designated by the coastal States for flights over the straits, and to avoid overflying the territory of a coastal State, unless such overflight is provided for by the delimitation of the corridor designated by the coastal State;

(b) Overflying aircraft shall take all necessary steps to avoid causing any threat to the security of the coastal States, and in particular military aircraft shall not in the area of the straits engage in any exercises or gunfire, use weapons of any kind, take aerial photographs, circle or dive down towards ships, take on fuel or engage in other acts of a nature unrelated to the overflight;

(c) Liability for any damage which may be caused to the coastal States as a result of the overflight of aircraft over the straits shall rest with the State to which the aircraft that has caused the damage belongs, or with juridical persons under its jurisdiction or acting on its behalf;

(d) No State shall be entitled to interrupt or stop the overflight of foreign aircraft, in accordance with this article, in the airspace over the straits.

3. The provisions of this article:

(a) shall apply to flights by aircraft over straits lying within the territorial waters of one or more coastal States;

(b) shall not affect the legal régime of straits over which overflight is regulated by international agreements specifically relating to such straits.

6. Working Paper on Management of the Living Resources of the Sea, submitted by Canada*

I. INTRODUCTION

This working paper is submitted by the delegation of Canada for discussion purposes, and does not necessarily reflect the final definitive views of the Canadian Government.

In the view of the delegation of Canada the functional approach provides the soundest basis for a rational system of management of the living resources of the sea. On this basis it would be recognized that different management régimes may be required for different species groups. However, there are certain basic principles which should form the foundation of any management régime for marine living resources. The purpose of this working paper is to outline the essential elements of this functional approach to management of marine living resources, and to further amplify the principles underlying this approach in relation to their possible reflection in future treaty articles.

II. THE FUNCTIONAL APPROACH TO MANAGEMENT OF LIVING RESOURCES OF THE SEA

Relationship to Management of Marine Environment as a Whole

The functional approach to fisheries management views such management as forming part of the broader concept of management of the marine environment as a whole. The importance of that broader concept, and its relationship to fisheries management, was stressed at the second session of the Intergovernmental Working Group on Marine Pollution which was held in Ottawa in November, 1971. The statement of objectives adopted in the report of that Working Group has since been adopted by the Stockholm Conference on the Human Environment and may be regarded as the foundation for sound principles of fisheries management. It reads as follows:

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* Originally issued as document A/AC.138/SC.II/L.8.

"The marine environment and all the living organisms which it supports are of vital importance to humanity, and all people have an interest in assuring that this environment is so managed that its quality and resources are not impaired. This applies especially to coastal nations, which have a particular interest in the management of coastal area resources. The capacity of the sea to assimilate wastes and render them harmless, and its ability to regenerate natural resources, is not unlimited. Proper management is required and measures to prevent and control marine pollution must be regarded as an essential element in this management of the oceans and seas and their natural resources."

Differentiation of Species

In further developing the functional approach to fisheries management, it is necessary to differentiate between various groups of species with a view to identifying the types of regimes that may be most appropriate in each case. Thus, marine living resources can be conveniently classified into four broad ecological groups on the basis of their distribution and migratory behaviour, namely (a) sedentary species, (b) coastal species, (c) anadromous species, and (d) wide-ranging species.

(a) Under the terms of the 1958 Convention on the Continental Shelf, the coastal state exercises exclusive sovereign rights over living organisms which are defined as sedentary species, i.e. those organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil. In the Canadian view this approach to the management of sedentary species is appropriate and adequate in that it recognizes the interrelationship between the management of living and mineral resources and assigns to the coastal state unitary and full authority over all the resources appertaining to its continental shelf.

(b) The next broad category of marine living resources relates to the coastal species. These are the non-sedentary, free-swimming species which inhabit nutrient-rich areas adjacent to the coast. Some fish and shellfish species live in close association, but not, at the harvestable stage, in constant physical contact with the seabed. Other species inhabit the waters immediately above the seabed; others are truly pelagic in that they inhabit surface or mid-water areas; yet others are pelagic through most of their lives but return to the seabed or shallow coastal areas to reproduce. Since, in general, the productivity of these species is dependent in large part on land-related factors, the coastal state has a special responsibility as well as a special interest in the maintenance of their productivity which, in the Canadian views, should be duly reflected by assigning to the coastal state the authority to manage these species as well as a preferential position in their utilization.

(c) The anadromous species represent a special component of the coastal species. They are bred and spend their early life in the rivers of the state of origin. Even though they may travel far to sea away from their rivers of origin, they return to these rivers to reproduce. If the state of origin did not take special measures to maintain these rivers in fit condition, the most important stocks of anadromous species would soon disappear. Maintenance of the rivers is a costly undertaking for which the state of origin bears sole responsibility. In recent years, many nations have spent increasing sums to enhance the production of anadromous species by artificial means, adding to the costs of maintaining the runs. Management of the runs on a stock basis is best achieved when the fish are approaching their home rivers, when they have achieved their maximum poundage and are in prime condition in their home waters.

In the case of anadromous species, therefore, more so than any other species, the state of origin has virtually sole responsibility for the continued existence of the stocks and must make major expenditures to assure continuation of the runs. These heavy and unique responsibilities and the high cost of exercising them, in the view of the Delegation of Canada, can be justified only if management authority is vested in the state of origin and if that state, in principle, has the sole right to harvest the anadromous species bred in its own rivers. As a step in this direction, the Canadian authorities have proposed that fisheries for these species should not be conducted on the high seas.

(d) Finally, there is a group of wide-ranging species, including most of the large pelagic fish such as tunas and most of the marine mammals. It might also be envisaged that fish which inhabit waters over the deeper parts of the oceans, the "bathypelagic" species, could also be considered with the wide-ranging species for purposes of formulating a common management regime. By virtue of their distribution over wide oceanic areas, as well as their temporary presence in certain seasons in coastal waters of various states, an international authority composed of interested states would appear to be the most appropriate mechanism for management of these species. Taking into account the degree of dependence of individual species on coastal waters, consideration should be given to the provision that might be made to accommodate coastal state interests in these species during the period in which they inhabit coastal waters.

III. SPECIAL INTEREST OF THE COASTAL STATE

The coastal state has a special interest in and responsibility for the conservation of the living resources of the sea adjacent to its coast and should have the authority required to manage those resources in a manner consistent with its special interest and responsibility, as well as preferential rights in the harvest of such resources.

This principle has particular application to the management of the coastal and anadromous species (having already been given maximum application in respect of the sedentary species). The limited recognition of the special interest of the coastal state in the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas is not sufficient to enable a coastal state to implement an effective system of management of coastal fishery resources. This special interest derives from the responsibility of the coastal state with respect to productivity of living resources adjacent to its coast, as well as from the long-standing socio-economic dependence of coastal communities on nearby fish stocks.

The relationship between land and sea in coastal areas imposes certain responsibilities upon the coastal state. It must protect the coastal environment where living resources are concentrated, and which for many species is vital to reproduction, early development or feeding. The waters bordering the continents are far more productive than the open oceans. This productivity is subject to decline through the adverse effects on the marine environment caused by entry of river-borne and air-borne pollutants, dumping of refuse and industrial wastes, and shoreline alterations such as land fill projects. The responsibilities which the coastal state must assume in maintaining resource productivity and quality, and the costs it bears in meeting this responsibility, must be balanced by the authority to manage and the preferential right to utilize adjacent living marine resources, subject to internationally agreed principles (discussed below).

Coastal populations in areas remote from industrialized locations are usually dependent on some form of primary industry for their continued wellbeing. In many cases fisheries are the only form of employment available to most of the population. The population tends to be scattered over a number of small communities, each maintaining a balance, sometimes precarious, between the size of the community and the abundance of the fish species on which it depends. Each community tends to exploit fishery resources in

its immediate vicinity. Such coastal populations are often not capable of wide-ranging fishing operations. Over-exploitation of coastal living resources has serious socio-economic consequences for the coastal state, whose dependence on coastal resources must be taken into account. For some species the coastal state could have exclusive exploitation rights; for others a preferential share in the harvest could be adequate. It could also be envisaged that the coastal state could share in the benefits from coastal resources without actually fishing, for example, through a leasing arrangement with other states.

As regards the limits of the area under the management authority of the coastal state, these could be biological or geographical in nature. If biological, the functional authority of the coastal state could be exercised in accordance with the known distribution and zoogeographical limits of the stocks being managed, excepting the territorial or jurisdictional waters of another state. It may be, however, that some form of geographic delimitation of authority, related to the relevant biological limits, will be considered desirable or necessary for practical administrative purposes.

IV. BASIC PRINCIPLES FOR COASTAL STATE MANAGEMENT

The following principles would be applicable to any system for the rational management of the living resources of the sea. They are elaborated here, however, with particular reference to the management of coastal species by the coastal state, whose authority and preferential rights would be governed by these principles, as would also the participation of other states in particular fisheries under management by the coastal state.

It must be recognized that the special interest of the coastal state in the fisheries resources adjacent to its coast, is an overriding principle in the sense that particular social and economic circumstances of the coastal state may necessitate modification of these principles in particular fisheries. What is essential is that the use of coastal fisheries resources should be of maximum benefit to the people of the coastal state in terms of economic efficiency, contribution to the economy and improvement of social conditions.

(1) Yield from a fishery should be allocated among participants, on the basis of some appropriate formula, so that each participant may obtain his share on the most advantageous basis.

Stocks may be protected from overfishing, and yields maximized in the long term, by regulating fisheries to take appropriate annual catches. If such regulation does not also include a scheme of allocation to participants the resultant competition for the

available catch will inevitably result in wasteful inputs of capital and manpower. Under such circumstances, some participants will be able to compete more effectively than others and in extreme situations one or two participants may be able to appropriate most of the catch to themselves, though at costs which may be greater than the yield value. In fairness to all participants, yields should be allocated in a way that does not discriminate between their fishing capacities. To date, such allocation is rare in international fisheries, and in fact was achieved for the first time earlier this year with respect to allocation of herring and groundfish catches within the International Commission for the Northwest Atlantic fisheries. (Questions relating to the method of allocating shares are discussed in connexion with the immediately following principle).

(2) Access to a fishery should be controlled, on the basis of some appropriate formula, to ensure that no more than the maximum biological yield is taken, and that it is taken without unnecessary investments of capital and manpower.

Controlled access is, of course, an obvious consequence of any system of share allocation. The objective of rational fishery management should be to constrain the productive capacity in a fishery, by controlling access, so that the yield is taken with no greater effort than necessary, taking into account, however, relevant social factors. This concept may be extended, and it could be envisaged that economic rationalization of fisheries would include the objective of obtaining maximum economic yield from the resource. This would mean that fisheries would be exploited so that the difference between value of the yield and cost of obtaining the yield is at a maximum. This objective can usually be attained by fishing at a point slightly below the maximum sustainable yield. Indeed there are some situations where the fishing effort required to reach the maximum sustainable yield may be out of all proportion to the increase in catch so attained.

While the application of a policy of this kind is especially difficult in the case of fish stocks exploited by fleets of different nations, a reasonably satisfactory solution would be to establish an overall catch limit, with shares allocated to participants. With assurance of a pre-determined share in the catch, each country is in a position to utilize that share to the best advantage in terms of its particular social goals. In the view of the Delegation of Canada, the coastal state should have the authority to determine the allowable yield for the various stocks of coastal species falling under its management, in accordance with the principles herein outlined and in consultation with regional advisory commissions. It is because international experience

has demonstrated the difficulty of reaching consensus on particular measures needed on the basis of scientific data that it is proposed that the coastal state should have authority to impose a decision where consensus is not possible.

As to the formula which would be used to determine the share of other States participating in a fishery subject to management by a coastal state, the essential factor would be to provide for recognition of the principle that the coastal state could reserve for itself a share proportionate to its needs and its capacity to exploit the stock in question within the limits of agreed conservation criteria. With this principle established, the question of allocation of shares among other participants would, of course, be greatly simplified and could be left for determination by regional advisory commissions (which could draw upon the developing experience of such bodies as ICNAF in this field). The same situation could also prevail with respect to the entry of new participants into a particular fishery.

(3) Management must be carried out on the basis of widely recognized and internationally acceptable scientific and socio-economic criteria.

This is essential for both effectiveness and equity. Without agreement on such criteria there would be no objective guidelines for the exercise of management authority or to help avoid or resolve disputes which might arise. Hence internationally agreed criteria are essential to any management regime, including coastal state management.

(4) Management should provide for control of the rate of expansion of fisheries.

Many of the current problems in international fisheries management are the result of rapid and uncontrolled increases in fishing; the consequences of such increases are often not apparent until the damage has been done. There are many examples where declining yields from fisheries are thought to be at least partly caused by sudden and opportunistic increases in fishing giving temporary yields which the stocks cannot maintain in the long term and which in extreme situations may seriously impair the capacity of the stocks to reproduce. Recovery of stocks under these conditions may be very slow, resulting in negligible yields over a long period of years and possible long-term imbalances in marine biological communities with consequences that are at present unforeseeable.

(5) All fish caught should be reported and utilized.

Fisheries should not be conducted so that significant amounts of the species sought, or species taken incidentally to the species sought, are discarded at sea. This practice, unfortunately, is now far too prevalent in fisheries for highly-valued species where

substantial quantities of other species are caught and discarded despite the fact that these other species are valuable to other participants and may themselves be subject to conservation regulations.

(6) Fisheries for human consumption should in principle take priority over competing fisheries for reduction to fish meal.

The oceans are gaining in importance as a source of protein. The most efficient way to use this protein is to make it available directly as food, rather than use it in animal feeds to produce less protein. Wherever the possibility exists to use species directly for human consumption, fisheries for such purposes should receive priority. Special circumstances, such as traditional fishing patterns and socio-economic needs of states conducting the fisheries will have to be taken into account. Processing of fish waste and of species not directly marketable for human consumption, to produce acceptable protein concentrates which may be used as food additives for human consumption, may eventually achieve greater importance relative to fish meal.

(7) Any management regime for an internationally-exploited fishery must be prepared to report to the international community on the exercise of its management authority; appropriate dispute-settlement procedures should be provided for.

Responsibility for resource management must carry sufficient authority to fulfil that responsibility. While the exercise of authority should be subject to review, the authority itself should not be open to challenge. The concept of coastal state management of coastal species as "custodian" for the international community would not imply some form of close supervision over the exercise of powers and the discharge of responsibilities by a coastal state, but rather that the exercise of powers in accordance with internationally agreed criteria would be subject to appropriate dispute-settlement procedures.

As to whether the coastal state would be required to submit to dispute-settlement procedures where it reserved an entire stock to meet its special needs, the view of the Canadian delegation is that dispute-settlement procedures should apply in such event only if the dispute concerned the achievement of full utilization of that stock, or of a dependent stock of another species, within the limits of agreed conservation requirements.

As to whether the coastal state would be accountable for the exercise of its authority over the whole of a stock's range including the territorial sea and the exclusive fishing zone, it might be considered inappropriate to seek any diminution of the coastal state's rights in respect of fisheries within the territorial sea and exclusive fishing zone. It must be recognized, however, that it would be anomalous for

any sound system of fisheries management to apply one set of conservation principles within the territorial sea and exclusive fishing zone and a conflicting set in areas immediately adjacent thereto.

(8) All countries participating in an internationally-exploited fishery should co-operate with the designated management authority.

Participants should contribute a fair share of the costs of managing the resource proportionate to their returns from that resource, and should provide the information needed for management purposes (catch, effort and biological statistics, etc.). Contributions by participants might be in the form of research programmes, for instance. It should not be expected that a few participants should bear this burden on behalf of all participants, although the primary responsibility would be that of the coastal state.

