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AD HOC COMMITTEE TO STUDY THE PEACEFUL
USES OF THE SEA-BED AND THE OCEAN
FLOOR BEYOND THE LIMITS OF NATIONAL
JURISDICTION

DRAFT INTERIM REPORT OF THE AD HOC COMMITTEE TO STUDY
THE PEACEFUL USES OF THE SEA-BED AND THE OCEAN FLOOR
BEYOND THE LIMITS OF NATIONAL JURISDICTION COVERING
ITS FIRST AND SECOND SESSIONS

(Prepared by the Rapporteur in accordance with a decision of the
• Ad Hoc Committee at its twelfth meeting on 9 July 1968)

I. Introduction

1. The Ad Hoc Committee was established by the General Assembly by resolution 2340 (XXII) of 18 December 1967 to study the scope and various aspects of the item entitled "Examination of the question of the reservation exclusively for peaceful purposes of the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the use of their resources in the interests of mankind". The Assembly in paragraph 2 of the resolution requested the Committee to prepare for its consideration at the twenty-third session a study which would include:

- (a) A survey of the past and present activities of the United Nations, the specialized agencies, the International Atomic Energy Agency and other inter-governmental bodies with regard to the sea-bed and the ocean floor, and of existing international agreements concerning these areas;
- (b) An account of the scientific, technical, economic, legal and other aspects of this item;
- (c) An indication regarding practical means to promote international co-operation in the exploration, conservation and use of the sea-bed and the ocean floor, and the subsoil thereof, as contemplated in the title

of the item, and of their resources, having regard to the views expressed and the suggestions put forward by Member States during the consideration of this item at the twenty-second session of the General Assembly.

2. The Ad Hoc Committee, as decided by the General Assembly, consisted of the following Member States: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Ceylon, Chile, Czechoslovakia, Ecuador, El Salvador, France, Iceland, India, Italy, Japan, Kenya, Liberia, Libya, Malta, Norway, Pakistan, Peru, Poland, Romania, Senegal, Somalia, Thailand, the Union of Soviet Socialist Republics, United Arab Republic, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America and Yugoslavia.

3. The Ad Hoc Committee has so far held two sessions. Both sessions were held at United Nations Headquarters, the first from 18-27 March and the second from 17 June-9 July 1968. The third session will be held by invitation of the Government of Brazil at Rio de Janeiro from 19-30 August 1968.

4. At the second meeting of the first session, the Ad Hoc Committee elected its officers, established two working groups of the whole, one to deal with legal matters and the other with economic and technical matters, and elected the officers of these groups. The officers of the Ad Hoc Committee were as follows:

Chairman: Mr. Hamilton Shirley Amerasinghe (Ceylon)

Vice-Chairmen: Mr. Bohdan Tomorowicz (Poland)
Mr. Waldo E. Waldron-Ramsey (Tanzania)
Mr. José Piñera (Chile)
Mr. Jens Evensen (Norway)

Rapporteur: Mr. Victor J. Gauci (Malta)

The officers of the two Working Groups are given in their respective reports, annexed to this report (annexes I and II).

5. The first session of the Ad Hoc Committee, during which it held nine meetings, was devoted to organizational matters and to consideration of the Committee's programme of work. Following suggestions made during the discussions, the Chairman on 27 March listed various papers as those requested from the Secretariat. These were prepared by the Secretariat and issued as documents of the Committee.^{1/} A

^{1/} See documents A/AC.135/7 (transmitting documents E/4449 and Add.1 and 2, prepared under ECOSOC resolution 1112 (XL), A/AC.135/9 (transmitting document E/4487, prepared under General Assembly resolution 2172 (XXI)), A/AC.135/10, 11, 12, 13, 14, 15, 19 and Add.1 and 2.

paper on the scientific aspects of the question was prepared by the secretariat of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (A/AC.135/17).

6. During its second session, the Ad Hoc Committee held three meetings, while the Economic and Technical Working Group held eleven and the Legal Working Group held fourteen, as indicated in their respective reports.

II. Operative paragraph 2 (a) of resolution 2340 (XXII)

7. In accordance with its mandate under paragraph 2 (a) of resolution 2340 (XXII), the Ad Hoc Committee had before it information relating to the activities of the United Nations, the specialized agencies, the International Atomic Energy Agency and other inter-governmental bodies with regard to the sea-bed and the ocean floor. In this connexion, the Ad Hoc Committee draws to the attention of the General Assembly as relevant to a survey of these activities the information contained in annexes XI and XII to document E/4487 which contain a survey of the activities of the organizations of the United Nations system and of other inter-governmental organizations in relation to marine science and technology. Additional documentation pertinent to this item was received from these agencies and was made available to the Ad Hoc Committee. This comprises material received from the United Nations Educational, Scientific and Cultural Organization and its Intergovernmental Oceanographic Commission (A/AC.135/2 and A/AC.135/22 transmitting various documents), from the World Meteorological Organization (A/AC.135/8 and Corr.1) and from the Inter-governmental Maritime Consultative Organization (A/AC.135/23).

8. The study requested from the Ad Hoc Committee by the General Assembly under paragraph 2 (a) of resolution 2340 (XXII) also included a survey of existing international agreements concerning the sea-bed and the ocean floor. In this connexion, the Ad Hoc Committee draws the attention of the General Assembly to the survey contained in document A/AC.135/10, while at the same time calling attention to the observations in relation to this document contained in the report of the Legal Working Group (annex II, para. 42).

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III. Operative paragraph 2 (b) of resolution 2340 (XXII)

9. In connexion with the account of the various aspects of the question requested by the General Assembly in paragraph 2 (b) of resolution 2340 (XXII), the Ad Hoc Committee, as mentioned above, established at its first session two Working Groups of the Whole. As agreed by the Ad Hoc Committee, the two Working Groups adopted their own programmes of work, that of the Economic and Technical Working Group being contained in document A/AC.135/WG.2/R.2 and that of the Legal Working Group in document A/AC.135/WG.1/R.4. The reports of the two Working Groups on their deliberations during the second session are annexed to this interim report (annexes I and II).
10. At the close of the second session of the Committee on 9 July, the Chairman noted that the Economic and Technical Working Group had been unable to complete its agenda and that the Legal Working Group was not in a position to complete its programme of work; it might therefore be necessary for the Working Groups to meet during the third session. When the Working Groups have completed their assignments, their final reports will be considered by the Ad Hoc Committee.
11. The Ad Hoc Committee had decided at its first session that the scientific aspects of the question, as well as its political, military and other aspects would be considered by the Ad Hoc Committee itself.
12. As to the scientific aspects, the Chairman of the Intergovernmental Oceanographic Commission is expected to attend the third session of the Ad Hoc Committee, and to elaborate on the document prepared by the IOC secretariat for the Ad Hoc Committee (A/AC.135/17).
13. In regard to the military aspects of the item, the Chairman on 9 July referred to a request that had been made to the Secretariat for documentation concerning the work of the Eighteen-Nation Disarmament Committee on this aspect of the item, and informed the Committee that he was advised that a careful study of the records and other documents of the ENDC had shown that they contained no reference to the sea-bed or the ocean floor. A document requested from the Secretariat regarding possible military uses of the sea-bed and the ocean floor beyond the limits of present national jurisdiction has now been issued (A/AC.135/28).

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IV. Operative paragraph 2 (c) of resolution 2340 (XXII)

14. The Ad Hoc Committee decided at its first session that it would itself deal with questions relating to its mandate under paragraph 2 (c) of resolution 2340 (XXII), although the Working Groups would be free to include in their reports any indications regarding practical means of promoting international co-operation which might emerge during their consideration of their respective spheres of work.
15. At the close of the second session of the Committee, the Chairman pointed out that the phrase "title of the item" referred to in this sub-paragraph contemplates the reservation of the area in question exclusively for peaceful purposes and the uses of its resources in the interests of mankind. Many views, he stated, had been expressed in regard to this part of the Ad Hoc Committee's mandate, and the Committee's task would be greatly facilitated if these views were put into concrete shape and presented formally in sufficient time to enable them to be discussed by the Committee at its third session.
16. The Chairman referred to certain proposals presented in the form of a draft resolution or amendment or a draft declaration which, he stated, in some respect or other, could be construed as means of promoting international co-operation as described in General Assembly resolution 2340 (XXII):
- (i) Draft resolution submitted by the USSR on the prohibition of the use of the sea-bed and the ocean floor beyond the limits of territorial waters for military purposes (A/AC.135/20);
 - (ii) Amendments to this draft resolution submitted by the United Republic of Tanzania (A/AC.135/26);
 - (iii) Draft resolution submitted by the United States on preventing the emplacement of weapons of mass destruction on the sea-bed and ocean floor (A/AC.135/24);
 - (iv) Amendments submitted to this draft resolution by the United Republic of Tanzania (A/AC.135/27);
 - (v) Draft resolution submitted by the United States containing a statement of principles concerning the deep ocean floor (A/AC.135/25);
 - (vi) Draft declaration of legal principles governing the reservation exclusively for peaceful purposes of the sea-bed and the ocean floor,

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and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the uses of their resources in the interests of mankind (A/AC.135/21).

These proposals are annexed to the present report (annex III).

17. The Chairman also referred in this connexion to two other proposals made in the Ad Hoc Committee by the representative of the United States: (1) that the nineteen-seventies be declared an international decade of ocean exploration; and (2) that the United States Government was prepared to make Rose Island, an uninhabited atoll in the South Pacific available for use for purposes of scientific investigations.

ANNEX I

PROGRESS REPORT OF THE ECONOMIC AND TECHNICAL WORKING GROUP

Rapporteur: Mr. Anton Prohaska (Austria)

1. The Economic and Technical Working Group was established by the Ad Hoc Committee to Study the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction in order to consider the economic and technical aspects involved in the study which the Ad Hoc Committee was requested to submit to the General Assembly pursuant to resolution 2340 (XXII). The bureau of the Economic and Technical Working Group was composed of the following members:

Mr. Roger Denorme (Belgium) (Chairman),
Mr. R.C. Arora (India) (Vice-Chairman),
Mr. Anton Prohaska (Austria) (Rapporteur).

The Working Group held eleven meetings during the period from 18 June to 3 July 1968. Some of these meetings were held informally and no record was kept. The meetings were attended by the representatives of the thirty-five member countries of the Ad Hoc Committee as well as by representatives of UNESCO-IOC, WMO and IMCO.

2. As a background for discussion, the Economic and Technical Working Group had at its disposal various working documents:

(a) The report prepared by the Secretary-General according to Economic and Social Council resolution 1112 (XL) on Mineral Resources of the Sea beyond the Continental Shelf (E/4449/Add.1);^{1/}

(b) The report prepared by the Secretary-General according to General Assembly resolution 2172 (XXI) on Marine Science and Technology (Survey and Proposals) (E/4487);

(c) An information note prepared by the Secretariat on "the economic implications of the exploitation of mineral resources on and underlying the sea-bed

^{1/} The representative of Argentina observed that the Report on resources of the sea, which had not yet been discussed in the competent body, went into an analysis of the rules established by the 1958 Geneva Convention on the Continental Shelf in a manner not covered by the terms of reference.

and ocean floor and its subsoil with particular reference to world trade and prices" (A/AC.135/14);

(d) An information note prepared by the Secretariat on "the effect of exploitation of mineral resources on superjacent waters and on other uses of the marine environment" (A/AC.135/15);

(e) Other documents and available authoritative sources of information.

3. The Economic and Technical Working Group gave consideration to the following problems:

- Assessment of the extent of the mineral resources of the ocean floor and their geographical distribution.
- Present state and foreseeable development of technology in the field of the exploration, evaluation and exploitation of such resources.
- Possibility of exploiting such resources from the standpoint of technological progress and the profitability and soundness of investments.
- Possible consequences of the exploitation of such resources:
 - (i) Economic implications on the world market;
 - (ii) Possible repercussions on other uses of the sea;
 - (iii) Possibility of exploiting such resources for the benefit of mankind as a whole.
- Prospects for international co-operation in the development and exploitation of the resources of the ocean floor.

Assessment of the extent of the mineral resources of the ocean floor and their geographic distribution

4. During its meetings on 18 and 19 June 1968, the Economic and Technical Working Group gave consideration to the question of "the assessment of the extent of the mineral resources of the ocean floor and their geographical distribution". The Working Group had before it the report of the Secretary-General on Mineral Resources of the Sea beyond the Continental Shelf (E/4449/Add.1) as a background for discussion. In its deliberations the Working Group also took into account other documents presented (E/4487) and available authoritative sources of information.

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5. For the purpose of the exchange of views on the economic and technical aspects of the problem, the following working concepts were considered useful. They are related to the geological and topographic descriptions of the sea floor and in no way prejudice any legal connotation which some of them may have in other contexts:^{2/}

(a) Continental shelf: The area of the ocean floor between the mean low water line and that change in the inclination of the floor, from about one eighth of one degree to more than three degrees, that marks the beginning of the continental slope which occurs at various depths usually between 130 and 200 metres, but exceptionally as shallow as 50 metres or as deep as 500 metres. The width of the shelf ranges from less than one mile up to 800 miles. When the increase in slope is very gradual, the point of maximum rate of change of slope is considered to be the edge of the shelf.

(b) Continental slope: Area of the ocean floor extending from the outer edge of the continental shelf to the abyssal ocean floor, usually from ten to twenty miles wide. The inclination of the slope varies widely from as little as three degrees to over forty-five degrees. Geologically it marks the rather abrupt transition from continental or sialic crust to oceanic or simatic crust.

(c) Continental terrace: Sometimes used to refer to the geological formation consisting of both the continental shelf and slope.

(d) Continental rise: Apron of clastic sediments, wherever deep sea trenches are absent, slopes gently oceanward from the base of the continental slope, usually in 2,000 to 5,000 metres of water.^{3/}

^{2/} The delegation of Argentina reserved its views, in the belief that the Working Group had not had sufficient technical background information to make definite appraisals.

^{3/} In the USSR the oceanographic term to which the description of paragraph 5 (d) corresponds is "abyssal slope".

(e) Continental margin: That region of the earth's crust where the continental sialic rocks are covered by the sea.

(f) Oceanic basin: That region of the earth's crust covered by water where the sialic rocks are thin or completely absent and underlain by simatic rocks.

(g) The abyss or deep-ocean floor: A rolling plain from 3,300 to 5,500 metres below the surface of the sea; it is scarred by deep gorges called trenches and studded with sea-mounts and guyots.

(h) Sea-mounts: Isolated elevations of the deep sea floor, varying from relatively small peaks to massive structures; sea-mounts deeper than 200 metres, the top of which is a comparatively small platform, are called guyots.

(i) Banks: Elevations of either the shelf or the deep sea floor to depths of less than 200 metres; conventionally banks taken as 11 metres or less at mean low water tides are called shoals. They are rather numerous and sometimes cover considerable surface.

(j) Mid-ocean ridges: Broad mountain chains, rising from the abyssal plains, and extending for many thousands of miles. The genesis of the mid-ocean ridges is still unclear.

(k) Abyssal or hadal depths: Flat area at the bottom of highly localized submarine gashes or rifts in the earth's crust - the Mariana and Tonga trenches are respectively the deepest in the Northern and Southern hemispheres (circa 11,000 metres).

The Working Group noted that it is often difficult to distinguish the exact area covered by each concept. The importance was stressed of considering in a separate context the internal and/or marginal seas because of the marked oceanographic, geographic and geologic differences they present in comparison with the oceans in general.

6. Substantial mineral resources exist on and beyond the continental shelf. The general picture appears to be as follows:

(a) Known offshore placer deposits, among which might be mentioned clay, sand, gravel, gold, diamonds and industrial minerals, are generally restricted to scattered areas along the coasts. Commercial concentrations are very localized, and are likely to be found only in the shallower parts of the continental shelf where submerged beaches and deltas occur, and may be expected to be scarce or absent on the deeper parts of the shelf, the slope, and abyssal depths. Exceptions to this may be the large deltaic fans off some of the world's major

rivers, where sediments have spread out and subsided under their own weight to depths of many hundreds or even a few thousand metres.

(b) Those parts of the continental slope which contain deep sedimentary deposits may be regarded as potential reservoirs of hydrocarbons. Geophysical and geological observations suggest that the sediments of the continental rise are thick enough in places to contain accumulations of petroleum, and the same may be said about some of the small ocean basins, such as the Gulf of Mexico. Other evidence suggests that there is little chance that petroleum occurs over large areas of the abyssal plain, but some parts of the ocean floor may have an important potential.