(9) The quality of ocean waters must be maintained.

As discussed in Section II, it has been accepted that management of fishery resources cannot be divorced from management of the marine environment as a whole. Maintenance of environmental quality is necessary on two counts; first, to ensure that the reproductive capacity and other life processes of the species are not impaired through environmental degradation, and secondly to ensure that contaminants dangerous to human life and health are not concentrated in marine food chains to the point where species become unusable for human consumption. Here also the coastal state has a special interest and responsibility, as recognized by the Stockholm Conference.

V. SCIENTIFIC PRINCIPLES

As noted above (Section IV, Principle 3), all fisheries management systems must be founded upon certain basic scientific principles if they are to maintain the productivity of the resource and the value of its yield. Examples of such principles are mentioned below. They are not intended to be exhaustive nor comprehensive, but to illustrate the relevance of scientific factors to sound management. The dynamic state of fisheries science requires its frequent review on a world-wide basis. Such review and further elaboration of scientific principles can most appropriately be carried out through specialized technical agencies.

(1) Stocks should be managed as individual units.

Few species form homogeneous mixtures of individuals throughout the species' range. Rather these individuals tend to be grouped into separate populations or stocks, often associated with particular oceanographic features, such as current systems or distinct shelf areas, with little interchange between the separate groups. Each group will have

its own particular set of biological characteristics such as growth rate or mortality rate, dependent on its genetic makeup and the environment which it inhabits. Each will respond to fishing pressure in a different way, depending on the size of the particular stock and its unique characteristics. Management procedures should be designed to take account of the varying characteristics of each stock.

The areas inhabited by such stocks will vary in size, but for coastal species are usually well-defined. For some stocks, the distribution may extend to coastal waters of several adjacent states; for others the distribution will be confined to the adjacent waters of a single state. In any case, the stock must be managed as a whole if management is to be effective. This is not to say that stocks should be managed in isolation from other stocks of the same species, or in isolation from other species. The management system must be effective for exploited species over broad coastal areas; otherwise fishing effort is simply diverted to species or stocks not under regulation.

(2) Exploitation of unit stocks should be controlled so that production of new age groups or "recruits" is at a maximum.

Under conditions of very low exploitation the full potential productivity of the stock may not be realized, and annual yields are less than they could be. The same situation may apply under conditions of very high exploitation in that stock size may be reduced to the point where annual production of new individuals is below that which the species is capable of maintaining. Under extreme conditions of over-fishing the stock may be reduced to the point where commercial fisheries can no longer be carried out. Thus enough fish must be allowed to escape the fisherman to ensure the continued presence of an adequate spawning stock.

(3) Each age group of a species, as it becomes available to fishing, should be fished at the point when its contribution to catches can be greatest.

As an age group becomes older it gains in weight as a whole owing to the growth of the individuals, and loses weight owing to natural mortality. In early life, growth is rapid and the gains outweigh the losses. At the point where these gains and losses are in balance, the age group will have attained its maximum weight, and it is at this point that its maximum contribution to catches can be made, taking into account, however, relevant economic and social considerations. Under conditions of heavy exploitation, fish tend to be caught at too small a size and catches are lower than they could be if the individuals were allowed to grow.

Abundance of individual age groups is often variable from year to year, but can usually be predicted in advance, sometimes several years in advance, of the time when the greatest yield from the age group can be taken. This allows time to plan fishing operations to make best use of the stocks.

VI. ROLE OF INTERNATIONAL COMMISSIONS

In the view of the Canadian Delegation, only the coastal state can effectively implement the above-noted principles for the management of coastal species. The coastal state has the most to lose if adjacent stocks are not soundly managed. Only the coastal state is in a position to take prompt action in response to urgent conservation needs. By reason of geography the coastal state is in the best position to assume and exercise authority. Such authority would be the natural consequence of the responsibilities which the coastal state must already meet with respect to coastal species.

However, the system of coastal state management for coastal species envisaged by the Canadian Delegation would not preclude a role for international fishery commissions within the context of that system. In the view of the Canadian Delegation such commissions could have an important advisory role vis-a-vis the coastal state in its discharge of its management functions. Certain specific elements of that advisory role have already been discussed in connexion with some of the principles outlined above. In more general terms, international fishery commissions, established on a regional basis and comprising both coastal and distant-water fishing states, could provide a forum for cooperation and consultation and, in particular, a most useful mechanism for the collection, presentation and analysis of the statistical and biological data required for management purposes. Similarly, particular forms of consultation and cooperation might be instituted, with or without the establishment of a formal commission, in cases where particular stocks of coastal species fall under the management authority of two or more neighbouring coastal states. As regards cases where wide-ranging migratory species temporarily inhabit waters where a coastal state has management authority, that state should be a member of the appropriate commission responsible for the management of the migratory species in question.

7. United States of America: revised draft fisheries article*

I. REGULATORY AUTHORITY

Authority to regulate the living resources of the high seas shall be determined by their biological characteristics and such authority shall be exercised so as to assure their conservation, maximum utilization and equitable allocation.

II. COASTAL AND ANADROMOUS LIVING RESOURCES

The coastal State shall regulate and have preferential rights to all coastal living resources off its coast beyond the territorial sea to the limits of their migratory range. The coastal State in whose fresh or estuarine waters anadromous resources (e.g. salmon) spawn shall have authority to regulate and have preferential rights to such resources beyond the territorial sea throughout their migratory range on the high seas (without regard to whether or not they are off the coast of said State).

A. The term "coastal resource" refers to all living resources off the coast of a coastal State except the highly migratory species listed in Annex A, a/ and anadromous resources.

B. The coastal State may annually reserve to its flag vessels, in accordance with this article, that portion of such coastal and anadromous resources as they can harvest.

C. Such coastal and anadromous resources which are located in or migrate through waters adjacent to more than one coastal State shall be regulated by agreement among such States.

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* Originally issued as document A/AC.138/SC.II/L.9.

a/ Annex A not attached.

III. HIGHLY MIGRATORY OCEANIC RESOURCES

The highly migratory oceanic resources listed in Annex A shall be regulated by appropriate international fishery organizations.

A. Any coastal State party, or other State party whose flag vessels harvest or intend to harvest a regulated resource, shall have an equal right to participate in such organizations.

B. No State party whose flag vessels harvest a regulated resource may refuse to co-operate with such organizations. Regulations of such organizations in accordance with this Article shall apply to all vessels fishing the regulated resources regardless of their nationality.

C. In the event the States concerned are unable or deem it unnecessary to establish an international organization the resources shall be regulated by agreement or consultation among such States.

IV. CONSERVATION PRINCIPLES

In order to assure the conservation of living marine resources, the coastal State or appropriate international organization shall apply the following principles:

A. Allowable catch and other conservation measures shall be established which are designed, on the basis of the best evidence available, to maintain or restore the maximum sustainable yield, taking into account relevant environmental and economic factors.

B. For this purpose scientific information, catch and effort statistics, and other relevant data shall be contributed and exchanged on a regular basis.

C. Conservation measures and their implementation shall not discriminate in form or fact against any fishermen. Conservation measures shall remain in force pending the settlement, in accordance with the relevant provisions of this Article, of any disagreement as to their validity.

V. UTILIZATION AND ALLOCATION

In order to assure the maximum utilization and equitable allocation of coastal and anadromous resources, the coastal State shall apply the following principles:

A. The coastal State may reserve to its flag vessels that portion of the allowable annual catch they can harvest.

B. The coastal State shall provide access by other states, under reasonable conditions, to that portion of the resources not fully utilized by its vessels on the basis of the following priorities:

(1) States that have traditionally fished for a resource, subject to the conditions of sub-paragraph C;

(2) other States in the region, particularly landlocked States and other States with limited access to the resources, with whom joint or reciprocal arrangements have been made; and

(3) all States, without discrimination among them.

C. Whenever necessary to accommodate the allocations to the coastal States traditional fishing may be reduced, without discrimination among those States that have traditionally fished for a resource, in the following manner:

(Formula to be negotiated within Subcommittee II which takes into account the interests of traditional fishing States.)

States whose fishermen harvest a resource under regulation by a coastal State may be required, without discrimination, to pay reasonable fees to defray their share of the cost of such regulation.

VI. NOTIFICATION CONSULTATION

The coastal State shall give to all affected states timely notice of any conservation, utilization and allocation regulations, prior to their implementation, and shall consult with other States concerned.

VII. TECHNICAL ASSISTANCE

An international register of independent fisheries experts shall be established and maintained by the Food and Agriculture Organization of the United Nations. b/ Any developing State party to this convention requiring assistance may select an appropriate number of such experts to serve as a fishery management advisory group to that State.

VIII. ENFORCEMENT

Actions under this paragraph shall be taken in such a manner as to minimize interference with fishing and other activities in the marine environment.

A. Coastal State - the coastal State may inspect and arrest vessels for fishing in violation of its regulations. The coastal State may try and punish vessels for fishing in violation of its regulations, provided that where the state of nationality of a vessel has established procedures for the trial and punishment of violations of coastal State fishing regulations adopted in accordance with this article, an arrested vessel shall be delivered promptly to duly authorized officials of the State of nationality for trial and punishment, who shall notify the coastal State of the disposition of the case within six months.

B. International fisheries organization - Each State party to an international organization shall make it an offence for its flag vessels to violate the regulations adopted by such organization in accordance with this article. Officials authorized by the appropriate international organization, or of any State so authorized by the organization, may inspect and arrest vessels for violating the fishery regulations adopted by such organizations. An arrested vessel shall be promptly delivered to the

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b/The Sub-Committee may wish, in accordance with paragraph 13 of General Assembly Resolution 2750 C (XXV), to invite the comments of the Director-General of the Food and Agriculture Organization of the United Nations on the ability of the Organization to assume such responsibilities.

duly authorized officials of the flag State. Only the flag State of the offending vessel shall have jurisdiction to try the case or impose any penalties regarding the violation of fishery regulations adopted by international organizations pursuant to this article. Such State has the responsibility of notifying the enforcing organization within a period of six months of the disposition of the case.

IX. DISPUTES SETTLEMENT

Any dispute which may arise between States under this article shall, at the request of any of the parties to the dispute, be submitted to a special commission of five members unless the parties agree to seek a solution by another method of peaceful settlement, as provided for in Article 33 of the Charter of the United Nations. The commission shall proceed in accordance with the following provisions.

A. The members of the commission, one of whom shall be designated as chairman, shall be named by agreement between the States in dispute within two months of the request for settlement in accordance with the provisions of this article. Failing agreement they shall, upon request of any State party to the dispute, be named by the Secretary General of the United Nations, within a further two-month period, in consultation with the States involved and with the President of the International Court of Justice and the Director-General of the Food and Agriculture Organization of the United Nations, from amongst well-qualified persons being nationals of States not involved in the dispute and specializing in legal, administrative or scientific questions relating to fisheries, depending upon the nature of the dispute to be settled. Any vacancy arising after the original appointment shall be filled in the same manner as provided for the initial selection.

B. Any State party to proceedings under these articles shall have the right to name one of the nationals to sit with the special commission, with the right to participate fully in the proceedings on the same footing as a member of the commission but without the right to vote or to take part in the writing of the commission's decision.

C. The commission shall determine its own procedure, assuring each party to the proceedings a full opportunity to be heard and to present its case. It shall also determine how the costs and expenses shall be divided between between the parties to the dispute failing agreement by the parties on this matter.

D. Pending the final award by the special commission, measures in dispute relating to conservation shall be applied; the commission may decide whether and to what extent other measures shall be applied pending its final award.

E. The special commission shall render its decision, which shall be binding upon the parties, within a period of five months from the time it is appointed unless it decides, in the case of necessity to extend the time limit for a period not exceeding two months.

F. The special commission shall, in reaching its decision, adhere to this article and to any agreements between the disputing parties implementing this article.

X. OTHER USES

The exploitation of the living resources shall be conducted with reasonable regard for other activities in the marine environment.

XI. EXISTING CONVENTIONS

The provisions of this article may be applied to fishery conventions and other international fishery agreements already in force.

8. Draft articles on exclusive economic zone concept, submitted by Kenya*

ARTICLE I

All States have a right to determine the limits of their jurisdiction over the seas adjacent to their coasts beyond a territorial sea of 12 miles in accordance with the criteria which take into account their own geographical, geological, biological, ecological, economic and national security factors.

ARTICLE II

In accordance with the foregoing Article, all States have the right to establish an Economic Zone beyond the territorial sea for the primary benefit of their peoples and their respective economies in which they shall exercise sovereign rights over natural resources for the purpose of exploration and exploitation. Within the zone they shall have exclusive jurisdiction for the purpose of control, regulation and exploitation of both living and non-living resources of the Zone and their preservation, and for the purpose of prevention and control of pollution.

The coastal State shall exercise jurisdiction over its Economic Zone and third States or their nationals shall bear responsibility for damage resulting from their activities within the Zone.

ARTICLE III

The establishment of such a Zone shall be without prejudice to the exercise of freedom of navigation, freedom of overflight and freedom to lay submarine cables and pipelines as recognized in international law.

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* Originally issued as document A/AC.138/SC.II/L.10.

ARTICLE IV

The exercise of jurisdiction over the Zone shall encompass all the economic resources of the area, living and non-living, either on the water surface or within the water column, or on the soil or sub-soil of the sea-bed and ocean floor below.

ARTICLE V

Without prejudice to the general jurisdictional competence conferred upon the coastal State by Article II above, the State may establish special regulations within its Economic Zone for:

(a) Exclusive exploration and exploitation of non-renewable marine resources;

(b) Exclusive or preferential exploitation of renewable resources;

(c) Protection and conservation of the renewable resources;

(d) Control, prevention and elimination of pollution of the marine environment;

(e) Scientific research.

Any State may obtain permission from the coastal State to exploit the resources of the Zone where permitted on such terms as may be laid down and in conformity with laws and regulations of the coastal State.

ARTICLE VI

The coastal State shall permit the exploitation of the living resources within its zone to the neighbouring developing land-locked, near land-locked and countries with a small shelf provided the enterprises of those States desiring to exploit these resources are effectively controlled by their national capital and personnel.

To be effective the rights of land-locked or near land-locked States shall be complemented by the right of access to the sea and the right of transit. These rights shall be embodied in multilateral or regional or bilateral agreements.

ARTICLE VII

The limits of the Economic Zone shall be fixed in nautical miles in accordance with criteria in each region, which take into consideration the resources of the region and the rights and interests of developing land-locked, near land-locked, shelf-locked States and States with narrow shelves and without prejudice to limits adopted by any State within the region. The Economic Zone shall not in any case exceed 200 nautical miles, measured from the baselines for determining territorial sea.

ARTICLE VIII

The delimiation of the Economic Zone between adjacent and opposite States shall be carried out in accordance with international law. Disputes arising therefrom shall be settled in conformity with the Charter of the United Nations and any other relevant regional arrangements.

ARTICLE IX

Neighbouring developing States shall mutually recognize their existing historic rights. They shall also give reciprocal preferential treatment to one another in the exploitation of the living resources of their respective Economic Zones.

ARTICLE X

Each State shall ensure that any exploration or exploitation activity within its Economic Zone is carried out exclusively for peaceful purposes and in such a manner as not to interfere unduly with the legitimate interests of other States in the region or those of the International Community.

ARTICLE XI

No territory under foreign domination and control shall be entitled to establish an Economic Zone.

9. Working paper submitted by Australia and New Zealand*

PRINCIPLES FOR A FISHERIES REGIME

This working paper is submitted by Australia and New Zealand for consideration, along with papers submitted by other delegations dealing with or referring to questions of jurisdiction over, and utilization of, the living resources of the sea.