(c) There are extensive deposits of manganese nodules on the deep ocean floor uneven in distribution and concentration, but richer in their content of other metals (cobalt, nickel, copper, etc.) than those in shallower water. The chemical composition of nodules varies considerably, with characteristic differences noted in Pacific, Atlantic and Indian Ocean occurrences.

(d) Phosphorite occurs on the sea floor in the form of blankets of nodules, flat slabs, pellets and rock-coatings, mostly on the outer continental shelf, upper continental slope and submarine banks. Of the known and potentially favourable areas - off southern California (United States of America), Baja California (Mexico), eastern United States of America, western South America, Australia, north-west Africa, Japan, etc. only the first three are being investigated in any systematic manner.

(e) Deposits in solution such as those in "hot brines" discovered in the Red Sea with very high mineral constituents as well as geothermal energy may be resources for the future.

7. Present knowledge of the mineral resources of the ocean appears to be more or less satisfactory only for a small part of the continental shelf. Knowledge of potential marine mineral resources at this stage is scant and depends in a large part on extrapolation of knowledge and experience gained on land.

8. While present knowledge of marine mineral resources beyond the continental shelf is very incomplete, it was noted that potentially valuable resources exist, that some exploration is already taking place and that leases have already been issued for evaluation and exploitation of such resources. From the various sources of information, it appeared that the potentially valuable minerals likely to be

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exploited economically are essentially petroleum and gas, manganese deposits and submarine phosphate deposits.

9. In these circumstances, the Economic and Technical Working Group emphasized the importance of fostering research and exploration in order to improve our knowledge of the nature, occurrence and concentration of sea-bed minerals, and to encourage development of new devices and techniques for exploration and exploitation.

10. Summing up the debate, the Chairman made the following points:

(a) It appears certain that substantial resources exist beyond the continental shelf.

(b) Present knowledge of the extent of these resources and their distribution is still limited and incomplete.

(c) It appears most appropriate to foster research and exploration activities in order to fill the extensive gaps in present knowledge.

The present stage and foreseeable development of technology in the field of exploration, evaluation and exploitation of the mineral resources of the ocean floor

11. During its meeting on 20 June 1968, the Economic and Technical Working Group gave consideration to the question of "the present stage and foreseeable development of technology in the field of exploration, evaluation and exploitation of the mineral resources of the ocean floor". The Working Group had before it the report of the Secretary-General on Mineral Resources of the Sea beyond the Continental Shelf (E/4449/Add.1) as a background for discussion. In its deliberations the Working Group took also into account other authoritative sources of information.

12. The following working concepts, which refer to the stages of the economic process in the field of development of marine mineral resources, were considered useful for the purposes of the discussion of this item:

(a) Exploration: The broadly based survey using all available methods, generally of large areas in the first instance, leading by progressively narrowing the search to the location of mineral occurrences of possible economic importance.

(b) Evaluation: The detailed investigation of mineral occurrences or deposits using all appropriate techniques in order to discover their nature and origin, establish the quantity and tenor of the contained economic minerals, determine how best they may be exploited and generally consider all other factors affecting their economic development.

(c) Exploitation: The practical and economic development of minerals based on the appropriate application of various techniques in order to obtain an economically valuable product.

13. The present status of technology with respect to mineral exploration and evaluation in the ocean environment appears as follows:

(a) As far as exploration of mineral fuels and soluble minerals is concerned, some of the techniques required can be used in water of any depth; the necessary combinations of capabilities required to discover specific deposits of hydrocarbons, however, are more limited. As at June 1968 the deepest water in which exploratory wells were being drilled was approximately 200 metres. New equipment was expected to advance this capability to 400 metres by the end of 1968 and to 500 metres in 1969. It should be noted that the technology necessary to complete and bring a well into production is more complex and not as far advanced as for exploratory drilling.

(b) With regard to surficial deposits, e.g., manganese and phosphorite nodules, preliminary evaluations to depths of about 1,000 metres have been carried out. More advanced submersibles which are being developed will within five to ten years permit similar limited evaluations to depths of 5,000 metres.

(c) Technology necessary to find and evaluate sub-surface deposits, such as coal, oil-shales, etc., in water depths of more than a few tens of metres is virtually non-existent at the present time.

14. In exploiting mineral resources of the deep sea, three main techniques are used in relation to the types of minerals mentioned in paragraph 13: drilling, dredging and mining.

(a) As far as the exploitation of minerals by drilling is concerned, production has now reached depths of about 110 metres and is expected to reach depths of 200 metres by the end of this year; depths of as much as 500 metres (in relatively protected water near the coast) in three to five years. Beyond this depth, exploitation from drill holes will require the development of new technical concepts.

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(b) Present exploitation through dredging is limited to the depths of 30 to 60 metres, according to the minerals mined. Hydraulic dredging will almost certainly prevail over other dredging methods in deep sea mineral recovery. Using this technique, preliminary designs have been made for recovery of sea floor nodules deposits at depths greater than 1,200 metres.

(c) If large and rich sub-surface deposits are found, the technology to mine them beneath shallow waters might be developed within a few years; technology for mining bedrock deposits in water deeper than 100 metres is at present not in sight.

15. Remarkable progress has already been made in developing the ability to explore the ocean floor and its mineral resources. Much further progress will be required, however, to permit evaluation and exploitation of mineral resources at depths greater than a few hundred metres. This is in part dependent on increased incentives to seek mineral resources in the ocean.

16. In the past, the rate of technological progress was as follows:

(a) Experimental penetration drilling for scientific purposes (and without re-entry capability) had reached 3,600 metres in 1961 and has now been carried out in water depths of 6,000 metres.

(b) Experimental drilling by commercial operators was possible down to 450 metres in the late 1950's and it is predicted that it will be possible before long down to 1,000 metres water depth with hole re-entry.

(c) Serious evaluation drilling (wildcatting) was possible in 30 metres in 1954 and is now being done in depths of approximately 200 metres water depth.

(d) Production drilling, including ancillary operations, has increased in depths from 21 metres in 1947 to about 120 metres water depth in 1968.

(e) Production dredging for certain minerals (tin, gold, etc.) has increased in depths from 10 metres in 1947 to 60 metres in 1967.

These examples show that an average of nine to ten years has been necessary to develop techniques to double the depths at which they could be operated.

Extrapolation of these figures would imply that another decade will be necessary to double again the depths reached at present, but it is no doubt hazardous to anticipate the rate of further progress of technology since major breakthroughs cannot be excluded particularly under the stimulus of the discovery of some very

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high-grade deposits or of minerals in short supply. New techniques might be developed which would considerably reduce this time lag. This would certainly necessitate massive financial investment and human ingenuity.

17. Summing up the debate, the Chairman made the following points:

(a) It is important for the Working Group to provide the Ad hoc Committee with the most accurate and up-to-date information and projections available concerning the rate of technical progress in the development of marine mineral resources.

(b) In view of the above-mentioned forecasts, sufficient time would seem to be available for the study of all aspects involved in the development of marine resources. However, it would certainly be unwise to procrastinate their consideration.

(c) Breakthroughs in technology are possible and new experiences are already under way. Certainly, considerable financial and human resources will be required to this end. A balanced view suggests that a cautious optimism is appropriate as to the technical achievements that may be expected.

The possibility of exploiting the mineral resources from the standpoint of technological progress and the profitability and soundness of investments

18. During its meetings on 24 and 25 June 1968, the Economic and Technical Working Group gave consideration to the question of "the possibility of exploiting the mineral resources from the standpoint of technological progress and the profitability and soundness of investments". The Working Group had before it the report of the Secretary-General on mineral resources of the sea (E/4449/Add.1) as a background for discussion. It also took into account other authoritative sources of information.

19. In the process of mineral development, four stages can be distinguished:

(a) the acquisition of basic knowledge through systematic area surveys and research in geology, geophysics and geochemistry, necessary to understand the character, distribution and variation of the mineral resources;

(b) the identification of target areas for exploration and location of specific mineral deposits;

(c) the technical evaluation of the extent and quality of the deposits and on methodology and cost of extraction from the natural environment;

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(d) the economic decision based on capital investment, pay-out period, operating costs and cash flow, leading eventually to commercial exploitation. For the last two stages of activity, determining factors are, amongst others, consideration of the depth of the water column, depth of deposit beneath the ocean floor, distance from shore, size and quality of the deposits, and the environment of the specific area containing the deposits under examination.