The paper does not necessarily represent the definitive views of the Australian Government or of the New Zealand Government. However, in the view of the cosponsoring Delegations, it would be useful to set down principles that could form the basis of a new régime for living marine resources.

The over-all objective of any régime should be to establish conditions that will allow the rational utilization of each particular stock of fish. It is also necessary to bear in mind the special characteristics of fishery resources in that they are capable of regeneration, but extremely susceptible to depletion by over-exploitation. These characteristics provide one of the bases for the special interest of the coastal State in fishery resources adjacent to its shores, already recognized in a limited way in the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas. This interest involves two areas of responsibility to ensure -

(a) the rational utilization of the resources involving management to maintain the stocks; and

(b) the maximum possible production of food from the available resources.

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* Originally issued as document A/AC.138/SC.II/L.11.

Another preliminary observation is that a coastal fishery resources zone as proposed below could be readily incorporated in, for example, an economic zone concept covering all resources, non-living as well as living.

Reference will be made below to terms differentiating between different groups of species of fish. For this purpose, four main groups may be distinguished, namely (a) sedentary species, (b) coastal species, (c) anadromous species, and (d) wide-ranging species. On this point reference should be made to pp.2-3 of the Canadian Working Paper on "Management of the Living Resources of the Sea" (document A/AC.138/SC.III/L.8).

Concerning sedentary species, the present position is that these resources come under the sea-bed jurisdiction of the coastal State recognized in the 1958 Geneva Convention on the Continental Shelf. No change from coastal State jurisdiction in this regard is contemplated. Also, in the area outside that jurisdiction, it would be appropriate that any sedentary living resources should be regulated by the proposed International Sea-Bed Authority or other international body. The following principles have therefore, at this stage, proceeded on the assumption that the latter sedentary species are, or may be, dealt with elsewhere.

I. The coastal State shall have exclusive jurisdiction, in accordance with the Principles elaborated herein, over the living resources of the sea in an adequately wide zone of the high seas adjacent to its territorial sea.

(Comment: It will be necessary to recognize a specific limit to the fishery zone in which the coastal State has jurisdiction. The basic concept would be to establish coastal State responsibility and control over the coastal species. These are the non-sedentary, free-swimming species that inhabit nutrient bearing areas adjacent to the coast).

II. It shall be the responsibility of the coastal State to provide proper management and utilization of the living resources within its zone of exclusive jurisdiction, including -

(a) maintenance of the level of stocks which will provide the maximum sustainable yield;

(b) rational utilization of the resources and the promotion of economic stability coupled with the highest possible food production; and

(c) where the resource is required for direct human consumption in the coastal state, the highest possible priority to be given to the production of fish for direct human consumption.

(Comment: In carrying out these responsibilities a State would make use of measures as referred to in Principle III below).

III. Measures that the coastal State may take include:-

(a) requiring licensing by it of fishing vessels and equipment to operate in the zone;

(b) limiting the number of vessels and the number of units of gear that may be used;

(c) specifying the gear permitted to be used;

(d) fixing the period during which fish or fish of a species or class may be taken;

(e) fixing the size of fish that may be taken;

(f) specifying the method of fishing that may be used in a specified area or for taking a specified species or class of fish and prohibiting any other methods.

IV. Pursuant to its exclusive jurisdiction, it would be for the coastal State to determine the allowable catch of any particular species, and to allocate to itself that portion of the allowable catch, up to 100 per cent, that it can harvest.

(Comment: Exclusive jurisdiction means that it would be the coastal State that makes the preliminary and final decisions on any resource issues that arise. Exclusive jurisdiction would not, however, be inconsistent with the existence of advisory or consultative procedures to deal with basic issues in respect of the administration by the coastal State of its resource jurisdiction where other interested States raise those issues).

V. Where the coastal State is unable to take 100 per cent of the allowable catch of a species as determined under the Principles, it shall allow the entry of foreign fishing vessels with a view to maintaining the maximum possible food supply.

Such access shall be granted up to the level of allowable catch on an equitable basis without the imposition of unreasonable conditions and without discrimination between nationals of other States, except as may be provided for under phasing-out arrangements made in accordance with these Principles.

(Comment: The question of licence fees is one that requires consideration. Whilst, having regard to taxes and other charges imposed on the local fishermen and the cost of providing facilities and surveillance services, the coastal State might wish to impose higher licence fees on foreign vessels, such fees should not be unreasonable).

VI. Measures adopted by the coastal State shall take account of traditional subsistence fishing carried out in any part of the fisheries zone.

(Comment: A definition of "traditional subsistence fishing" may be required in order clearly to identify the limited range of fishing in mind under this Principle. In practice the problem could perhaps be best dealt with by regional arrangements among the countries concerned).

VII. When the coastal State intends to allocate to itself the whole of the allowable catch of a species, in accordance with these Principles, it shall enter into consultations with any other State which requests such consultations and which is able to demonstrate that its vessels have carried on fishing in the fishery resources zone on a substantial scale for a period of not less than [ten] years with a view to:-

(a) analysing the catch and effort statistics of the other state in order to establish the level of fishing operations carried out in the zone by the other state;

(b) negotiating special arrangements with the other state under which the latter's vessels would be "phased out" of the fishery having regard to the developing fishing capacity of the coastal State; and

(c) in the event of agreement not being reached through consultation there shall be a "phasing out" period of [five] years.

VIII. The coastal State, as an exercise of its jurisdiction over the resources of the zone, shall have powers of boarding, arrest and detention of fishing vessels. Breaches of a condition of a licence or of a law or regulation applying in the zone in accordance with these Principles shall be triable in the Courts of the coastal State concerned.

IX. In respect of "wide-ranging" species of fish that are exploited within the zone, the coastal State shall participate in the formulation and implementation of international arrangements for the management of the species.

(Comment: In this connexion consideration should be given to any special coastal State interests in these species).

X. The coastal State has responsibility to conduct research on the resources within the zone to enable it to fulfil its responsibility to provide proper management and rational utilization of those resources. It shall publish the results of that research within a reasonable period. Other States operating within the zone shall assist in the research programmes and shall provide comprehensive catch, effort and biological data at reasonable intervals as required.

XI. It is recognized that the anadromous species is a species in respect of which the coastal State concerned exercises onerous and unique responsibilities. On this basis that coastal State should have the sole right to manage the stocks of anadromous species bred in its home waters.

(Comment: On anadromous species, reference is made to the Working Paper submitted by the Delegation of Canada).

XII. Where a State alleges that -

(a) the living resources of the zone are being substantially underexploited; or

(b) generally agreed conservation principles are being substantially departed from by the coastal State concerned,

it may request the coastal State to review the measures taken by it. The State making the allegation may require it to be referred to an advisory expert body that would be empowered to convey its findings to the States concerned and, if that body considers it desirable, to make recommendations with a view to resolving the issue.

(Comment: Provision should be made for the appointment of the advisory expert body, either by agreement of the States concerned or, in default of agreement, by other means. Use could be made of international organizations, including regional organizations, which might agree to provide facilities in this regard. While the exercise of jurisdiction by the coastal State would be open to scrutiny on the issues referred to, the role of the expert body would be advisory only. Responsibility for resource management must carry with it the final authority necessary to fulfill that responsibility).

XIII. International arrangements, including where appropriate international fisheries commissions, shall be established for the management of the "wide-ranging" species and as appropriate the "bathypelagic" species and other species that inhabit the waters beyond the limits of national fisheries resource jurisdiction. All States shall have an equal right to participate in such organizations.

(Comment: On "wide-ranging" species, see also Principle IX above).

XIV. [The role of international bodies.]

(Comment: As indicated in the Canadian Working Paper, the concept of coastal State responsibility does not preclude a role for international fishery commissions. These commissions might be global or they might be regional in nature. Such commissions could have an important advisory role vis-à-vis the coastal State in its discharge of its responsibilities).

XV. It shall be the responsibility of the coastal State to ensure that fishing operations in the fishery zone shall be conducted with reasonable regard for other activities in the marine environment.

Other activities shall be conducted with reasonable regard for fishing operations carried out within the zone.

(Comment: In particular, damage to fishing gear should be avoided. It would be desirable that any disputes concerning the accommodation of competing uses within the zone be settled by compulsory settlement procedures, unless some form of settlement is agreed upon by the parties within a reasonable period).

10. Proposals for a régime of fisheries on the high seas, submitted by Japan*

Summary of the proposals

This paper, which contains, inter alia, a set of proposals on preferential rights of coastal States in fishing on the high seas, attempts to formulate a broad and equitable accommodation of interests of States in the exploitation and use of the living resources of the high seas, taking into account the dependence on fishing of both coastal and other States. While according a preferential right of catch to developing coastal States corresponding to their harvesting capacities and a differentiated preferential right to developed coastal States, the proposals also take into consideration the legitimate interests of other States. Thus, they seek to ensure that a gradual accommodation of interests can be brought about in the expanding exploitation and use of fishery resources of the high seas, without causing any abrupt change in the present order in fishing which might result in disturbing the economic and social structures of States. The proposals may be summarized as follows:

(i) The proposed general rules concerning preferential rights of coastal States are intended to ensure sufficient protection for coastal fisheries of States, particularly of developing coastal States, in relation to the activities of distant water fisheries of other States, in areas of the sea adjacent to their 12-mile limit;

(ii) Preferential rights shall entitle a developing coastal State annually to an allocation of resources that corresponds to its harvesting capacity; the rate of growth of the fishing capacity of that developing coastal State shall be duly taken into account to the extent that it is able to catch a major portion of the allowable catch. They shall entitle a developed coastal State to an allocation of resources necessary for the maintenance of its locally conducted small-scale coastal fishery; the interests of traditionally established fisheries of other States shall be duly taken into account in determining the part of the allowable catch thus reserved;

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* Originally issued as document A/AC.138/SC.II/L.12.

(iii) Since situations vary greatly according to areas of the sea, the general rules for protection of coastal States interests shall be flexible enough, as regards the methods to be employed to safeguard such interests, to allow the parties to adopt any measures which are effective and suited to the individual cases. The substance of protection, i.e. concrete applicable measures implementing preferential rights of coastal States, shall be the subject of negotiation between the coastal and other States concerned and shall be finalized in agreement;

(iv) If negotiation fails, the case in dispute shall be referred to a body of experts for a binding decision unless settled by any other means to be agreed upon between the parties concerned. During the period of dispute, distant water fishing States shall assume obligations to restrain their fishing efforts according to specific plans provided for in interim measures (6.1 of the proposal);

(v) In concluding agreement on the preferential right of a developing coastal State, international co-operation shall be carried out in the field of fisheries and other related industries between the developing coastal State and other fishing States concerned with a view to improving the effectiveness of protection of the interests of that developing coastal State;

(vi) No special status in respect of conservation and no preferential rights of catch shall be recognized to coastal States with regard to the harvesting of highly migratory, including anadromous stocks of fish. The conservation and regulation of these stocks shall be made pursuant to international or regional consultations or agreements, or should such be already the case, through the existing regional fishery commissions;[a/]

(vii) Enforcement jurisdiction under the rules shall be retained by flag States though the right of coastal States to inspect foreign vessels to identify violation, and to arrest vessels in violation for prompt delivery to the flag States, shall be recognized.

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a/ The problem of conservation and regulation of anadromous stocks (e.g. salmon) is a limited one affecting a few countries in certain regions and, as such, it is already dealt with by the existing fishery bodies such as: Japan-USSR Fisheries Commission for the Northwest Pacific; International North Pacific Fisheries Commission (INPFC); International Commission for the Northwest Atlantic Fisheries (ICNAF); North-East Atlantic Fisheries Commission (NEAFC); US-Canada International Pacific Salmon Fisheries Commission.

GENERAL PROVISIONS

1.1 The proposed régime applies to fisheries on the high seas in the areas adjacent to the limit of 12 miles from the coast of a State, measured in accordance with the relevant rules of international law (such areas hereinafter shall be referred to as "adjacent waters").

1.2 All States have the right for their nationals to engage in fishing on thehigh seas, subject to the present régime and to their existing treaty obligations.

1.3 The proposed régime shall not affect the rights and obligations of States under existing international agreements relating to specific fisheries on the high seas.

CONSERVATION OF FISHERY RESOURCES

2.1 Objective of Conservation measures

The objective of conservation measures is to achieve the maximum sustainable yields of fishery resources and thereby to secure and maintain a maximum supply of food and other marine products.

2.2 Obligations to adopt conservation measures

(1) In cases where nationals of one State are exclusively engaged in fishing a particular stock of fish, that State shall adopt, when necessary, appropriate conservation measures.

In cases where nationals of two or more States are engaged in fishing a particular stock of fish, these States shall, at the request of any of them, negotiate and conclude arrangements which will provide for appropriate conservation measures.

These conservation measures shall be consistent with the objective of conservation referred to in para. 2.1 above and shall be adopted having regard to the principles referred to in para. 2.3 below.

(2) In cases where conservation measures have already been adopted by States with respect to a particular stock of fish which is exploited by their nationals, a new-comer State shall adopt its own conservation measures which should be as restrictive as the existing measures until new arrangements are concluded among all the States concerned. If the existing conservation measures include a catch limitation or some other regulations not permitting nationals of the new-comer State to engage in fishing the stock of fish concerned, the States applying the existing conservation measures shall immediately enter into negotiation with the new-comer State for the purpose of concluding new arrangements. Pending such arrangements, nationals of the new-comer State shall not engage in fishing the stock concerned.

(3) States shall make use of the international or regional fishery organizations, as far as possible, to adopt appropriate conservation measures.

2.3 Basic principles relating to conservation measures

(1) Conservation measures must be adopted on the basis of the best scientific evidence available. If the States concerned cannot reach agreement on the assessment of the conditions of the stock to which conservation measures are to be applied, they shall request an appropriate international body or other impartial third party to undertake the assessment. In order to obtain the fairest possible assessment of the stock conditions, the States concerned shall co-operate in the establishment of regional institutions for surveying and research into fishery resources.

(2) No conservation measure shall discriminate in form or fact between fishermen of one State from those of other States.

(3) Conservation measures shall be determined, to the extent possible, on the basis of the allowable catch estimated with respect to the individual stocks of fish. The foregoing principle however shall not preclude conservation measures from being determined on some other bases in cases where, due to lack of sufficient data, an estimate of the allowable catch is not possible with any reasonable degree of accuracy.

(4) No State can be exempted from the obligation to adopt conservation measures on the ground that sufficient scientific findings are lacking.

(5) The conservation measures adopted shall be designed so as to minimize interference with fishing activities relating to stocks of fish, if any, which are not the object of such measures.

(6) Conservation measures and the data on the basis of which such measures are adopted shall be subject to review at appropriate intervals.

2.4 Special status of coastal States in conservation of resources

A coastal State shall be recognized as having special status with respect to the conservation of fishery resources in its adjacent waters. Thus, the coastal State will have the right of participating, on an equal footing, in any survey on fishery resources conducted in its adjacent waters for conservation purposes, whether or not nationals of that coastal State are actually engaged in fishing the particular stocks concerned. Non-coastal States conducting the survey shall, at the request of the coastal State, make available to the coastal State the findings of their surveys and researches concerning such stocks.

Also, except for interim measures (6.1 below), no conservation measure may be adopted with respect to any stock of fish, without the consent of the coastal State whose nationals are engaged in fishing the particular stock concerned (or the majority of the coastal States in cases where there are three or more such coastal States).

A coastal State shall at the same time have the obligation to take, in co-operation with other States, necessary measures with a view to maintaining the productivity of fishery resources in its adjacent waters at a level that will enable an effective and rational utilization of such resources.