20. Profitability and soundness of investments with respect to the development of the potentially valuable marine minerals previously identified (hydrocarbons, manganese, phosphate and other metals) appear to be as follows:

(a) The recent discovery on all continents of phosphorite deposits has removed the urgency of exploitation of phosphorite deposits on the sea floor for some years, except near agricultural regions that are far removed from low-cost land resources.

(b) The potential value of manganese nodules is enhanced because they contain, in addition to manganese, appreciable amounts of nickel, copper and cobalt. Due to the costly beneficiation processes needed for up-grading marine manganese, these additional minerals would constitute the main incentive for the recovery of manganese nodules. However, new discoveries of nickel deposits have been made on land, lower-grade copper deposits can now be up-graded at reasonable cost, and land reserves of cobalt are large. Hence, the exploitation of widely distributed discrete manganese nodules does not appear economically feasible for some time.

(c) Sulphur is exploited on the continental shelf. Its development beyond the continental shelf is in process of investigation.

(d) Metal-bearing muds (containing copper, zinc and other metals) of a type recently found in Red Sea deeps also pose as yet unsolved technical problems but may prove to be recoverable in the not too distant future.

(e) In the case of petroleum and gas, development in water depths greater than approximately 500 metres is likely to require a breakthrough in technology. Investments required for platforms and operating procedures at such depths will markedly increase.

21. It appears that many of the costs involved in marine mineral development are much higher than the cost of operations conducted on land. It was mentioned, for example, that even in the shallow water areas of the continental shelf, daily average operational costs of under water oil drilling are four times those of

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comparable land operations. And if oil is found, installation of production facilities make a completed well two or three times more costly than a hole on land. It therefore appears that appropriate conditions must be established to make investments profitable and the necessary incentives must not be impaired by prohibitive licence fees.

22. Since costs for the development of marine mineral resources rise rapidly with progression into deeper water, economic reasons suggest that marginal resources on land under present circumstances may be given preference over marine mineral deposits. Moreover, in the opinion of some delegations, any entrepreneur must be assured that the area considered for development of marine mineral resources be larger than that normally necessary on land and that he must be assured of security of tenure over this area.

23. A stable régime providing for orderly progress and security of title in the exploration, evaluation and exploitation of marine mineral resources would favourably influence the decision to develop these resources.

24. Minerals mined on the ocean floor would also have to compete with minerals mined on land, where new discoveries are still being made and extraction technology is still advancing. Future land technology may be able to exploit resources which for present-day technology are not accessible or are too low-grade to be economical, due primarily to still lacking beneficiation processes. Finally, the position of the different minerals on the world market will also be influenced by progress in the development and use of substitutes.

25. Under particular circumstances, it may seem desirable to exploit deposits which are clearly unprofitable on a purely financial basis. The desire to be independent of foreign supplies, for example, is conducive to the exploitation of off-shore deposits which would otherwise be deemed uneconomic. Among the motives for such a decision may be mentioned the balance-of-trade position, as well as the desire to ensure stability of production in times of crisis and to control the volume of production and prices. Another reason for exploitation of less economic marine deposits may be concern for conservation of resources for periods of down-turn in world trade, fluctuations of prices or more serious emergencies.

26. In spite of the factors that seem now to diminish prospects for early production of marine mineral resources, the accelerating growth of technology and the widening interest of potential investors justify cautious optimism concerning their future development.

27. It should be noted that banks and shoals occur at moderate depths, from a few metres to 200 metres; it is already possible to exploit the natural wealth to be found there with existing means. This is also true for a few of the accessible summits of the great oceanic mountain ridges.

28. It was pointed out that potential future use of the tremendous resources hidden beneath the oceanic crust might also be considered. Indeed the potential harnessing of thermal energy and recovery of elements contained in the magma or molten rocks through drilling unto the Mohorovicic discontinuity could well add a new dimension to the exploitation presently discussed. In spite of the technical difficulties of drilling at depths of more than 6,000 metres in hadal zones, one cannot exclude that this potentiality may one day materialize.

29. Summing up the debate, the Chairman made the following points:

(a) The need for greater efforts in the fields of basic research, detailed exploration and the development of new techniques to carry out successfully these tasks deserves greater emphasis.

(b) It is important to distinguish between the technological capacity for the development of marine resources and the economic feasibility or the commercial viability of such operations. Before beginning to exploit mineral resources, all economic factors which have a bearing on the development of these resources should be taken realistically into account.

(c) One important factor is the ratio at which costs for exploration and exploitation increase as greater depths are reached.

(d) Another factor is the considerable reserves of certain minerals existing on land which might be exploited, if need arises, in the first place before drawing on the mineral resources of the sea.

(e) Newly discovered land reserves will inevitably compete with marine operations for investment capital. The decision to exploit marine reserves will, however, also be affected by the desire to be independent of foreign supplies and to conserve deposits on land which might be exploited if circumstances so require.

(f) Considerable investments will be needed; therefore, sufficient incentives must exist if States or their nationals are to be encouraged in this venture.

(g) Among favourable conditions required there will have to be suitable arrangements for assuring the appropriate returns of the investments and their security through adequate international arrangements.

Possible economic implications of the exploitation of marine mineral resources on world market and prices

30. At its meetings on 25 and 26 June 1968, the Economic and Technical Working Group gave consideration to the question of the "possible economic implications of the exploitation of marine mineral resources on world market and prices". The Working Group had before it, inter alia, a paper prepared by the Secretariat (A/AC.135/14).

31. Some experience is already available with reference to the effects of present off-shore production of petroleum, in both the world market at large and in some local markets. In the two decades since off-shore production began, it has come to make up about 16 per cent of total world production and 6 per cent of the world's natural gas production and this proportion is expected to increase significantly with time. The new off-shore reserves and production have helped maintain a ceiling on prices which so far have generally been relatively stable. There has been a slight but rather steady downward trend in prices over the years. Considerable excess production capacity has developed, but its possible disruptive effects have been mitigated, if not altogether prevented, by artificial controls and other measures. Production beyond the continental shelf is likely to take place within a decade but production beyond the 500 metre isobath may not take place for a considerable time. Because costs will increase with increasing depth, new production will be limited to that which can enter the market at existing prices. If the total off-shore sources prove large, however, they may help maintain a ceiling on prices of petroleum from other sources.

32. It seems unlikely that manganese nodules will be exploited for many years to come and when marine manganese production starts, it will probably enter the market gradually just as petroleum has done, for at first it will have to compete with existing land sources. Present indications are that the first use of the nodules may be as a source of copper, nickel, and possibly cobalt, and that the manganese will not necessarily be recovered. In the beginning, most production would probably serve to meet new demand, but when it becomes feasible to reduce production costs, deep sea producers might be able to lower prices and hence displace high-cost production from other sources. Because cobalt occurs in some nodule deposits in ratios to nickel and copper which are much higher than their

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ratios in the market, a high cobalt recovery as a part of the whole process might at some stage lead to surpluses that would substantially reduce the world price.

33. Likewise, marine phosphate production is not likely for the foreseeable future, for land resources are large, of a higher grade and cheaper to mine. If phosphate is produced it will probably have an impact only in local areas where low-cost sources are not available; inasmuch as world demand is increasing such production for local use probably will not displace production from existing sources.

34. Present knowledge is insufficient to assess with enough reliability the potential effects of marine mineral production on world market and prices. The various studies which have been made on this subject and the conclusion reached by their authors can only be considered as educated estimates.

35. There has been speculation about the possible loss of markets for developing countries that depend on mineral exports, particularly manganese, for much of their income. Indeed, some of the highly industrialized countries have to import most of their present consumption of manganese from certain developing countries. These produce manganese, phosphate and other minerals and export most, if not all, of their production.

36. There is, however, no reason to be unduly concerned at this stage about possible adverse or disruptive economic effects on world markets or world prices from the development of marine mineral resources:

(a) Until recovery processes are developed and production begins, such consequences are entirely speculative.

(b) By the time the relevant marine mineral resources are quantitatively important on the market, it may be hoped that the economies of the developing countries will be more diversified and consequently less dependent on raw materials exports.

(c) Moreover, world demand for these resources may be expected to grow with general industrial and economic development. None the less, the consequences of possible over-supply should be kept in mind.

37. All projections as mentioned above are of a very speculative nature. The interest of the world community would, however, suggest the need for arrangements for the exploitation of mineral resources beyond the continental shelf that will

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avoid adverse consequences for the world market in general and the economy of developing countries in particular.

38. Summing up the debate, the Chairman made the following points:

(a) The economies of certain developing countries depend heavily on their exports of certain raw materials such as manganese or phosphates.

(b) There seems, however, to be no reason for undue concern about the adverse effects on the world market which might occur.

(c) Nevertheless, the possibility of prices being adversely affected and of the world market being disrupted by the exploitation of marine minerals cannot be excluded.

(d) Thus, future international arrangements concerning the production of marine mineral resources might prove very useful; it has been suggested that this could be dealt with by international agreements and co-operation.

Possible repercussions of the exploitation of marine mineral resources on other uses of the sea

39. During its meetings on 25, 26 and 27 June 1968, the Economic and Technical Working Group gave consideration to the question of the "possible repercussions of the exploitation of marine mineral resources on other uses of the sea". The Working Group had before it a note prepared by the Secretariat (A/AC.135/14) as well as a note prepared by IMCO (A/AC.135/23) and a document prepared by the IOC secretariat (A/AC.135/17).

40. Any exploration, evaluation and exploitation of marine mineral resources is likely to lead to some interference with the rights of enjoyment of the high seas, i.e. freedom of navigation, fishing and scientific research activities.

41. Generally, it has been possible to conciliate divergent interests of the various conventional uses of the sea. The task of reconciling marine mineral development with the existing rights of navigation, fishing research and others is already under study in the interested international organizations and must command increasing attention.

42. If the use of drilling rigs, production platforms and other devices for the development of marine mineral resources is not brought into harmony with existing regulatory régimes applied on the seas, they may constitute a hazard to navigation.

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In this context, the importance was also noted of ensuring the safe operation of craft used for marine mineral development and the safety of persons working on them.

43. Pollution caused by oil and chemical wastes represents a great hazard for the marine environment. The International Convention for the Prevention of Pollution of the Sea by Oil, formulated in 1954 and amended in 1962, is under constant review by IMCO, which has also extended its studies to other agents of pollution.

44. Radioactivity produced either by dumping wastes or by the uses of nuclear devices in the recovery of marine minerals constitutes another pollution hazard. Studies to prevent these hazards have been undertaken by the International Atomic Energy Agency following the 1958 United Nations Conference on the Law of the Sea. It was emphasized that these efforts should result in the drafting and eventual adoption of internationally binding provisions.

45. The turbidity resulting from intense exploitation of marine sediments by the use of dredging techniques and by the employment of explosives and chemicals in the process of recovering and enriching minerals at sea might cause bottom-dwelling organisms to be buried and have harmful effects on the other living resources of the sea. Another danger to be feared is the escape of petroleum from the deposits which are being exploited.

46. Mineral exploitation operations in the ocean, dredging in particular, may also have hazardous effects on submarine cables if one does not know their location.

47. It will be necessary to take appropriate measures in order to prevent effectively any deleterious effects on the marine environment that may be caused by the extension of human activity in the ocean. These measures, however, should not tend to discourage advancement in this field.

48. Summing up, the Chairman made the following points:

(a) The interest witnessed in the possible exploitation of mineral resources of the sea should not make us lose sight of the importance of traditional marine activities such as navigation and fishing; exploitation must not result in unjustified interference with the conventional uses of the sea and the means of exploitation must themselves be safe.

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(b) It is extremely important to develop present knowledge in order to be in a position to assess correctly possible effects of marine mineral development on other uses of the sea. In particular, effective means of preventing all forms of pollution should be assured.

(c) These considerations should not discourage the development of marine mineral resources, but rather bring about efforts to reconcile the conflicting interests in the regulatory framework to be set up for the purpose of mineral development.

Possibility of exploiting marine mineral resources for the benefit of mankind as a whole

49. At its meetings on 27 and 28 June 1968, the Economic and Technical Working Group gave consideration to the question of "the possibility of exploiting marine mineral resources for the benefit of mankind as a whole". It had before it, among other documents, the report of the Secretary-General (E/4449/Add.1, chapter V).

50. The need for intensive and expanded international co-operation in the field of marine mineral development was unanimously expressed. As regards the ways of organizing such a co-operation, different views were taken. Some delegations insisted that this co-operation take place in the scientific and technical field. Some others saw this co-operation in the establishment of an international régime to exploit the mineral resources of the sea.

51. It was noted that the sea-bed and ocean floor beyond the limits of national jurisdiction are the legacy of all human beings.

52. In considering the development of marine mineral resources, the Economic and Technical Working Group kept in mind its paramount purpose, which has been set forth in General Assembly resolution 2340 (XXII), that "the exploration and use of the sea-bed and the ocean floor and the subsoil thereof should be conducted... for the benefit of all mankind"; it was pointed out that this concept should not be interpreted as referring only to the immediate profits made by leasing claims or granting licences. "Benefit of all mankind" should rather be understood in terms of the larger value of international output, in particular of the increase in value at stages subsequent to the primary production including the distribution and consumption phases.

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53. The great majority of countries are, for technical, financial and other reasons, not in a position to participate in the exploitation of these resources. The developing and the land-locked countries were specifically mentioned in this respect. In fact, only a few highly industrialized countries possess the technical know-how and the investment capital necessary to start any development of these resources. Many delegations stated that this would accentuate the economic imbalance existing between developed and developing countries, and that it would also be an incentive for the former to grab and hold the areas which are most promising.

54. Failure to reach agreement on some principles to govern exploration and exploitation of these resources might lead to new forms of colonial appropriations. Some delegations thought this aspect falls beyond the purview of the Economic and Technical Working Group because of its political connotations. Others felt compelled, nevertheless, to point out the importance of this aspect, emphasizing that a scramble would develop among the highly industrialized countries themselves, thus creating international tension and resulting in conflicts.

55. The need for some internationally agreed upon arrangements which would govern operations for exploring and exploiting ocean floor minerals has been generally recognized. So far, there has, however, been no sufficiently detailed study of the merits and demerits of differing forms of arrangements which might be possible. The Economic and Technical Working Group discussed the question and a large number of representatives indicated in this connexion that internationally agreed upon arrangements should satisfy certain requirements including the following:

- (a) feasibility and acceptability to the international community of any such arrangements;

- (b) efficient and equitable means to ensure orderly exploration, evaluation, exploitation and conservation of the resources in accordance with the rules of international law of the sea and the protection of the rights of all States;

- (c) means to prevent, or reduce to acceptable limits, damage to living resources and to the environment as a whole and interference with other legitimate activities;

- (d) means to assure the practice of appropriate conservation and safety measures that will avoid resource waste and ensure safe working conditions;

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(e) means to prevent or at least mitigate to acceptable limits economic and social dislocations that may arise from exploitation of sea-bed resources.

(f) provision of social overhead-type services such as aids to navigation, maps and charts, weather information, rescue capability and other services required to encourage and support exploration and development

In this way, the Working Group wanted to indicate what characteristics any régime must have and provide guidelines which might be helpful in formulating and evaluating specific proposals.

56. Agreeing that an area of the ocean floor beyond the limits of present national jurisdiction does exist, the Economic and Technical Working Group stressed the need for an internationally agreed boundary between the area over which coastal States exercise jurisdiction and the one in which humanity as a whole has a stake. It suggested that further detailed examination of this matter should be undertaken.

57. Various possible régimes can be conceived to regulate the exploitation of mineral resources of the sea-bed and ocean floor beyond the limits of national jurisdiction. An international régime under the auspices of the United Nations was recommended by some delegations, but this represents only one among several possibilities. These delegations pointed out that by its very nature the United Nations is the most comprehensive world-wide organization and thus in the best position to fulfil the various requirements and meet the aspirations of humanity.

58. Some delegations referred to the possibility of creating a new agency within the system of the United Nations or in some relationship with it. Without entering into the details of the structure of such an agency they mentioned some existing bodies as examples of the type of administration which might be envisaged. Some delegations opposed the creation of any agency with administrative functions and pointed out the necessity at this stage to develop research and exploration of the mineral resources of the sea-bed and the ocean floor and the subsoil thereof on the basis of international co-operation through co-ordination by the Intergovernmental Oceanographic Commission (IOC).