PREFERENTIAL RIGHTS OF COASTAL STATES

3.1 Preferential rights

To the extent consistent with the objective of conservation, a coastal State shall have a preferential right to ensure adequate protection to its coastal fisheries conducted in its adjacent waters.

(i) In the case of a developing coastal State:
The coastal State is entitled annually to reserve for its flag vessels that portion of the allowable catch of a stock of fish it can harvest on the basis of the fishing capacity of its coastal fisheries. In determining the part of the allowable catch to be reserved for the developing coastal State, the rate of growth of the fishing capacity of that State shall be duly taken into account until it has developed that capacity to the extent of being able to fish for a major portion[b/] of the allowable catch of the stock of fish.

(ii) In the case of a developed coastal State:
The coastal State is entitled annually to reserve for its flag vessels that portion of the allowable catch of a stock of fish which is necessary to maintain its locally conducted small-scale coastal fisheries. The interests of traditionally established fisheries of other States shall be duly taken into account in determining the catch to be reserved for such small-scale coastal fisheries.

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b/ e.g. Approximately 50 per cent.

3.2 Implementation of preferential rights

(1) Measures to implement the preferential rights shall be determined by agreement among the coastal and non-coastal States concerned on the basis of the proposals made by the coastal State. For the purpose of such proposals, the coastal State may seek technical assistance from the Food and Agriculture Organization of the United Nations or such other appropriate organs.

(2) The size of the preferential right of a coastal State shall be fixed within the limit of the allowable catch of the stock of fish subject to allocation, if the allowable catch for that stock is already estimated for conservation purposes. In cases where the estimate of the allowable catch is not available, the coastal and non-coastal States concerned shall agree on necessary measures in a manner which will best enable the coastal State to benefit fully from its preferential right.

(3) The regulatory measures adopted to implement the preferential right of a coastal State may include catch allocation (quota by country) and/or such other supplementary measures that will be made applicable to vessels of non-coastal States engaged in fishing in the adjacent waters of the coastal State, including:

(a) the establishment of open and closed seasons during which fish may or may not be harvested,

(b) the closing of specific areas to fishing,

(c) the regulation of gear or equipment that may be used,

(d) the limitation of catch of a particular stock of fish that may be harvested.

(4) The regulatory measures adopted shall be so designed as to minimize interference with the fishing of non-coastal States directed to stocks of fish, if any, which are not covered by such measures.

(5) Non-coastal States shall co-operate with coastal States in the exchange of available scientific information, catch and effort statistics and other relevant data.

(6) In cases where nationals of two or more coastal States which are entitled to preferential rights are engaged in fishing a common stock of fish, no coastal States may invoke their preferential right with respect to such stock without the consent of the other coastal State or States concerned. In such a case, those coastal States shall enter into regional consultations with the other States concerned with a view to implementing their preferential rights.

(7) The measures adopted under this paragraph shall be subject to review at such intervals as may be agreed upon by the States concerned.

3.3 International Co-operation

In order to assist in the development of the fishing capacity of a developing coastal State and thereby to facilitate the full enjoyment of its preferential right, international co-operation shall be carried out in the field of fisheries and related industries between the developing coastal State and other fishing States in concluding agreement on the preferential right of that developing coastal State.

REGULATION OF HIGHLY MIGRATORY STOCKS

4.1 No special status in the conservation of resources (2.4) and no preferential rights (3.1) shall be recognized to a coastal State in respect of highly migratory, including anadromous, stocks of fish. The conservation and regulation of such stocks shall be carried out pursuant to international consultations or agreements in which all interested States shall participate, or through the existing international or regional fishery organizations should such be the case.

ENFORCEMENT

5.1 Right of control by coastal States

With respect to regulatory measures adopted pursuant to the present régime, those coastal States which are entitled to preferential rights, and/or special status with respect to conservation, have the right to control the fishing activities in their respective adjacent waters. In the exercise of such right, the coastal States may inspect vessels of other States and arrest those vessels violating the regulatory measures adopted. The arrested vessels shall however be promptly delivered to the flag States concerned. The coastal States may not refuse the participation of other States in controlling the operation, including boarding officials of the other States on the coastal States patrol vessels at the request of the latter States. Details of control measures shall be agreed upon among the parties concerned.

5.2 Jurisdiction

(a) Each State shall make it an offence for its nationals to violate any regulatory measures adopted pursuant to the present régime.

(b) Nationals on board a vessel violating the regulatory measures in force shall be duly prosecuted by the flag State concerned.

(c) Reports prepared by the officials of a coastal State on the offence committed by a vessel of a non-coastal State shall be fully respected by that non-coastal State, which shall notify the coastal State of the disposition of the case as soon as possible.

INTERIM MEASURES AND DISPUTES SETTLEMENT

6.1 Interim measures

If the States concerned fail to reach agreement within six months of negotiations on measures concerning preferential rights under para. 3.1 and/or on arrangements concerning conservation measures under para. 2.2, any of the States may initiate the procedure for the settlement of disputes. Pending the settlement of disputes, the States concerned shall adopt interim measures. Such interim measures shall in no way prejudice the respective positions of any States concerned with respect to the dispute in question.

(a) In cases where the limitation of catch is disputed, each State in dispute shall take necessary measures to ensure that its catch of the stock concerned will not exceed on an annual basis its average annual catch of the preceding [five] year period.

(b) In cases where some other factors are in dispute, e.g. fishing grounds, fishing gear or fishing seasons, in connexion with measures to implement the preferential right of a coastal State, or with arrangements concerning conservation measures, the other States concerned shall adopt the latest proposals of the coastal State with respect to the matter in dispute. However, the other States shall be exempted from such obligation if the adoption of the proposal of the coastal State would seriously affect either its catch permitted under sub-para. (a) above, or its catch of some other stock not related to the preferential right of a coastal State which it is substantially exploiting. In such a case, those other States shall take all possible measures which they consider appropriate for the protection of the coastal fisheries concerned.

(c) Any of the parties to the dispute may request the special Commission to decide on provisional measures regarding the matter in dispute.

(d) Each State shall inform the special Commission established in accordance with para. 6.2 as well as all other States concerned of the specific interim measures it has taken in accordance with any of the preceding provisions.

6.2 Procedure for disputes settlement (special Commission)

Any dispute which may arise between States under the present régime shall be referred by any of the States concerned to a special Commission of five members in accordance with the following procedure, unless the parties concerned agree to settle the dispute by some other method provided for in Article 33 of the Charter of the United Nations.

(a) Not more than two members may be named from among nationals of the parties, one each from among nationals of the coastal and the non-coastal State respectively.

(b) Decisions of the special Commission shall be by majority vote and shall be binding upon the parties.

(c) The special Commission shall render its decision within a period of six months from the time it is constituted.

(d) Notwithstanding the interim measures taken by the parties under para. 6.1, the special Commission may, at the request of any of the parties or at its own initiative, decide on provisional measures to be applied if the Commission deems it necessary. The Commission shall render its final decision within a further period of six months from its decision on such provisional measures.

OTHER PROVISIONS

7.1 Co-operation with developing States

For the purpose of promoting the development of fishing industries and the domestic consumption and exports of fishery products of developing States, including land-locked States, developed non-coastal States shall co-operate with developing States with every possible means in such fields as survey of fishery resources expansion of fishing capacity, construction of storage and processing facilities and improvements in marketing systems.

7.2 Co-operation within regional fishery commissions

Co-operation between coastal and non-coastal States under the present régime shall be carried out, as far as possible, through regional fishery commissions. For this purpose, the States concerned shall endeavour to strengthen the existing commissions and shall co-operate in establishing new commissions whenever desirable and feasible.

11. Proposals for the future organization of the work of Sub-Committee II, submitted by Australia and Canada*

1. Following agreement upon the list of subjects and issues, the question of the organization of the future work of Sub-Committee II should be the subject of consultations with a view to producing an understanding that will advance the work of the Committee.

2. A possible approach is outlined below. It includes two main stages.

3. The first step should be to separate from the list those subjects that are the responsibility of Sub-Committees I and III, and with which those Sub-Committees are already dealing, or will deal.

4. The second step might be to group the remainder, that is the subjects that fall within the mandate of Sub-Committee II, in several sections, so as to facilitate their more detailed consideration in the Sub-Committee.

5. Clearly some overlapping or duplication will occur, both between the items considered in the three Sub-Committees as well as between the subjects that are the particular responsibility of Sub-Committee II itself. Given, however, that the Sub-Committee will be responsible for co-ordinating the work of its working groups and the Committee for co-ordinating the work of the Sub-Committees, it should be possible to keep this overlapping to a minimum and to make whatever adjustments may be necessary as work progresses. The main requirement at this stage is for a flexible approach.

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* Originally issued as document A/AC.138/SC.II/L.14.

Suggested Division as between Sub-Committees[a/]

Sub-Committee I

Item 1, relevant sections of items 9 and 10, items 14 - 15 (insofar as these concern the subject matter before Sub-Committee I), items 20 - 21 (insofar as these concern the subject matter before Sub-Committee I), item 23.

Sub-Committee II

Items 2 - 8, relevant sections of items 9 and 10, item 11, item 15 (insofar as this concerns the subject matter before Sub-Committee II), items 16 - 19, items 20 - 21, (insofar as these concern the subject matter before Sub-Committee II), item 24.

Sub-Committee III

Items 12 - 13, item 14 (insofar as this concerns the subject matter before Sub-Committee III), items 20 - 21 (insofar as these concern the subject matter before Sub-Committee III).

Items 22 and 25 could perhaps go to the Main Committee.

Suggested Programme of Work for Sub-Committee II

Section 1: items 5 - 7, 9 (relevant sections), 10 (relevant sections) and 11.

Section 2: items 2 - 4, 16 and 17.

Section 3: items 8 and 24.

Section 4: item 15.

Section 5: items 18 and 19.

Section 6: items 20 and 21.

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a/ The numbering of items in this paper is on the basis that item 6 bis would be item 7, and the other items re-numbered accordingly.

IV. DOCUMENTS ANNEXED TO PART IV

1. Programme of work for Sub-Committee III as adopted by the Sub-Committee at its 19th meeting on 27 March 1972*

A. Preservation of the marine environment (including the sea-bed)

1. General debate

2. Relationship to the preservation of the living resources of the high seas (without prejudice to the terms of reference of Sub-Committee II)

3. FAO Technical Conference on Marine Pollution and its Effect on Living Resources and Fishing, Rome, December 1970

   (a) Report on the Conference

   (b) Discussion of the report

   (c) Communication of results of discussion to the Stockholm Conference

4. Meeting of FAO Committee on Fisheries, April 1972 (without prejudice to the terms of reference of Sub-Committee II)

   (a) Report of the meeting

   (b) Discussion of the report

5. (a) Requirements of scientific research

   (b) Freedom of access to scientific information

   (c) Participation of littoral States in scientific research and in the results and benefits therefrom

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* Originally issued as document A/AC.138/SC.III/L.14.

6. Formulation of legal principles and draft treaty articles

7. Other matters

B. Elimination and prevention of pollution of the marine environment (including the sea-bed)

1. General debate

2. Stockholm Conference on the Human Environment - Marine Pollution Principles

   (a) Reports of Intergovernmental Working Group on Marine Pollution, London, June 1971, and Ottawa, November 1971

   (b) Discussion of the reports

   (c) Communication of results of discussion to the Stockholm Conference

   (d) Report of the Stockholm Conference

   (e) Action by the Sea-Bed Committee

3. Stockholm Conference on the Human Environment - draft articles on ocean dumping

   (a) Reports of Intergovernmental Working Group on Marine Pollution, London, June 1971, and Ottawa, November 1971

   (b) Discussion of the reports

   (c) Communication of results of discussion to the Reykjavik Meeting and the Stockholm Conference

   (d) Report of the Stockholm Conference

   (e) Action by the Sea-Bed Committee

4. Stockholm Conference on the Human Environment - marine pollution aspects of the proposed Declaration on the Human Environment

   (a) Report of the Intergovernmental Working Group on the Declaration on the Human Environment

   (b) Discussion of the report

   (c) Communication of results of discussion to the Stockholm Conference

   (d) Report of the Stockholm Conference

   (e) Action by the Sea-Bed Committee

5. IMCO Conference on the Elimination of Ship-Generated Pollution

(i) February/March 1972 Preparatory Meeting

(a) Report on the meeting

(b) Discussion of the report

(c) Communication of results of discussion to IMCO

(ii) June 1972 preparatory meeting

(a) Report on the meeting

(b) Discussion of the report

(c) Communication of results of discussion to IMCO

6. Oslo Regional Dumping Convention

(a) Report on the Convention

(b) Discussion of the report

7. Norway-Canada draft resolution on preliminary measures to prevent and control marine pollution (A/AC.138/SC.III/L.5 and Add.1)

(a) Discussion of draft resolution

(b) Communication of results of discussion to the Stockholm Conference

8. Examination of existing Conventions relating to marine pollution

9. (a) Requirements of scientific research

(b) Freedom of access to scientific information

(c) Participation of littoral States in scientific research and in the results and benefits therefrom

10. Formulation of legal principles and draft treaty articles including draft articles which may be considered as follow-up action to the Stockholm Conference

11. Other matters

C. Scientific research concerning the marine environment (including the sea-bed)

1. General debate on the nature, characteristics and objectives of scientific research

2. Consideration of principles set forth in resolution 2749 (XXV) on the subject of scientific research

3. Intergovernmental Oceanographic Commission (IOC) Working Group on Legal Questions related to Scientific Investigation of the Oceans (New York, February 1970)

   (a) Report of the IOC Working Group

   (b) Discussion of the report

   (c) Communication of results of discussion to IOC

4. Preliminary Conference of Governmental Experts to Formulate a Draft Convention on the Legal Status of Ocean Data Acquisition Systems (ODAS), Paris, 31 January-12 February 1972

   (a) Report of the Preliminary Conference

   (b) Discussion of the report

   (c) Communication of results of discussion to UNESCO/IOC and IMCO

5. Examination of existing conventional provisions relating to marine scientific research

6. Freedom of access to scientific information

7. Formulation of legal principles and draft treaty articles

8. Other matters

D. Development and transfer of technology

   1. Development of technological capabilities of developing countries

   2. Sharing of knowledge and technology between developed and developing countries

   3. Training of personnel from developing countries

   4. Transfer of technology to developing countries

E. **Other matters**

NOTE: The order of the items in the programme does not establish the order of priority for consideration in the Sub-Committee.

2. Working paper submitted by Canada*

PRINCIPLES ON MARINE SCIENTIFIC RESEARCH

For the third conference on the law of the sea

PREAMBLE

1. All mankind has an interest in the facilitation of marine scientific research and the publication of its results.

2. Marine scientific research is any study, whether fundamental or applied, intended to increase knowledge about the marine environment, including all its resources and living organisms, and embraces all related scientific activity.

3. The objectives of marine scientific research include achievement of a level of understanding which allows accurate assessment and prediction of oceanic processes and provide the basis for the development of a management policy which will ensure that the quality and resources of the marine environment are not impaired, and for the rational use of this environment, in the service of human welfare, international equity and economic progress and, in the interest of peace and international co-operation among States.

PRINCIPLES

1. Knowledge resulting from marine scientific research is part of the common heritage of all mankind, and such knowledge and information of a non-proprietary or non-military nature should be exchanged and made available to the whole world.

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* Originally issued as document A/AC.138/SC.III/L.18.

2. Marine scientific research constitutes a legitimate activity within the marine environment. Every State, whether coastal or not, and every competent international organization has the right to conduct or authorize the conduct of scientific research in the marine environment, in accordance with the rules and recognized principles of international law and subject to the provisions of the present principles.