59. In the context of the discussion of a possible international machinery to supervise and govern "exploitation for the benefit of mankind", attention was drawn to the possible disadvantages of large bureaucratic institutions. Such a machinery if allowed to cause lengthy delays at all stages of its activity would

significantly slow down the return on capital invested and thus, in addition to inefficient spending on the administrative machinery itself, stifle progress. Furthermore, it was feared that the creation of such an international machinery would divert government funds at present earmarked for marine research. Some delegations pointed out that such machinery would hinder the development of co-operation among States in research and exploration of the mineral resources of the sea-bed and the ocean floor. This point of view was strongly controverted by many delegations.

60. However, the opinion prevailed that it was a timely endeavour to consider the possible establishment of a régime to ensure an exploitation for the benefit of all mankind.

61. Summing up, the Chairman made the following points:

Generally accepted concepts

(a) With respect to the question of marine mineral development and related aspects, all delegations are in favour of international co-operation.

(b) There is also unanimous agreement that any international co-operation to be established for the exploration, evaluation and exploitation of the resources of the sea-bed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction be for the benefit of mankind as a whole.

Various possible régimes of exploitation

(c) To regulate the exploitation of mineral resources of the sea-bed and ocean floor beyond the limits of national jurisdiction, various régimes can be conceived.

(d) It will be necessary to study carefully the economic merits and demerits of these systems. The requirements which must be met by any possible régime should be spelled out without delay.

Ensuring the benefit of mankind by means of an international régime

(e) Many delegations pointed out that the great majority of countries, in particular developing and landlocked countries, are, for technical, financial and other reasons, not in a position to participate actively in the exploitation of these resources.

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(f) These delegations believe that an international régime under the auspices of the United Nations or in relationship with it would ensure that the marine mineral resources would be exploited in the interest of humanity as a whole.

(g) They pointed out that without some international régime a new form of colonial competition would occur which would entail definite risks of oppositions and conflicts.

(h) Some delegations stressed that the questions raised in points (f) and (g) mainly fall under the purview of the Legal Working Group and of the Ad Hoc Committee.

(i) They emphasized the disadvantages which might result if a bureaucratic administration were to be set up considerably hampering the progress in the development of these resources.

(j) They further emphasized that the interests of all mankind lie in the larger benefit resulting from the broadest possible use of the minerals no matter where they come from rather than in the narrow goal of ensuring profits to the resource owners.

(k) From the examination of the economic and technical aspects of the problems of the sea-bed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction, many delegations drew the conclusion that there was need for an internationally agreed boundary delineating the area which should be subject to a régime for the widest possible international co-operation and exploited for the benefit of all mankind. Other delegations felt that these considerations were of a legal nature and outside the competence of this Working Group.

(l) Finally, a number of delegations believe that the Secretary-General should be requested to undertake a detailed comparative study of mechanisms that could be established for this purpose. This would facilitate the discussion of this question. Some delegations considered that at this stage such a request should be made to Member States.

62. The Economic and Technical Working Group has still to consider one item of its programme of work entitled "Prospects for International Co-operation in the Development and Exploitation of the Resources of the Ocean Floor".

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63. In forwarding the present report to the Ad Hoc Committee, the following reservations were made by the representatives of Argentina, Brazil, Chile, Ecuador, El Salvador and Peru in the Economic and Technical Working Group: "In view of the extremely technical nature of the matters dealt with by the Economic and Technical Working Group, the delegations of Argentina, Brazil, Chile, Ecuador, El Salvador and Peru reserve their positions generally with respect to the report of the Working Group. It is their understanding, in particular, that the conclusions reached by the Working Group in no way constitute a prejudgement concerning the legal aspects of the question."

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ANNEX II

REPORT OF THE FIRST SESSION OF THE LEGAL WORKING GROUP
(17 June-8 July 1968) TO THE AD HOC COMMITTEE

Rapporteur: Mr. S. Abdel-Hamid (United Arab Republic)

1. By resolution 2340 (XXII) the General Assembly decided to establish an Ad Hoc Committee to study the scope and various aspects of the item entitled "Examination of the question of the reservation exclusively for peaceful purposes of the sea-bed and the ocean floor and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction and the use of their resources in the interests of mankind". The resolution requested the Ad Hoc Committee, in co-operation with the Secretary-General, to prepare for consideration by the General Assembly at its twenty-third session a study which would include a survey of existing international agreements concerning the areas subject of the study, an account of the legal aspects of the item, and an indication regarding practical means of promoting international co-operation in the exploration, conservation and use of such areas and of their resources.
2. At its second meeting, held on 19 March 1968, the Ad Hoc Committee decided to establish a Legal Working Group to deal with the legal aspects of the item. The composition of the Legal Working Group was the same as that of the Ad Hoc Committee.
3. Also at its second meeting the Ad Hoc Committee decided to elect the following officers for the Legal Working Group:

Chairman	Ambassador Leopoldo Benites (Ecuador)
Vice-Chairman	Mr. Alexander Yankov (Bulgaria)
Rapporteur	Mr. Shaffie Abdel-Hamid (United Arab Republic)

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. The agenda for the session (A/AC.135/WG.1/R.1) as adopted at the first meeting of the Working Group included the following item:

"3. Consideration of the legal aspects of the study which the Ad Hoc Committee has been requested to prepare for the General Assembly according to resolution 2340 (XXII)"

. On the basis of a note (A/AC.135/WG.1/R.2) and a statement by the Chairman (A/AC.135/WG.1/R.3) the Working Group adopted the following programme of work (A/AC.135/WG.1/R.4):

"1. Examination of legal principles relating to the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, including:

- (a) Existing regulations in this field;
- (b) Consideration of legal principles which should govern international co-operation with a view to the preparation of an agreement on the use of the sea-bed and the ocean floor, and the subsoil thereof, exclusively for peaceful purposes;
- (c) Consideration of legal principles which should govern international co-operation in the use, in the interests of mankind, of the resources of the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction.

"2. Conclusions of a legal nature emerging from the reports on the subject submitted by the Secretary-General, the specialized agencies, the International Atomic Energy Agency and other inter-governmental bodies in accordance with operative paragraph 2 of resolution 2340 (XXII).

"3. Consideration of practical legal means, which the Working Group might think fit to recommend to the Ad Hoc Committee in accordance with operative paragraph 2, sub-paragraph (c) of resolution 2340 (XXII), for ensuring:

- (a) the use exclusively for peaceful purposes of the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction; and
- (b) the use of the resources of this area in the interests of mankind.

"4. Other legal aspects of the subject."

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6. In deciding upon the adoption of its programme of work, the Legal Working Group took into account operative paragraphs 1 and 2 (a), (b) and (c) of General Assembly resolution 2340 (XXII) and also the statements of the Chairman of the Ad Hoc Committee of 21 and 27 March, and 18 June 1968 (A/AC.135/5, A/AC.135/6 and A/AC.135/18).
7. The Legal Working Group met between 17 June and 8 July 1968 at the United Nations Headquarters in New York. It had fourteen meetings.
8. The Working Group agreed to have informal meetings during which no record was to be maintained. Two such informal meetings were held, the fourth and the fifth, for which no summary records were maintained.
9. The representative of the Inter-Governmental Maritime Consultative Organization (IMCO) made a statement to the Working Group.
10. A list of the documents that the Working Group had before it is appended as annex I.
11. In addition, several draft resolutions suggested by delegations were referred to in the debates. These draft resolutions and amendments are appended as annex II.^{1/} The draft resolutions and amendments are as follows:
 - Union of Soviet Socialist Republics: draft resolution on the prohibition of the use of the sea-bed and the ocean floor beyond the limits of territorial waters for military purposes - (A/AC.135/20);
 - India: draft declaration of legal principles governing the reservation exclusively for peaceful purposes of the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the uses of their resources in the interest of mankind - (A/AC.135/21);
 - United States of America: draft resolution on preventing the emplacement of weapons of mass destruction on the sea-bed and ocean floor - (A/AC.135/24);
 - United States of America: draft resolution containing statement of principles concerning the deep sea floor (A/AC.135/25);
 - United Republic of Tanzania: amendments to the draft resolution submitted by the Union of Soviet Socialist Republics (A/AC.135/20) - A/AC.135/26;

^{1/} These documents are now reproduced in annex III to the Ad Hoc Committee's interim report.

United Republic of Tanzania: amendments to the draft resolution
submitted by the United States of America (A/AC.135/24) - A/AC.135/27.

Legal problems discussed by the Working Group

12. In pursuance of its programme of work the Working Group tried to identify and list some of the legal problems which arose from the subjects under study. An account of the views expressed in the course of the debate is given below as they may be indicative of the complex legal problems which require further study.

(1) Legal status of the sea-bed and the ocean floor and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction

13. A very large number of members expressed the view that the area beyond the limits of present national jurisdiction was not susceptible of appropriation and that States could not exercise national sovereignty over such an area. Other members noted that there was a distinction between non-appropriation of the sea-bed and ocean floor beyond the limits of present national jurisdiction and the exploitation of these areas. Such exploitation would not serve as a basis for claims to sovereignty.

14. The view was expressed that in the formulation of a legal status, analogy between the sea-bed and ocean floor, on the one hand, and outer space and the high seas, on the other, should not be carried too far.

15. Reference was made to the concepts of res nullius and res communis. Some members considered that the concept of res communis might be applicable. Other members expressed the view that neither concept would be helpful in the present context. The view was emphasized that the sea-bed and ocean floor beyond the limits of present national jurisdiction should be regarded as having special legal status as the common heritage of mankind. With respect to non-appropriation, it was noted that a number of historic examples of occupation put forward by various writers must be regarded as very special and exceptional cases.

16. Mention has been made of banks and shoals covered by waters of a depth between a couple of metres and 200 metres, and situated beyond the limits of any national jurisdiction, some of which are already exploitable with existing technological means and techniques.

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17. A number of members expressed the view that States and nationals should conduct their activities on the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction in accordance with the principles of international law, including the Charter of the United Nations.

18. It was generally felt that many problems related to the sea-bed and ocean floor were not adequately dealt with in existing international law and it was also felt that legal principles on the activities of States in the exploration and use of the sea-bed and ocean floor beyond the limits of national jurisdiction should be developed in the interests of mankind as a whole.

19. Some delegations suggested that an international legal régime should be established under the auspices of the United Nations.

(2) Reservation of the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction exclusively for peaceful purposes

20. The view was emphasized by a very large number of members that the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction should be reserved exclusively for peaceful purposes in the interests of international peace and security, the promotion of international co-operation and understanding and in order to ensure the orderly development of a régime for this area. It was suggested that all States use the sea-bed and the ocean floor beyond the limits of the territorial waters of coastal States exclusively for peaceful purposes.

21. It was suggested that the sea-bed and the ocean floor and the subsoil thereof, underlying the high seas beyond present national jurisdiction should not be used by any State or States for any military purposes whatsoever. The suggestion was made that consideration should be given to the question of prohibiting the use for military purposes of the sea-bed and the ocean floor beyond the limits of the territorial waters of coastal States.

22. It was suggested that the terms "peaceful purposes" and "military purposes" were susceptible to different interpretations and that it would be more useful and more centrally directed at the real problem of arms limitation if the question of arms limitation on the sea-bed and ocean floor were taken up in an appropriate

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forum with a view to defining those factors vital to a workable, verifiable and effective international agreement which would prevent the use of this new environment for the emplacement of weapons of mass destruction. Other delegates expressed the concern that to confine the present examination to the non-emplacment of weapons of mass destruction on the sea-bed would only afford a partial solution to the questions of the prohibition of the use of the sea-bed for military purposes.

23. Some delegations expressed the view that effective arms limitation measures on the sea-bed and the ocean floor should be realistically conceived and that the most urgent problems should be examined first. They should also be of a balanced character and command the support of all nations, including the maritime nations. The view was emphasized by some members that denuclearization of this area was a question of immediate concern. There was also strong support for the view that weapons of mass destruction should not be placed on the sea-bed or ocean floor or the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction.

24. The suggestion was made that the Ad Hoc Committee should recommend the adoption by the General Assembly of a declaration stating that the exploration and use of the sea-bed and ocean floor and the subsoil thereof, beyond the limits of present national jurisdiction, shall be carried on for the benefit and in the interests of mankind, and that the sea-bed and ocean floor and the subsoil thereof, beyond the limits of present national jurisdiction, are the common heritage of mankind and that as such, they are not subject to national appropriation and shall be used exclusively for peaceful purposes, for the benefit of all countries, particularly the developing countries.

25. A suggestion was made that the General Assembly should call on all States to use the sea-bed and the ocean floor beyond the limits of the territorial waters of coastal States exclusively for peaceful purposes. It was also suggested by some members that the General Assembly should request the Eighteen-Nation Committee on Disarmament to consider, as an urgent matter, the question of prohibiting the use for military purposes of the sea-bed and the ocean floor beyond the limits of the territorial waters of coastal States.

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26. Some members suggested reference of the question to the Eighteen-Nation Disarmament Committee, under a precise mandate, and at the same time the question should be retained on the agenda of the Ad Hoc Committee.

27. There was also a suggestion that the Eighteen-Nation Disarmament Committee should take up the question of arms limitation on the sea-bed and ocean floor with a view to defining those factors vital to a workable, verifiable and effective international agreement which would prevent the use of this new environment for the emplacement of weapons of mass destruction.

28. Another suggestion would request the Eighteen-Nation Disarmament Committee to consider, as a matter of urgency, the question of banning the use of the sea-bed and ocean floor beyond the limits of national jurisdiction by nuclear submarines and banning of military fortifications and missile bases on the sea-bed and ocean floor.

29. Some members suggested that the question of referring the matter, or certain specific aspects of it, to the Eighteen-Nation Disarmament Committee should be considered by the Ad Hoc Committee. These members further suggested that consideration of this question should be preceded by consideration by the Ad Hoc Committee of general principles governing the sea-bed, ocean floor and the subsoil thereof beyond the limits of present national jurisdiction. Other members were opposed to the consideration of this subject by the Eighteen-Nation Disarmament Committee and suggested that it should remain on the agenda of the General Assembly.

30. The view was expressed that the principles laid down in the Outer Space and Antarctica Treaty might provide some guidance for the Committee. There was also suggested an approach similar to the Outer Space Treaty which would involve prohibiting certain specific types of weapons and military installations, for example, nuclear weapons and other arms of mass destruction, as well as construction of military bases and fortifications.

(3) Use of the resources of the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction in the interests of mankind

31. Members were in agreement that the use of the resources of the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction should be in the interests of mankind and that the question of how those interests could best be served needs to be studied further.

32. Some members expressed the view that there could be no peaceful or rational exploitation of the natural resources unless there was exploitation in the interests of all mankind. It was also suggested that the only possibility which appeared to have no serious drawbacks was an international solution to the problem. Such a solution must be equitable, feasible and acceptable and promote orderly, peaceful and efficient exploitation. Some members expressed the view that there should be a declaration to the effect that such areas should be exploited for the common benefit and be administered and controlled by a competent world body.

33. Others suggested that a statement of principles could appropriately state that there should be established, as soon as practicable, internationally agreed arrangements governing the exploitation of those resources and identifying the main objectives of such arrangements.

34. The view was expressed that there was no rule in existing international law prohibiting anyone from exploiting the ocean floor, subject only to the principles and rules of international law in general and the law of the sea in particular. With respect to freedom of exploitation and non-discrimination, the view was expressed that a fair application of these principles would require taking into account the special needs of the developing countries. A suggestion was made that the especial rights and interests of the coastal States regarding the conservation and exploration of those resources should be taken into account.

35. Several delegations emphasized that the interests of landlocked countries in participating in the exploration and exploitation of the sea-bed and the ocean floor beyond the limits of present national jurisdiction should be safeguarded.

(4) Freedom of scientific research and exploration of the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction

36. Some members emphasized the view that there should be freedom of scientific research and exploration of the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction. The view was expressed that results of scientific activities should be made available to all countries without discrimination and that international scientific co-operation should be promoted. It was suggested that it might be desirable to have one central body, such as UNESCO, co-ordinate all scientific and research activities and pool the results in the Intergovernmental Oceanographic Commission. It was also stated that it was necessary to distinguish between purely scientific research and that connected with the exploitation of resources. A large number of members emphasized that scientific exploration could not serve as a basis for the assertion of sovereignty or claims to appropriation. Some members expressed the view that scientific exploration should not serve as a basis for claims to exploitation. Reference was also made to the utility of the proposal that 1970-1980 should be an International Decade for Ocean Exploration.