3. Marine scientific research as such shall not form the legal basis for any claims of exploitation rights or any other rights in areas beyond the limits of national jurisdiction.

4. Marine scientific research shall be conducted in a reasonable manner, and shall not result in any unjustifiable interference with other uses of the marine environment; nor shall other uses of the marine environment result in any unjustifiable interference with marine scientific research.

5. Marine scientific research shall not entail excessive collection of specimens and samples, nor cause pollution or undue disturbance of the marine environment.

6. The availability to every State of information and knowledge resulting from marine scientific research shall be facilitated by effective international communication of proposed major programmes and their objectives, and by publication and dissemination through international channels of their results.

7. States shall take steps to further the development and growth of marine scientific research and to obviate interference with its progress, and shall co-operate in the elaboration of international rules to facilitate such research. States shall promote arrangements and agreements to advance marine scientific research and the exchange of data and information on a regional, as well as on a global basis, in co-operation with other States and with international organizations, whether governmental or non-governmental.

8. States shall, both individually and in co-operation with other States and with competent international organizations, promote the flow of scientific data and information and the transfer of experience resulting from marine scientific research to developing countries and the strengthening of the marine research capabilities of these countries to a level corresponding to their needs and resources, including programmes to provide adequate training of the technical and scientific personnel of these countries.

9. Marine scientific research in areas within the jurisdiction of a coastal State shall only be conducted with the consent of the coastal State. If such consent is granted, the coastal State shall have the right to participate or to be represented in such marine scientific research and shall have the right of utilizing samples, the right of access to data, and results, and the right to require that the results be published.

10. The coastal State prior to determining whether it will grant consent to marine scientific research in areas within its jurisdiction, may require information such as the period, location, nature and purpose of the proposed investigations, the observations to be made, the proposed disposition of all material collected, the means to be employed and, where applicable, the name of the ship with its full description, including tonnage, type and class, the name of the agency sponsoring the investigations, and the names of the Master of the vessel, the proposed scientific leaders and members of the scientific party and particulars of any proposed entry into a coastal State port. The coastal State shall be kept informed of any changes in the above information.

11. The coastal State shall reply promptly to a request accompanied by information required by it in accordance with the provisions of Principle 10. The coastal State shall facilitate the conduct of marine scientific research to which it has consented by extending necessary facilities to ships and scientists while they are operating in areas within its jurisdiction wherever possible.

12. Marine scientific research shall comply with all the coastal State's laws and regulations when carried out in areas within the jurisdiction of the coastal State, including the resource management regulations and directions in areas where the coastal State has authority over resources appertaining to its continental shelf, the environmental protection regulations in areas where the coastal State has a primary responsibility for environmental protection, the management regulations in areas under fishery management, where in addition all information resulting from such research shall be made available to the authority managing such area, and the regulations and directions necessary to protect the security of the coastal State.

13. Marine scientific research concerning the sea-bed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction shall comply with any regulations developed by a competent international organization to minimize disturbance and prevent pollution of the marine environment and interference with exploration and exploitation activity.

14. States shall devise means to enable responsibility to be fixed with States or international organizations that have caused damage in the course of marine scientific research or where such damage has been caused by the activities of persons under their jurisdiction, to the marine environment or to any other State or to its nationals.

3. Working paper submitted by Bulgaria, the Ukrainian Soviet Socialist Republic and the Union of Soviet Socialist Republics*

Basic principles concerning international co-operation in marine scientific research

It could be stated in the preamble that:

- Further progress in marine scientific research for peaceful purposes is in the common interest of all mankind;

- Knowledge of all aspects of the natural processes and phenomena occurring in the ocean, including the sea-bed and the ocean floor, is of great significance;

- Marine scientific research will promote the practical utilization of marine areas and resources and will facilitate action to deal with natural disasters;

- Marine scientific research should be conducted for the benefit of all countries irrespective of their degree of economic and technological development;

- Assistance to marine scientific research would help to increase the well-being of the peoples of the world, particularly in the developing countries;

- A comprehensive knowledge of the oceans can only be acquired by uniting the scientific capacities and combining the efforts of States;

- It is essential to extend international co-operation in marine scientific research and to establish the most favourable conditions for conducting such research.

The basic principles might be formulated as:

1. Inter-State co-operation in the further development of marine scientific research and the combined efforts of scientists in studying the nature and interrelationships of oceanic phenomena and processes are an essential condition for the efficient and rational exploitation of the wealth and resources of the seas and the oceans in the interests of all countries.

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* Originally issued as document A/AC.138/SC.III/L.23.

2. International co-operation in conducting marine scientific research shall serve peaceful purposes and help to increase the well-being of the peoples of all countries.

3. Marine scientific research shall be conducted in conformity with the universally-recognized principles and standards of international law, including the United Nations Charter.

The high seas are open to the unhampered pursuit of scientific research work by all States on a basis of equality, without discrimination of any kind.

4. States shall co-operate with one another in providing favourable conditions for the conduct of marine scientific research and in the removal of obstacles to such research. In particular, in the interests of international co-operation, States shall, within the framework of their national laws and regulations, facilitate the entry into their ports of ships conducting marine scientific research by simplifying the relevant procedure.

5. States shall co-operate in adopting measures designed to extend the research opportunities of developing and land-locked countries, including the participation of the nationals of such countries in scientific research work, the provision of scientific training and the exchange of experience in the conduct of scientific research work.

6. All States may take part in international marine scientific research programmes and will encourage the participation of their own scientists in the work envisaged under those programmes.

7. States and international organizations shall co-operate under the auspices of the UNESCO Intergovernmental Oceanographic Commission in conducting marine scientific research in accordance with the long-term and expanded programme of oceanic exploration and research.

8. States shall endeavour in every way to stimulate the mutual exchange of scientific data, and shall make such data available to the developing countries as part of the scientific and technical assistance they provide to those countries.

9. States shall adopt and encourage measures to ensure the publication and wide dissemination of the results of marine scientific research, inter alia, through the system of world and regional data centres.

10. All States shall co-operate with each other in preventing hindrances to the normal functioning and safe preservation of stationary and mobile, manned and unmanned, equipment and installations on the high seas carrying scientific apparatus and intended for making scientific measurements and experiments.

11. Marine scientific research shall be carried out without causing damage to the environment which might entail the disturbance of ecological balances therein.

12. Marine scientific research shall be conducted without causing danger to navigation or unwarranted interference with fishing. Where necessary, appropriate notifications of when and where experiments are to be conducted shall be provided in good time.

13. States shall bear international responsibility for national activities connected with marine scientific research, whether such activities are conducted by government bodies or by individuals or bodies corporate under their jurisdiction.

14. No such activity shall constitute legal grounds for any claims to any part of the seas or oceans or their resources.

15. These principles shall extend equally to scientific research carried out on the sea-bed and the ocean floor beyond the limits of the continental shelf.

4. Australia, Canada, Chile, Colombia, Fiji, Indonesia, Japan, Malaysia, New Zealand, Peru, the Philippines, Singapore and Thailand: draft resolution*

The Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor Beyond the Limits of National Jurisdiction,

Recalling the suggested statement of views submitted to Sub-Committee III at the 8th meeting of that Sub-Committee,a/

Further recalling the resolution on the subject of nuclear testing adopted by the United Nations Conference on the Human Environment, as well as Principle 26 of the Declaration on the Human Environment adopted by the same Conference,

Acting in furtherance of the principles of the partial Nuclear Test Ban Treaty,

Having noted the concern of the nations and peoples of the Pacific at, and their opposition to, the conduct of the nuclear weapon tests in that region,

Bearing in mind its obligation to propose legal norms for the preservation of the marine environment and the prevention of marine pollution;

1. Declares that no further nuclear weapons tests likely to contribute to the contamination of the marine environment should be carried out;

2. Requests its Chairman to forward this resolution to the Secretary-General of the United Nations for referral to the appropriate United Nations bodies, including the Conference of the Committee on Disarmament.

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* Originally issued as A/AC.138/SC.III/L.22.

a/ Official records of the General Assembly, twenty-sixth session, Supplement No. 21, (A/8421), annex V.

5. Draft resolution on preliminary measures to prevent and control marine pollution, submitted by Australia, Bulgaria, Canada, Greece, Iceland, the Netherlands, Norway, Sweden, the Ukrainian Soviet Socialist Republic, and the Union of Soviet Socialist Republics*

The General Assembly:

Affirming that the marine environment and all the living organisms which it supports are of vital importance to humanity;

Recognizing the intensified use of the marine areas and the increasing importance of these areas to mankind;

Mindful of the grave and increasing threat of pollution to the marine environment endangering marine life, the ecology of the oceans and humanity as a whole;

Considering that modern scientific and technological research and achievements make it feasible to resolve the problems of maintaining and improving the level of purity of the marine environment;

Bearing in mind the importance of comprehensive and continuing research on the processes of the pollution of the marine environment and methods of preventing it;

Having regard to the valuable work and resolutions made by the United Nations organs, conferences, the specialized agencies as well as other fora.

Noting that the problem of preventing marine pollution can be effectively solved only by means of international co-operation on a world-wide basis.

Recognizing further that the problem of the prevention and control of marine pollution can only be solved through the concerted action of States at the international, regional as well as the national level;

1. Calls upon States pending the elaboration and implementation of international instruments to take appropriate preliminary steps to prevent and control to the extent possible, marine pollution from whatever source it may arise within their jurisdiction, including especially the indiscriminate discharge into the ocean of toxic or hazardous substances or materials from the various means of transportation and from rivers, lakes or estuaries leading into the sea;

2. Appeals to States to take adequate steps to prevent and control to the extent possible, dangers of marine pollution stemming from the exploration and the exploitation of mineral resources on or in their continental shelves;

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* Originally issued as document A/AC.138/SC.III/L.25.

3. Welcomes the elaboration by States of appropriate rules and regulations for the protection of the marine environment;

4. Appeals to States to co-operate in establishing and strengthening, within the context of the appropriate international bodies or on a basis of regional co-operation, effective regulatory and monitoring systems in order to prevent and control marine pollution;

5. Emphasizes that the steps to be taken in conformity with the present resolution shall in no manner prejudice the elaboration and implementation of general or regional international instruments or the development of international institutions for the prevention and control of marine pollution.

6. Amendments to document A/AC.138/SC.III/L.25 submitted by:

(1) Kenya

1. Add the following new preambular paragraph:

Convinced that the States primarily responsible for marine pollution should bear the main responsibility for its elimination,

2. Add the following new operative paragraph:

6. Emphasizes that the developed countries should provide the necessary assistance to developing countries to clean up their accumulated marine pollution.

(2) Peru

1. Delete the fifth preambular paragraph.

2. At the end of operative paragraph 5, delete the full stop and add:

, or measures that developing States take to enhance the standard of living of their populations.

(3) United Kingdom of Great Britain and Northern Ireland

In operative paragraph 3, after regulations, insert to the above ends.

(4) United Republic of Tanzania

1. In the eighth preambular paragraph, delete only.

2. Add a new preambular paragraph to read as follows:

Further noting the coastal State's responsibilities in the control of marine pollution,

3. Insert the following new operative paragraph 4 and renumber the subsequent paragraphs accordingly:

4. Further appeals to coastal States to take the necessary measures to prevent and control marine pollution in the areas under their national jurisdiction and the areas adjacent thereto.

(5) United States of America

In operative paragraph 3, after regulations, insert to the above end.

7. Canada: working paper on preservation of the marine environment*

I. PURPOSE OF THE WORKING PAPER

- To focus the work of the working group on marine pollution;

- To provide a general outline of a comprehensive approach to the preservation of the marine environment and the prevention and control of marine pollution and related measures;

- To outline basic principles for draft treaty articles for consideration by the Conference on the Law of the Sea.

II. ELEMENTS OF A COMPREHENSIVE APPROACH

1. Comprehensive approach defined

A comprehensive approach to the preservation of the marine environment would involve a concerted attack on all sources of marine pollution, whether land-based or marine-based. This requires:

- A broad range of national and international measures (with the national measures relating to such problem areas as land-based sources of marine pollution and pollution hazards from continental shelf resource exploitation), each appropriate to the problem to be resolved and based upon an interdisciplinary approach which takes into account all the relevant scientific, economic, legal and other considerations;

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* Originally issued as document A/AC.138/SC.III/L.26.

- The harmonization of such national and international measures taking into account the indivisibility of the marine environment and its relationship to the biosphere as a whole,

- The assignment and co-ordination of functions among national and international institutions so as to ensure the effective implementation of the above-noted measures.

2. Comprehensive approach applied

The implementation of a comprehensive approach to the preservation of the marine environment by the Conference on the Law of the Sea does not necessarily imply the elaboration of a single treaty instrument dealing with all aspects of marine pollution. Nor does it imply that specialized agencies such as the Inter-Governmental Maritime Consultative Organization (IMCO) do not have an important role in the elaboration of technically-oriented standards and measures for the prevention of marine pollution. What is essential is that whatever the number of particular instruments, they should together constitute a coherent, uniform and all-embracing treaty system.

The Conference on the Law of the Sea could lay down the keystone for such a system by elaborating a "master" or "umbrella" treaty in the form of fundamental legal principles which would:

- Establish general objectives and the general rights and obligations of States in respect of the preservation of the marine environment;

- Affirm a general commitment to the elaboration of and adherence to particular specialized treaties intended to achieve these general objectives;

- Give a common direction and impetus to the further development of national and international measures for the preservation of the marine environment, and provide an organic link, in terms of both substance and implementation, between such measures (whether existing or envisaged);

- Fix uniform rules for certain problems common to such instruments, e.g. enforcement, compensation, etc.

3. Comprehensive approach: land-based sources

Although a comprehensive approach to the preservation of the marine environment necessarily includes measures to deal with land-based sources of marine pollution (especially those finding their way into the sea via the atmosphere), the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction and the Conference on the Law of the Sea are not necessarily the best forums for the elaboration of such measures. The law of the sea regulates activities at sea and relations between States with respect to those activities. The regulation of land-based activities, even though they may have an important impact on the marine environment (and indeed represent by far the most important source of marine pollution) obviously raises problems of a different order, especially in jurisdictional terms. Any attempt to have the law of the sea reach inland at this point in time would only add to the already

long list of issues to be negotiated and hence jeopardize the possibility of their successful resolution. Leadership in the harmonization of national measures and the development of international measures for the abatement of land-based sources of marine pollution should perhaps come from the environmental secretariat established at Stockholm. Nevertheless, the law of the sea can and should lay down principles which would have immediate consequential implications for the regulation of land-based sources of marine pollution (e.g. the duty to preserve the marine environment and to take measures to prevent its pollution).

4. Comprehensive approach: marine-based sources

The major marine-based sources of marine pollution, whether accidental or deliberate, are ships, fixed platforms, and exploitation of sea-bed mineral resources and other uses of the sea-bed. These broad categories can be further subdivided but nevertheless represent the essential marine pollution problems to which the Conference on the Law of the Sea should address itself, in tandem with the work of various specialized agencies. A number of international treaties - multilateral, regional and bilateral - already exist which deal directly or indirectly with various aspects of these problems, as does the national legislation of various countries. This paper does not deal exhaustively with national measures or bilateral and regional arrangements but concentrates on broader multilateral agreements. The most difficult issues which have arisen in connexion with this broad range of measures have related to the jurisdictional authority to prescribe measures and the jurisdictional authority to enforce them. This paper, taking into account recent trends and developments, posits a new approach to these basic issues which seeks to resolve the old conflict between coastal and flag State jurisdiction by emphasizing a sharing of authority on the basis of mutually agreed principles rather than retaining the old mutually exclusive categories. This approach is extensively developed in later sections of this paper. The immediately following sections give a brief review of what has already been done by way of national and international measures in the marine pollution field, of what is being done, and of what remains to be done.

A. What has been done

(i) 1958 Geneva Convention on the High Seas

Article 24 of this Convention provides as follows:

"Every State shall draw up regulations to prevent pollution of the seas by the discharge of oil from ships or pipelines or resulting from the exploitation and exploration of the sea-bed and its subsoil, taking account of existing treaty provisions on the subject."

Article 25 provides as follows:

1. "Every State shall take measures to prevent pollution of the seas from the dumping of radio-active waste, taking into account any standards and regulations which may be formulated by the competent international organizations.

2. All States shall co-operate with the competent international organizations in taking measures for the prevention of pollution of the seas or air space above, resulting from any activities with radio-active materials or other harmful agents."

These two articles provide a useful beginning in that they lay down in general terms the obligations of States with respect to pollution of the sea by the discharge of oil, the exploitation of the sea-bed, and the dumping of radio-active wastes. They do not, however, make any detailed or specific provision for the discharge of these obligations. (Article 24 was drafted having in mind the 1954 Convention for the Prevention of Pollution of the Sea by Oil but it does not oblige States to adhere to that Convention or to enact regulations similar to those thereby established.) Finally, neither article attempts to deal with such questions as enforcement jurisdiction or compensation.

(ii) 1958 Geneva Convention on the Continental Shelf

Article 5, paragraph 7, of this Convention provides as follows:

"The coastal State is obliged to undertake, in the safety zones, all appropriate measures for the protection of the living resources of the sea from harmful agents."

This article states an important principle but is incomplete in being restricted to measures to be taken within safety zones established for purposes of exploiting the continental shelf, in referring only to living resources (rather than the broader category of "marine organisms"), and in containing no provisions for the implementation of the coastal State's obligations. Like the Convention on the High Seas, it also does not deal with questions of compensation for damage done to other States or their nationals. And finally, it deals only with the continental shelf and not with pollution emanating from exploitation of the sea-bed beyond the limits of national jurisdiction.

(iii) 1954 International Convention for the Prevention of Pollution of the Sea by Oil (amended in 1962 and 1969)

This Convention, as amended, prohibits the intentional discharge of oil and oily mixtures into the sea by ships beyond a negligible permissible limit as regards certain classes of vessels and certain areas. However, the Convention has not yet resulted in the complete elimination of such intentional discharges of oil. Prosecution for offences is left to the exclusive discretion of the flag State and no provision is made for compensation for damages suffered.

(iv) 1957 International Convention relating to the Limitation of the Liability of Owners of Seagoing Ships

This Convention limits the liability of shipowners for damages caused by their vessels, in the absence of actual fault or privity on their part, to a maximum of approximately $7 million. It does not deal with questions of State responsibility, nor is it designed to deal specifically with pollution damage.

(v) 1962 Convention on the Liability of Operators of Nuclear Ships

This convention (which is not yet in force) makes provision for a régime of strict liability of the operators of nuclear ships and sets the limits of that liability at $100 million. It makes no provision for preventive measures although it implicitly recognizes the right of the coastal State to exclude nuclear ships from its waters and ports.

(vi) 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water

While more often viewed as a disarmament measure, this treaty also represents by its express terms a very important environmental protection agreement. It prohibits States parties from carrying out nuclear explosions in any environment if such explosion causes radio-active débris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted.

(vii) 1969 International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties

This convention (which is not yet in force) provides for the right of the coastal State to take such measures on the high seas (without any limitation as to distance) as may be necessary to protect its coastline or related interests from pollution of the sea by oil, following upon a maritime casualty which may be reasonably expected to result in major harmful consequences. The convention makes no provision for a similar right of intervention in pollution casualties not involving oil-carrying vessels. It is essentially oriented to remedial rather than preventive measures, that is to action which may be taken after an accident has occurred rather than to action which should be taken to prevent such accidents.

(viii) 1969 International Convention on Civil Liability for Oil Pollution Damage

This convention (which is not yet in force) imposes strict liability (exception being made for acts of war or natural catastrophes, intentional acts of a third party, or negligence on the part of those responsible for the maintenance of navigational aids) on the owner of any oil-tankers from which oil has escaped after an incident at sea and which has caused damage in the territory or territorial waters of a contracting State. (No provision is made for compensation for damage to coastal resources or other coastal interests in any "economic zone" beyond the territorial sea.) It sets the limit of such liability at approximately $14 million per incident. In addition to being restricted to one form only of marine pollution damage, it does not deal with questions of State responsibility. Nor does it remove procedural difficulties in the way of satisfying pollution claims.

(ix) 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage

This convention (which is not yet in force) relieves shipowners from the "additional financial burden" imposed by the 1969 Convention on Civil Liability and provides additional compensation for oil pollution victims (to a limit of $30 million). It represents a special compensation régime for damage from a special

class of vessels (i.e. tankers), but even in this sense is incomplete in that it does not provide compensation for damage caused by intentional discharges of oil not connected with a maritime incident and excludes compensation for damage resulting from an act of war or from oil escaping from a warship or other government-operated vessels on non-commercial service. Finally, it does not provide compensation for pollution damage to coastal resources and other coastal interests in any "economic zone" beyond the territorial sea, nor does it help to resolve procedural difficulties in satisfying claims over and above the $30 million limit.

(x) 1972 (Oslo) Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft

This Convention establishes an absolute prohibition against the dumping of certain highly toxic substances and regulates the dumping of all other substances in the region of the North Sea and North Atlantic.

B. What is being done

(i) Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction (General Assembly resolution 2749 (XXV))

Principles 11 and 13 (b) touch on the question of pollution from sea-bed resources exploitation activities beyond the limits of national jurisdiction.

(ii) Declaration of the United Nations Conference on the Human Environment 1/

The Stockholm Declaration represents a widely-accepted statement of principles which may be considered to lay down the foundation for the future development of international environment law. The principles of that Declaration which are of particular relevance to marine pollution are: Principle 7, which posits the duty of States to prevent marine pollution; Principle 21, which reflects the responsibility of States to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction; and Principle 22, which calls upon States to co-operate in the further development of international law regarding liability and compensation for the victims of pollution and other environmental damage.

(iii) Statement of Objectives concerning the marine environment

This statement (elaborated by the Ottawa session of the Intergovernmental Working Group on Marine Pollution (IWGMP) and endorsed by the Stockholm Conference) recognizes the particular interests of coastal States with respect to the management of coastal area resources; it recognizes that there are limits to the assimilative and regenerative capacities of the sea; and it states the consequential conclusion that it is necessary to apply management concepts to the marine environment, to marine resources and to the prevention of marine pollution.

1/ A/CONF.48/14.

(iv) Marine pollution principles

The 23 principles on marine pollution, elaborated by the Ottawa session of IWGMP and endorsed by the Stockholm Conference, provide the guidelines and general framework for a comprehensive and interdisciplinary approach to all aspects of the marine pollution problem, including land-based sources. They represent the first step towards the application of management concepts, through both national and international measures, to the preservation of the marine environment. They elaborate in some detail the duties of States (and especially coastal States) in this regard but they do not fully deal with the consequential rights of States.

(v) Principles on rights of coastal States

Three principles on the rights of coastal States (submitted by the delegation of Canada) were considered at the Ottawa session of IWGMP but neither endorsed nor rejected by that Group. The Stockholm Conference took note of these three principles and referred them to the 1973 IMCO Conference for information and to the Conference on the Law of the Sea for appropriate action. These principles deal respectively with: the right of the coastal State to exercise special environmental preservation authority in areas of the sea adjacent to its territorial waters: the right of the coastal State to prohibit the entry of vessels into waters under its environmental protection authority; and the need for these rights of the coastal State to be exercised on the basis of internationally agreed rules and standards and subject to appropriate dispute-settlement procedures.

(vi) Draft articles and annexes on ocean dumping

The draft articles and annexes contained in the reports of the intergovernmental meetings in Reykjavik and London earlier this year (which have now been referred to the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction for information and comment and to an intergovernmental conference to be convened before November 1972 for further consideration and final adoption) represent an attempt to deal with the problem of ocean dumping on a global scale. They adopt the black list-grey list approach taken by the drafters of the 1972 Oslo Convention (discussed above), which forbids dumping of certain highly toxic substances and restricts the dumping of other substances under a regulated system. On the question of enforcement jurisdiction, the draft articles leave this for final decision by the Conference on the Law of the Sea without closing any options.

(vii) 1973 IMCO Marine Pollution Convention

The draft convention under preparation under IMCO auspices (which is to be considered at a conference to be convened by IMCO in the fall of 1973) is intended to achieve the complete elimination of pollution of the sea by oil and other noxious substances and the minimization of accidental spills. In other words, it is intended to provide for the prevention of all forms of ship-generated pollution whether accidental or deliberate. According to a report submitted to the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction by IMCO (A/AC.138/SC.III/L.15):

"The draft Convention consists of articles covering all aspects of the prevention of marine pollution from ships (with the exception of ocean dumping of shore-generated waste) and the technical annexes in respect of:

- The prevention of pollution by oil discharged from ships.

- The prevention of pollution by bulk-liquid or dry noxious substances other than oil discharged from ships (excluding the disposal of shore-generated wastes into the sea).

- The prevention of pollution relative to the design, construction and equipment of ships carrying oil.

- The prevention of pollution relative to the design, construction and equipment of ships carrying noxious substances in bulk.

- The prevention of pollution by noxious substances carried in packages or containers.

- The prevention of pollution by ship-operated sewage.

- The prevention of pollution by ship-generated garbage.

The draft IMCO Convention in its present form does not deal with pollution arising directly from sea-bed operations, nor does it deal with the general questions of State responsibility or compensation for damage. As regards enforcement, the present draft retains traditional flag-State jurisdiction and does not yet provide for effective coastal State rights in this regard.

(viii) Other developments

A number of important developments with implications for the preservation of the marine environment have been reflected in documents submitted to the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction at its July-August 1972 sessions, namely:

Document A/AC.138/80 of 26 July 1972 (giving the text of the Declaration of Santo Domingo approved by the meeting of Ministers of the Specialized Conference of the Caribbean Countries on Problems of the Sea held on 7 June 1972); document A/AC.138/79 of 21 July 1972 (giving the text of the conclusions in the general report of the African States' Regional Seminar on the Law of the Sea, held at Yaoundé from 20 to 30 June 1972); and the proposal of Kenya for an economic zone, submitted as document A/AC.138/SC.II/L.10 dated 7 August 1972.

These documents reflect a growing trend towards a possible accommodation on the problems of the law of the sea based on two elements:

On the one part, acceptance by the coastal States of a relatively narrow territorial sea, beyond which they would assert only certain forms of limited and specialized jurisdiction, distinct from and falling short of complete sovereignty and allowing, for example, freedom of passage and

freedom of overflight in the broader area subject to their jurisdiction; and, on the other part, acquiescence by the major maritime Powers in these assertions of limited forms of jurisdiction by the coastal States in question.

It now appears to be generally agreed that there is an intimate interrelationship between environmental management and the management of mineral and living resources. The functional jurisdiction of the coastal State already includes, in so far as many States are concerned, a form of anti-pollution jurisdiction in areas adjacent to the territorial sea. All coastal States exercise authority over pollution hazards arising from the exploitation of continental shelf resources; many States have promulgated rules for the protection of the living resources of the marine environment in their fishing zones. To cite two other examples of State practice, Canada has adopted special legislation for the preservation of the marine environment of the Arctic and in certain semi-enclosed areas, and the United Kingdom has adopted legislation allowing it to intervene beyond the limits of the territorial sea in cases of oil pollution casualties on the high seas. This should not be taken to imply a necessary conflict with the jurisdiction of the flag State over its vessels in coastal areas. As already noted, the more likely basis for an accommodation appears to lie in replacing the old notion of exclusive flag-State jurisdiction with a new form of shared or concurrent jurisdiction whereby both flag and coastal States would be able to discharge their responsibilities for the protection of the marine environment on the basis of internationally agreed standards and procedures.

C. What remains to be done

It will be evident from the above review of what has been done with respect to the prevention of marine pollution that existing international conventions, even taken together, do not constitute a comprehensive approach to the preservation of the marine environment. These existing conventions deal with only a few particular forms of marine pollution, and even in respect of these forms do not fully settle such important issues as enforcement jurisdiction, State responsibility and compensation for damage. Guidelines for a comprehensive approach which would fill these gaps are provided by the Declaration of the United Nations Conference on the Human Environment, the Statement of Objectives and the 23 Principles on Marine Pollution elaborated at Ottawa and endorsed by the Stockholm Conference, and the three principles on coastal States' rights discussed at the Ottawa session of IWGMP and referred to the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction and the Conference on the Law of the Sea for appropriate action. The draft dumping convention represents a further step in the actual realization of a comprehensive approach in that it deals with the general problem of marine dumping; the draft 1973 IMCO convention would complete the range of measures required to eliminate ship-generated pollution provided that it offers an effective solution to jurisdictional problems or at least does not prejudice the elaboration of such a solution. An accommodation on these jurisdictional problems remains the key to agreement on comprehensive measures for the preservation of the marine environment. Beyond the limits of national jurisdiction, however determined, there will also remain the greatest part of the high seas of the world for which the traditional legal order must be reformulated on the basis of environmental considerations, with whatever new institutional arrangements this may imply. More specifically, action is required under the following headings:

(i) Establishment by treaty of the fundamental legal obligation of all States to preserve the marine environment and protect it from pollution.

(ii) Application of management concepts to the preservation of the marine environment.

(iii) Development of an effective system for monitoring changes in the marine environment and the effects of various activities within that environment.

(iv) Adoption and improvement of internationally-agreed criteria, technical rules and standards to ensure the prevention of pollution (e.g., with respect to international traffic lanes, navigational aids, qualification of ship's personnel, and ship design, construction and equipment standards).

(v) Resolution of jurisdictional issues arising in connexion with the preservation of the marine environment in coastal areas and on the high seas, including in particular the elaboration of effective provisions for the enforcement of international conventions.

(vi) Further elaboration of a régime for compensation for victims of marine pollution damage, including clarification of State responsibility in this regard.

(vii) Development of internationally-agreed measures for the prevention and control of pollution arising from exploration and exploitation of sea-bed mineral resources both within and beyond the limits of national jurisdiction.

(viii) Provision of assistance to developing countries to strengthen their ability to discharge their obligations for the preservation of the marine environment.

III. BASIC PRINCIPLES FOR DRAFT TREATY ARTICLES FOR CONSIDERATION BY THE CONFERENCE ON THE LAW OF THE SEA

Against the background of the above discussion of what remains to be done to ensure the protection of the marine environment from marine-based sources of marine pollution, this section attempts to outline the basic principles which should be reflected in treaty articles to be elaborated by the Conference on the Law of the Sea. As previously noted, it is not proposed that the Conference should attempt to establish a régime for the control of land-based sources of marine pollution, but nevertheless some of the principles discussed below would have obvious consequential implications for such sources and should in time lead to the development of further conventions.

(i) Obligation to preserve the marine environment

There exists no treaty provision explicitly laying down the general obligation of States to preserve the marine environment and to prevent its

pollution from all sources, although articles 24 and 25 of the Convention on the High Seas and article 5, paragraph 7, of the Convention on the Continental Shelf represent specific applications of this fundamental principle. The first expression of a more general formulation, albeit in a limited context, is found in article 1 of the draft dumping convention. The importance of such a general formulation in a general or master treaty on the preservation of the marine environment cannot be over-emphasized; it would be the binding element or organic link between the general treaty and particular treaties or national measures dealing with individual aspects of marine pollution, and would help to establish a general commitment to the elaboration of and adherence to such particular treaties. In addition it would provide a new environmentally-oriented basis for the work of such specialized agencies as IMCO in this field. Guidelines for the formulation of the general obligation of States to preserve the marine environment are provided by Principles 7 and 21 of the Declaration of the United Nations Conference on the Human Environment, and by the Principles on the Marine Environment endorsed at Stockholm (Principles 1, 2, 3, 5 and 17). The texts of these various principles are given below, together with a commentary on each. Some consolidation of these principles will no doubt be necessary for the purpose of translating them into draft treaty articles for consideration by the Conference on the Law of the Sea.

- Principle 7 of the Declaration of the United Nations Conference on the Human Environment reads as follows:

> "States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea."

This principle reflects not only the duty of States to protect the marine environment but also in effect a definition of marine pollution based on that adopted by the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP). It is very close to article 1 of the Oslo dumping convention (but stated in more mandatory terms) and also similar to the definition of marine pollution agreed upon by the Ottawa session of IWGMP.

- Principle 21 of the Declaration of the United Nations Conference on the Human Environment reads as follows:

> "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."

The first element in this principle, concerning the right of States to exploit their own resources, may not be strictly relevant to a draft treaty relating solely to the preservation of the marine environment. The second element, concerning the responsibility to avoid damage to the environment of other States or of areas beyond the limits of national jursidiction, is of fundamental importance in terms of ensuring the protection of coastal interests as well as the shared resources of the high seas. The responsibility not to damage the environment of other States has

been recognized by the landmark decision of the Trail Smelter case. A broader injunction against extra-territorial damage has also been embodied in the 1963 nuclear test ban treaty (although it should be noted that this convention is not adhered to by all testing States and accordingly that the Conference on the Law of the Sea may wish to consider this problem). This existing rule of customary international law should be the starting point for the work of the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jursidiction in developing a régime for the protection of the marine environment, including in particular coastal areas or "economic zones". It has, of course, important implications for the broad range of issues of the law of the sea since it necessarily affects the rights of both coastal and flag States in territorial waters and fishing zones, in international straits, on the continental shelves, and perhaps above all on the high seas (where the environmental limitations on the rights of States must apply with even greater force than within State territory and where the question of an international regulatory authority is particularly relevant).

- Principle 1 of the Principles on the Marine Environment reads as follows:

> "Every State has a duty to protect and preserve the marine environment and, in particular, to prevent pollution that may affect areas where an internationally shared resource is located."

This principle represents a particular application to the marine environment of Principle 21 of the Declaration of the United Nations Conference on the Human Environment. Its emphasis on the duty not to pollute areas where an internationally shared resource is located brings out clearly the need for the law of the sea to protect community interests as well as to accommodate national interests. The injunction to protect such resources applies, of course, to both coastal and flag or distant-water States.

- Principle 2 on the Marine Environment reads as follows:

> "Every State should adopt appropriate measures for the prevention of marine pollution, whether acting individually or in conjunction with other States under agreed international arrangements."

This principle recognizes the need for both national and international measures for the prevention of marine pollution in implementation of the duty of each State to protect and preserve the marine environment. National measures do not, of course, necessarily imply "unilateral action" in the sense in which the latter term is sometimes read. What is implied is that both flag and coastal States must take measures, individually or jointly as appropriate, to discharge their obligation to preserve the marine environment. In other words, this principle does not prejudge jurisdictional issues.

- Principle 3 on the Marine Environment reads as follows:

> "States should use the best practicable means available to them to minimize the discharge of potentially hazardous substances into the sea by all routes, including land-based sources such as rivers, outfalls and pipelines within national jurisdiction, as well as dumping by or from ships, aircraft and platforms."

This principle recognizes that marine pollution problems are part of a vastly complex overlapping set of problems of the human environment as a whole. Marine pollution problems have their peculiar characteristics and can best be dealt with in the context of the law of the sea, while taking into account, however, the totality of environmental problems. As to what might be characterized as a marine pollution problem for the purpose of selecting the forum in which to deal with it, the most appropriate test might be the extent to which a particular form of pollution is directly caused by some direct use of the sea itself. Where marine pollution is brought about by substances entering the sea via the atmosphere or continental run-off as a result of land-based activities, this problem might best be dealt with through a combination of national action and international co-operation in other forums.

- Principle 5 on the Marine Environment reads as follows:

> "States should assume joint responsibility for the preservation of the marine environment beyond the limits of national jurisdiction."

This principle affirms the shared responsibility of all States (in addition to their individual responsibility expressed above) in respect of the preservation of the marine environment beyond the limits of national jurisdiction, without specifying what those limits are in relation to marine pollution or prejudicing that question in any way. With respect to the implementation of this principle, consideration will have to be given to the problems arising from the present lack of any institutional authority capable of dealing effectively and comprehensively with environmental preservation questions and the enforcement of protection measures on the high seas beyond the limits of national jurisdiction however described.

- Principle 17 on the Marine Environment reads as follows:

> "In addition to its responsibility for environmental protection within the limits of its territorial sea, a coastal State also has responsibility to protect adjacent areas of the environment from damage that may result from activities within its territory."

This principle represents a particular application of the rule against extra-territorial damage resulting from activities within the territory of a State. It also reflects the particular interest of the coastal State in the management of coastal area resources as enunciated in the Statement of Objectives. Although Principle 17 is limited to the responsibilities of coastal States, the prohibition against extra-territorial damage should apply with equal or greater force to the vessels of flag States operating on the high seas or within the territorial waters or zones of resource jurisdiction of other States.

(ii) Application of management concepts

The acceptance of the fundamental legal obligation to preserve the marine environment reflects an important departure from the traditional freedom of the high seas. It necessarily implies a system of regulation of the area of the high seas for the purpose of environmental protection. Such a regulatory system should rest on management concepts founded on scientific principles. This approach was recognized in the Statement of Objectives elaborated at Ottawa and endorsed by the Stockholm Conference.

- The Statement of Objectives reads as follows:

> "The marine environment and all the living organisms which it supports are of vital importance to humanity, and all people have an interest in assuring that this environment is so managed that its quality and resources are not impaired. This applies especially to coastal area resources. The capacity of the sea to assimilate wastes and render them harmless and its ability to regenerate natural resources are not unlimited. Proper management is required and measures to prevent and control marine pollution must be regarded as an essential element in this management of the oceans and seas and their natural resources."

The importance of this statement cannot be over-emphasized. With respect to marine pollution, existing law is based on laissez-faire concepts and does not recognize the need for regulation based on scientific principles. The Statement of Objectives, on the other hand, recognizes that there are limits to the assimilative and regenerative capacities of the sea and the inevitable consequential conclusion that it is necessary to apply management concepts to the marine environment, to marine resources, and to the preservation of the marine environment.

- Principle 10 on the Marine Environment reads as follows:

> "International guidelines and criteria should be developed, both by national governments and through intergovernmental agencies, to provide the policy framework for control measures. A comprehensive plan for the protection of the marine environment should provide for the identification of critical pollutants and their pathways and sources, determination of exposures to these pollutants and assessment of the risks they pose, timely detection of undesirable trends, and development of detection and monitoring systems."

This principle emphasizes that the development of international guidelines and criteria is a matter of national responsibility as well as one for international agencies. While the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction and the Conference on the Law of the Sea have the primary responsibility to provide the policy or over-all legal framework for marine pollution control measures at the international level, this principle also recognizes that a multidisciplinary and multi-agency approach is required for a comprehensive plan for the protection of the marine environment. Thus, for instance, the identification of critical pollutants and their pathways and sources will require the co-operation of national Governments and of such agencies as the World Health Organization, the Intergovernmental Oceanographic Commission, the Food and Agriculture Organization of the United Nations, IMCO, and others including in particular the newly-established environmental secretariat.

- Principle 13 on the Marine Environment reads as follows:

> "Action to prevent and control marine pollution (particularly direct prohibitions and specific release limits) must guard against the effect of simply transferring damage or hazard from one part of the environment to another."

This principle reflects the concern of many States that effective provision must be made to guard against what might be called the export of pollution problems. It points out the importance of ensuring that national and regional measures for the prevention of marine pollution are complemented by and consistent with global measures. Thus a regional dumping arrangement which required dumping of substances near the limits of the region would not be satisfactory in a global sense. This harmonization of measures is, of course, basic to the management approach.

- Principle 22 on the Marine Environment reads as follows:

> "Where there is a need for action by or through international agencies for the prevention, control or study of marine pollution, existing bodies, both within and outside the United Nations system, should be utilized as far as possible."

This principle simply reflects a widely-shared concern to avoid an unnecessary proliferation of international agencies and to ensure that existing agencies are utilized to the maximum advantage with respect to the problems of the preservation of the marine environment. It is, of course, an obvious example of sound management theory. An outstanding exception to this principle is the new secretariat for the environment endorsed at the Stockholm Conference which is a most valuable institution that was urgently needed to deal effectively with environmental problems. This principle will be of particular relevance in considering the possible need for an international authority dealing with environmental preservation questions on the high seas beyond the limits of national jurisdiction.

(iii) Development of a monitoring system

As already noted, management concepts for the preservation of the marine environment rest on scientific principles. Hence, scientific knowledge and research and monitoring systems are needed to provide the basis for the development of management policies which will ensure that the quality and resources of the marine environment are not impaired. This was recognized in the following principles elaborated at Ottawa and endorsed by the Stockholm Conference:

- Principle 15 on the Marine Environment reads as follows:

> "Every State should co-operate with other States and with competent international organizations with a view to the development of marine environmental research and survey programmes and systems and means for monitoring changes in the marine environment, including studies of the present state of the oceans, the trends of pollution effects and the exchange of data and scientific information on the marine environment. There should be similar co-operation in the exchange of technological information on means of preventing marine pollution including pollution that may arise from offshore resource exploration and exploitation."

This principle recognizes that the problems of marine pollution cannot be resolved by the development of international law alone but necessitate co-operative action among States and international organizations in the scientific and technological fields. In dealing with the preservation of the marine environment, it is essential to take into account this need for a multidisciplinary approach

and for the extra-legal expertise which other fora must bring to problems of the law of the sea such as marine pollution, scientific research and fisheries. While the legal strategy is essential, it cannot alone resolve all the issues in this new and complex field. It may be necessary for the Conference on the Law of the Sea to consider a treaty article on international monitoring arrangements; consideration may also have to be given to the choice of agency to be responsible for monitoring questions on a global scale.

- Principle 16 on the Marine Environment reads as follows:

> "International guidelines should also be developed to facilitate comparability in methods of detection and measurement of pollutants and their effects."

This principle represents a further development of Principle 15. It also highlights the importance of co-ordinating national action.

(iv) Improvement of technical rules and standards

A comprehensive management system for the preservation of the marine environment based on national and international measures requires the adoption of internationally agreed criteria, technical rules and standards such as those incorporated in the draft dumping convention and now being developed for the 1973 IMCO Convention with respect to ship design, construction, equipment and manning. Such technical measures are necessary as concrete steps in the implementation of the obligation to protect the marine environment; international agreement on such measures is necessary to achieve an effective global approach taking into account local and regional variations. Such agreement is also crucial to the resolution of jurisdictional and enforcement issues as discussed later in this paper. The following principles are relevant in this field:

- Principle 8 on the Marine Environment reads as follows:

> "Every State should co-operate with other States and competent international organizations with regard to the elaboration and implementation of internationally agreed rules, standards and procedures for the prevention of marine pollution on global, regional and national levels."

The development of internationally agreed rules and standards is fundamental not only to the prevention of marine pollution but to the broad range of issues of the law of the sea and goes hand in hand with the question of the rights and interests of the coastal State. Marine pollution can effectively be attacked only by a combination of global, regional and national rules and standards, with the global ones fixing at least the minimum provision to be made for the preservation of the marine environment, and the regional and national ones laying down particular and perhaps stricter provisions as may be required to deal with special situations prevailing in certain areas such as the Arctic or semi-enclosed bodies of water.

- Principle 9 on the Marine Environment reads as follows:

> "States should join together regionally to concert their policies and adopt measures in common to prevent the pollution of areas which, for geographical and ecological reasons, form a natural entity and an integrated whole."

This principle represents a further development of Principle 8 and recognizes important geographical and ecological realities without detracting in any way from a comprehensive approach to the problems of marine pollution.

- Principle 11 on the Marine Environment reads as follows:

> "Internationally agreed criteria and standards should provide for regional and local variations in the effects of pollution and in the evaluation of these effects. Such variables should also include the ecology of sea areas, economic and social conditions, and amenities, recreational facilities and other uses of the seas."

This principle is closely related to Principles 8 and 9 just discussed. Such an approach is of particular importance to developing countries which may not be able to establish the same standards as highly developed States.

- Principle 12 on the Marine Environment reads as follows:

> "Primary protection standards and derived working levels - especially codes of practice and effluent standards - may usefully be established at national levels, and in some instances, on a regional or global basis."

This principle, too, represents a further development of Principles 8 and 9 from the scientific and technical point of view. It, too, may be of particular relevance to the needs of developing countries.

- Principle 14 on the Marine Environment reads as follows:

> "The development and implementation of control should be sufficiently flexible to reflect increasing knowledge of the marine ecosystem, pollution effects, and improvements in technological means for pollution control and to take into account the fact that a number of new and hitherto unsuspected pollutants are bound to be brought to light."

This principle reflects the importance of establishing review mechanisms at the national, regional and global levels to ensure that new threats to the marine environment can be promptly identified and that national legislation or multilateral agreements can be conveniently and speedily amended (for instance by the use of annexes) to provide against such new dangers. Such review mechanisms are particularly important with respect to such agreements as the 1954 Convention for the Prevention of Pollution of the Sea by Oil and the draft dumping articles.

(v) Resolution of jurisdictional and enforcement issues

The two most basic and most difficult issues which have arisen in connexion with efforts to promote international co-operation in the preservation of the marine environment have been:

(i) The determination of the appropriate jurisdictional authority to prescribe necessary measures;

(ii) The determination of the appropriate authority to enforce such measures.

However, if agreement is reached on the obligation of all States to preserve the marine environment and on the need for internationally agreed criteria, technical rules and standards for the implementation of their obligation, these jurisdictional issues can be viewed from a new perspective. With respect to jurisdiction to prescribe measures, the adoption of internationally agreed criteria, technical rules and standards narrows the issue to one of determining the latitude to be allowed for regional and local variations to the internationally agreed provisions. With respect to jurisdiction to enforce, the adoption of internationally agreed criteria, technical rules and standards again removes an important source of potential conflict. In other words, it becomes easier to adopt a more flexible attitude to the choice of enforcement authority, when agreement has been reached on the measures to be enforced.

These enforcement and jurisdictional issues arise with respect to all the existing conventions dealing with the preservation of the marine environment. It is of vital importance that they be resolved by the "master treaty" to be adopted by the Conference on the Law of the Sea. In this connexion it seems evident that a greater accommodation will have to be made for the rights of coastal States. At the same time it also seems evident that the responsibility of the flag State for its vessels should not be unduly interfered with, and indeed should be strengthened in some respects. With respect to the jurisdiction to prescribe, the coastal State should have a residual authority to promulgate rules in cases where international rules do not yet exist or where special circumstances prevail. With respect to the jurisdiction to enforce, the coastal State should have a similar residual authority to enforce internationally agreed rules against foreign vessels beyond the limits of its territorial sea or to enforce its own rules against such vessels in these areas in cases where international rules do not yet exist or where it has promulgated special rules to meet special circumstances.

Such a concept of residual authority in the coastal State would be similar to and a logical extension of the principle inherent in the right of intervention on the high seas as recognized in the 1969 IMCO Brussels Convention. A similar concept is also reflected in the draft articles on ocean dumping. These draft articles do not beg any questions of jurisdiction, leaving them for final decision by the Conference on the Law of the Sea without closing any options. However, the draft articles in their present form lay a basis for an accommodation of interests which may have implications going far beyond the question of ocean dumping. The articles, while not abandoning the concept of flag-State jurisdiction, would not be enforceable only by flag States against their own ships. They would by their terms be enforceable also by coastal States parties against ships "under their jurisdiction". This reflects the kind of accommodation whereby jurisdictional problems could be resolved by an approach somewhat analogous to the universal jurisdiction approach accepted by all States with regard to slavery and piracy, i.e. enforcement by both coastal and flag States on the basis of internationally agreed rules. The ambit of this dual enforcement approach to the dumping articles was further expanded by the inclusion in the Stockholm action proposal of a reference to enforcement by States against ships in areas under their jurisdiction (as well as by ships under their jurisdiction).

Some guidance for the development of the law on jurisdictional and enforcement issues is provided by the Statement of Objectives and the Principles on the Marine Environment elaborated at Ottawa and endorsed by the Stockholm Conference. More fully developed formulations are given in the three principles on the rights of

coastal States discussed at the Ottawa session of IWGMP but neither endorsed nor rejected by that group, which have now been referred to IMCO for information and to the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction for appropriate action. The Statement of Objectives has already been discussed above. The other relevant principles appear below:

- Principle 20 on the Marine Environment reads as follows:

> "All States should ensure that vessels under their registration comply with internationally agreed rules and standards relating to ship design and construction, operating procedures and other relevant factors. States should co-operate in the development of such rules, standards and procedures, in the appropriate international bodies."

In providing for the responsibilities of flag States with respect to the operation of their vessels on the high seas and elsewhere this principle represents an essential first step in tempering the traditional freedom of navigation with concern for the protection of the marine environment in general and the coastal environment in particular. While this principle should be reflected in the treaty to be adopted by the Conference on the Law of the Sea, the actual development of internationally agreed rules and standards relating to ship design and construction and operating procedures (including traffic routing schemes) falls more appropriately within the competence of IMCO, which indeed is in the process of developing these at the present time, especially in connexion with the conference it is to convene in 1973.

- Principle 4 on the Marine Environment reads as follows:

> "States should ensure that their national legislation provides adequate sanctions against those who infringe existing regulations on marine pollution."

While States naturally tend to enforce their own national regulations, they do not always necessarily show the same vigour in enforcing internationally agreed regulations, as is indicated by the experience of States in relation to such agreements as the 1954 Convention for the Prevention of Pollution of the Sea by Oil. This principle emphasizes the duty to enforce all regulations alike and, while self-evident, is none the less important, and will require elaboration in any treaty developed at the Conference on the Law of the Sea, with respect to responsibilities of both flag and coastal States.

- Principle 21 on the Marine Environment reads as follows:

> "Following an accident on the high seas which may be expected to result in major deleterious consequences from pollution or threat of pollution of the sea, a coastal State facing grave and imminent danger to its coastline and related interests may take appropriate measures as may be necessary to prevent, mitigate or eliminate such danger, in accordance with internationally agreed rules and standards."

The 1969 IMCO Brussels Convention provides for such a right of intervention but in respect of oil pollution casualties only. It remains for the Conference on the Law of the Sea to incorporate the more general statement of the right in

treaty language. However, while this right of intervention is an extremely important one, its value is of course limited by the fact that provides only for action that can be taken by the coastal State after a maritime incident has occurred. Nevertheless, it represents a particular manifestation of the more general residual authority envisaged for the coastal State in areas adjacent to its territorial sea, although the principle does not incorporate any distance limitation. An analogous concept is reflected in Principle 13 (b) of the Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, and the relationship between that principle and Principle 21 on the Marine Environment.

- The first of the three principles discussed at the Ottawa session of the IWGMP reads as follows:

> "A State may exercise special authority in areas of the sea adjacent to its territorial waters where functional controls of a continuing nature are necessary for the effective prevention of pollution which could cause damage or injury to the land or marine environment under its exclusive or sovereign authority."

This principle represents the logical extension of the particular interests of the coastal State recognized in the Statement of Objectives discussed earlier in this paper. In positing coastal State authority it represents the logical corollary of the heavy emphasis on the obligations of coastal States which is found in most of the 23 agreed principles on marine pollution. If it is recognized that rights must be balanced with responsibilities, then surely it must also be recognized that responsibilities must be balanced with the necessary rights and powers. In practical terms this principle signifies that coastal States have the right to exercise specialized jurisdiction in areas adjacent to their territorial sea for the prevention of pollution of the coastal environment and the marine environment in general. While this principle would imply a limited attenuation of the exclusive authority of the flag State over its vessels in such areas, it does not in any way imply an abandonment of the general authority of the flag State. Rather, what is involved is a specific and limited exercise of residual authority by the coastal State to ensure compliance with internationally agreed standards or with special local standards.

- The second of the principles discussed at Ottawa reads as follows:

> "A coastal State may prohibit any vessel which does not comply with internationally agreed rules and standards or, in their absence, with reasonable national rules and standards of the coastal State in question, from entering waters under its environmental protection authority."

As already noted, one of the principles actually endorsed by the Stockholm Conference provides that all States should ensure that their vessels comply with internationally agreed rules and standards relating to ship design and construction, operating procedures and other relevant factors. To give practical effect to this agreed principle, it seems essential that the coastal State should have the right to prohibit vessels not complying with internationally agreed rules and standards from entering areas where it exercises jurisdiction for the protection of the environment. Measures will, of course, have to be worked out to solve the problems of inspection, but these would be considerably simplified by a system of international certificates of sea-worthiness worked out in the appropriate forum. Similarly, where internationally agreed rules and standards have not been

established, the coastal State must have the right to enforce its own reasonable national rules and standards against all vessels in the areas in question. There remains, however, the possible need for an international authority to ensure compliance with internationally agreed rules and standards on the high seas beyond the limits of national jurisdiction: this is a matter which will have to be considered by the Conference on the Law of the Sea.

- The third principle discussed at Ottawa reads as follows:

> "The basis on which a State should exercise rights or powers, in addition to its sovereign rights or powers, pursuant to its special authority in areas adjacent to its territorial waters, is that such rights or powers should be deemed to be delegated to that State by the world community on behalf of humanity as a whole. The rights and powers exercised must be consistent with the coastal State's primary responsibility for marine environmental protection in the areas concerned: they should be subject to international rules and standards and to review before an appropriate international tribunal."

This principle, of course, reflects the general Canadian approach to the whole range of problems of the law of the sea and to marine pollution in particular. However, no particular importance attaches to terminology for its own sake. Such terms as "delegation of powers" should not be thought of as suitable for draft treaty articles, but rather as illustrations of a conceptual approach whereby flag States would delegate to coastal States in a multilateral treaty the right to enforce internationally agreed rules and standards against their vessels. The necessary recognition of the rights of coastal States should also make adequate provision for the interests of all States and of the international community as a whole and, to attain this end, the rights in question should be exercised on the basis of internationally agreed rules and standards and subject to appropriate dispute-settlement procedures.

(iv) Régime for compensation and clarification of State responsibility

It is a necessary consequence of the principle that States must ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction (Principle 21 of the Declaration of the United Nations Conference on the Human Environment) that compensation should be available to the victims of pollution damage in these circumstances. While the elaboration of an effective system of pollution prevention should be the most important element in international arrangements to preserve the marine environment, the development of an appropriate compensation régime would also be of fundamental importance. The need for the development of such a régime is recognized in the following Stockholm principles:

- Principle 22 of the Declaration of the United Nations Conference on the Human Environment, which reads as follows:

> "States shall co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction."

- Principle 7 of the Principles on the Marine Environment, which reads as follows:

> "States should discharge, in accordance with the principles of international law, their obligations towards other States where damage arises from pollution caused by their own activities or by organizations or individuals under their jurisdiction and should co-operate in developing procedures for dealing with such damage and the settlement of disputes."

While the right to compensation for pollution damage undoubtedly exists, difficult questions arise in relation to the satisfaction of that right, especially with regard to compensation for damage suffered in areas under the resource jurisdiction of the coastal State and in areas beyond the limits of national jurisdiction. A variety of means could be devised for ensuring such compensation, ranging from international compensation funds or insurance schemes, to private rights of action established under the laws of each State in accordance with internationally agreed obligations, and, in the appropriate circumstances, to direct compensation by the responsible State. What is important is that compensation be readily available and adequate to cover the damage suffered. It is encouraging that some important maritime Powers have indicated a willingness to accept strict liability for environmental damage which might be caused by their flag vessels in passing through international straits. There would appear to be no grounds for limiting this principle to the territorial sea in international straits, as distinct from applying it to the territorial sea in general. In addition, consideration must be given to compensation for damage to coastal resources beyond the limits of the territorial sea, and to compensation for damage from the many sources other than ships (e.g. sea-bed exploitation). The role of the Conference on the Law of the Sea in the development of comprehensive compensation arrangements should no doubt be limited to the enunciation of general legal principles. Other forums such as IMCO should be called upon to develop systems for the practical implementation of these principles and the establishment of procedures to settle disputed cases. It seems clear that the development of such arrangements will also demand bilateral and regional co-operation.

(vii) Sea-bed exploration and exploitation

International law has not dealt extensively with environmental issues arising from exploration and exploitation of sea-bed resources in areas within or beyond the limits of national jurisdiction, although national regulations have been developed with respect to activities within national jurisdiction. Guidance for the further development of the law in this respect is provided by the following principles:

- Principle 18 on the Marine Environment, which reads as follows:

> "Coastal States should ensure that adequate and appropriate resources are available to deal with pollution incidents resulting from the exploration and exploitation of sea-bed resources in areas within the limits of their national jurisdiction."

Bearing in mind the fundamental obligation of all States to preserve the marine environment, it will be necessary to establish internationally agreed standards with respect to the anti-pollution measures which coastal States would be obliged to undertake in respect of sea-bed resource exploitation even within the limits

of their national jurisdiction. Such national measures have already been developed by a number of States and should be of assistance in working out an agreement on safety measures for the exploitation of sea-bed resources beyond the limits of national jurisdiction. So far as the Conference on the Law of the Sea is concerned, its role in the development of the law in this field should be restricted to the enunciation of general principles. More detailed technical measures will require bilateral and regional agreements, taking into account the measures to be developed for the international sea-bed area as discussed below.

- Principle 19 on the Marine Environment reads as follows:

> "States should co-operate in the appropriate international forum to ensure that activities related to the exploration and exploitation of the sea-bed and ocean floor beyond the limits of national jurisdiction shall not result in pollution of the marine environment."

Principle 11 of the Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction (resolution 2749 (XXV)) reads as follows:

> "With respect to activities in the area and acting in conformity with the international régime to be established, States shall take appropriate measures for and shall co-operate in the adoption and implementation of international rules, standards and procedures for, inter alia:
>
> (a) The prevention of pollution and contamination, and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment;
>
> (b) The protection and conservation of the natural resources of the area and the prevention of damage to the flora and fauna of the marine environment."

- Principle 13 (b) of the Declaration reads as follows:

> "Nothing herein shall affect:
>
> ...
>
> (b) The rights of coastal States with respect to measures to prevent, mitigate or eliminate grave and imminent danger to their coastline or related interests from pollution or threat thereof or from other hazardous occurrences resulting from or caused by any activities in the area, subject to the international régime to be established."

As already noted, the development of anti-pollution measures in respect of sea-bed resource exploitation could and should proceed in a co-ordinated way as regards areas within the limits of national jurisdiction and areas beyond those limits. The measures developed for the international sea-bed area should represent the minimum measures to be adopted by States in areas within their national jurisdiction. The international sea-bed treaty to be negotiated at the Conference on the Law of the Sea should lay down general principles with respect to protection of the marine environment from the exploitation of international sea-bed resources, while perhaps leaving it to the future international sea-bed machinery to elaborate more detailed technical measures in consultation with coastal States and other agencies having the necessary expertise in this field.

(viii) Technical assistance

One important method of ensuring that all States are able to carry out their obligation to preserve the marine environment is the provision of technical assistance to developing countries. The need for such assistance was recognized in Principle 6 on the Marine Environment.

-- Principle 6 on the Marine Environment reads as follows:

> "The States at higher levels of technological and scientific development should assist those nations which request it, for example by undertaking programmes either directly or through competent agencies intended to provide adequate training of the technical and scientific personnel of those countries, as well as by providing the equipment and facilities needed in areas such as research, administration, monitoring or surveillance, information, waste disposal, and others, which would improve their ability to discharge their duties consisting of protecting the marine environment."

The law of the sea can provide useful policy guidance with respect to the application of this principle, but it seems evident that further action in other forums will be required for its full elaboration and implementation. While technical assistance is of special importance to developing countries, situations also arise where States at any level of development require assistance in dealing with problems affecting the marine environment. This was taken into account by Principle 23 on the Marine Environment, which reads as follows:

> "States should assist one another to the best of their ability, in action against marine pollution of whatever origin."

This general principle should be reflected in the treaty to be adopted by the Conference on the Law of the Sea. Its practical implementation, however, will require the elaboration of bilateral and regional arrangements, such as joint contingency plans for maritime areas of common interest.

IV. FURTHER MEASURES IN RESPECT OF LAND-BASED SOURCES OF MARINE POLLUTION FOR THE CONFERENCE ON THE LAW OF THE SEA

Marine-based sources constitute considerably less than half of the total sources of pollution of the marine environment. The measures contemplated for adoption by the Conference on the Law of the Sea accordingly cannot and should not be viewed as ensuring the preservation of the marine environment but rather as the first steps in this direction. It is becoming increasingly urgent to adopt internationally agreed measures on such problems as continental run-off, river run-off, pipelines and atmospheric pollution. As previously noted, however, these exceed the scope of what might be achieved at an early Conference on the Law of the Sea. They are nevertheless of fundamental importance in any long-range comprehensive approach to the protection of the marine environment.

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26th meeting:

General debate - marine pollution:
Statements by Canada, Fiji, Peru, Japan, New Zealand, France, the Chairman

Scientific research:
Statements by Japan, United States of America

27th meeting:

General debate - scientific research:
Statements by Canada, Peru

28th meeting:

General debate - scientific research:
Statements by Mexico, Brazil, Ecuador, Trinidad and Tobago, Japan, United Kingdom of Great Britain and Northern Ireland, Bulgaria, Canada

29th meeting:

General debate - scientific research:
Statements by the Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, Colombia, Yugoslavia, United Republic of Tanzania, Philippines, United States of America, France

Right of reply:
United Kingdom of Great Britain and Northern Ireland, Japan

Organization of work:
Statements by Japan, Canada, the Chairman

30th meeting:

Draft resolution on preliminary measures to prevent and control marine pollution introduced by Norway (A/AC.138/SC.III/L.25)

General debate - marine pollution:
Statements by Canada, Union of Soviet Socialist Republics, United States of America, United Kingdom of Great Britain and Northern Ireland, Peru, China

Consideration of the draft report (A/AC.138/SC.III/L.24 and Add.1)

31st meeting:

1. Draft resolution on preliminary measures to prevent and control marine pollution (A/AC.138/SC.III/L.25):
   Statements made by Norway, Greece, United Republic of Tanzania, the Chairman, Kenya, China, France, Peru

2. Consideration of the draft report (A/AC.138/SC.III/L.24 and Add.1)

32nd meeting:

Consideration and adoption of the draft report (A/AC.138/SC.III/L.24 and Add.1)

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