(5) The question of reasonable regard to the interests of other States in their exercise of the freedoms of the high seas

37. Several members expressed the view that any activities on the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction should be carried out with reasonable regard to the interests of other States in their exercise of the freedom of the high seas, as recognized by the provisions and practice of the law of the sea. An express reference was made to article 2 of the Convention on the High Seas. The view was expressed that such activities should not obstruct navigation or fishing or the laying of submarine cables and should not result in damage to the marine flora and fauna. The devices employed for such activities should be used in a manner consonant with international arrangements for the protection of the devices and of the persons manning them. With respect to submarine cables and pipelines, reference was made to the 1884 Convention on the Protection of Submarine Cables, article 26 of the Convention on the High Seas and article 4 of the Convention on the Continental Shelf.

38. Concern was also expressed about the question of conservation of the resources of the high seas. The view was advanced by some delegations that it might be reasonable, in exceptional cases, to grant coastal States some special rights for the conservation and regulation of the fisheries of the coastal areas, thus safeguarding the means of livelihood of such nations from the effects of mineral exploitation.

(6) The question of pollution and other hazards

39. A number of members stated that exploitation and use of the sea-bed and ocean floor and the subsoil thereof underlying the high seas beyond the limits of present national jurisdiction should be carried out in accordance with rules and regulations concerning the prevention of pollution, radio-active contamination and conservation of the living resources of the sea. Concern was expressed about the possibility of an accident causing pollution which might affect the fisheries of nearby regions and countries. The view was expressed that, in a future international legal régime, provision would have to be made concerning responsibility and liability for damage. The suggestion was made that appropriate safeguards should be assured and that existing international arrangements, such as the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, be extended, in order to minimize pollution of the seas and the disturbance of the existing biological, chemical and physical processes and balances.

Other questions

40. It was generally agreed that there is an area of the sea-bed and ocean floor which is not subject to national jurisdiction and that this fact, which seemed obvious, needed emphasizing because of the broad interpretation of which article 1 of the Convention on the Continental Shelf was susceptible. It was pointed out that none of the members in the Working Group had suggested that either international law or article 1 of the Continental Shelf Convention authorizes the extension of limits for an indefinite distance into the deep ocean floor and this was considered possibly a valuable finding. On the other hand, several of the participants in the debate referred to the need for a more precise definition of the sea-bed and the ocean floor underlying the high seas beyond national jurisdiction, in order for the areas under discussion to have internationally agreed boundaries. There was agreement in general that the question of these boundaries raised difficult problems and some members stated that for this reason they were not yet ripe for immediate consideration. Some members were of the view that the question of the outer limits of the continental shelf, although indirectly related to the task of the Working Group, was not within its mandate. Others opposed any discussion of this subject on the grounds that the continental shelf was fully under national jurisdiction. In this connexion, it was also pointed out that national jurisdiction applies to the continental shelf only within the limits established by international law. A suggestion was made that a special sub-item entitled "Elaboration of a definition of the sea-bed beyond the limits of national jurisdiction" should be included in the agenda of the appropriate forum for the next year.

41. Several representatives suggested a moratorium or freezing of national claims over the sea-bed beyond the limits of present national jurisdiction.

42. The participants in the debate referred to the legal study prepared by the Secretariat under General Assembly resolution 2340 (XXII) (A/AC.135/10, 11, 19 and Add.1 and 2). It was suggested that, subject to the observations of delegations, the "Survey of existing international agreements concerning the sea-bed and ocean floor, and the subsoil thereof, underlying the high seas beyond national jurisdiction" (A/AC.135/10) might serve as an element in the survey called for by operative paragraph 2 (a) of General Assembly resolution 2340 (XXII). Although the study was highly praised, there were also observations relating to points of

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drafting or materials excluded from or included in the study. The representative of the Secretary-General stated that such observations would be taken into account by the Secretariat. He added that information concerning international agreements or national legislation which may subsequently be received from Governments would be incorporated in the relevant documents. It appeared appropriate to the Working Group in the light of paragraph 2 of General Assembly resolution 2340 (XXII) to suggest to the Ad Hoc Committee that the Secretariat study be forwarded to the General Assembly at its twenty-third session.

43. It was widely felt that following precedents set by the United Nations in its treatment of other questions, such as that of outer space, a statement of principles in the form of a declaration could be adopted by the General Assembly concerning the peaceful use of the sea-bed, ocean floor and the subsoil thereof beyond the limits of present national jurisdiction. The contents of such a declaration of principles were, however, regarded as a matter for more detailed discussion and consultation. Various principles, some of which received wide support, were proposed for inclusion in the draft declaration, inter alia: that the sea-bed, the ocean floor and the subsoil thereof be used exclusively for peaceful purposes and for the benefit of mankind; that the sea-bed and the ocean floor and the subsoil thereof, underlying the high seas beyond national jurisdiction should not be subject to national appropriation by claim of sovereignty, by means of use, occupation or any other means; that activities in the exploration and use of the sea-bed and the ocean floor be carried out in accordance with international law, including the Charter of the United Nations; that all activities in the exploration and use of the sea-bed and the ocean floor beyond national jurisdiction should be conducted with due regard for the freedoms of the high seas and with due regard for the interests of other States and should not infringe on the legally protected uses of the sea for fishing, navigation, communications, research and other purposes complying with international law and with generally agreed standards of security and safety regulations; the principle of conservation of the marine resources, including safeguards against pollution; international co-operation for scientific research and exploration and exploitation of marine resources; safety standards for installations and equipment; recognition of the special needs and rights of developing countries; and international responsibility and liability for damage.

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It was also proposed that a declaration of principles deal with the question of a more precise boundary for the area under consideration, and with the question of internationally agreed arrangements concerning the use of the resources of this area.

44. Some delegations considered that such a declaration could be adopted by the General Assembly at its forthcoming session. Some delegations, however, considered that the precise timing for its adoption was also dependent upon more detailed discussion and consultations.

45. Owing to the limited time at its disposal and the complexity of the problems before it, the Legal Working Group was not in a position at this session to complete its programme of work. It considered, however, that a valuable exchange of views had taken place and that its preliminary exploration of problems might provide the basis for further consideration of the issues involved.

Appendix I

LIST OF DOCUMENTS BEFORE THE WORKING GROUP

Survey of Existing International Agreements concerning the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Underlying the High Seas beyond the Limits of Present National Jurisdiction (A/AC.135/10).

Survey of National Legislation concerning the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Underlying the High Seas beyond the Limits of Present National Jurisdiction (A/AC.135/11).

Summary of Views of Member States (A/AC.135/12).

Legal Aspects of the Question of the Reservation Exclusively for Peaceful Purposes of the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Underlying the High Seas beyond the Limits of Present National Jurisdiction, and the Use of Their Resources in the Interests of Mankind (A/AC.135/19, A/AC.135/19/Add.1 and A/AC.135/19/Add.2).

Letter dated 30 May 1968 from the Director-General of the United Nations Educational, Scientific and Cultural Organization addressed to the Secretary-General (A/AC.135/22).

Regulatory Aspects of Exploration and Exploitation including Rules Respecting Ocean Data Stations, Drilling Rigs, Production Platforms and Other Devices. Note by the Inter-Governmental Maritime Consultative Organization (A/AC.135/23).

Resources of the Sea. Introduction and Summary (E/4449);
Part One: Mineral Resources of the Sea beyond the Continental Shelf (E/4449/Add.1);
Part Two: Food Resources of the Sea beyond the Continental Shelf Excluding Fish (E/4449/Add.2).

A limited number of copies of the following documents were distributed under their original symbol:

UNESCO - Intergovernmental Oceanographic Commission (Information Paper on the Legal Problems Associated with Manned and Unmanned Ocean Data Stations) (ICC/INF.108). Paris, March 1967.

UNESCO - Intergovernmental Oceanographic Commission - Fifth Session (UNESCO, Paris, 19-27 October 1967) (SC/CS/150). Paris, 25 March 1968, particularly item 6 - Legal Aspects of Scientific Research and Its Applications on the High Seas.

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avoid adverse consequences for the world market in general and the economy of developing countries in particular.

38. Summing up the debate, the Chairman made the following points:

(a) The economies of certain developing countries depend heavily on their exports of certain raw materials such as manganese or phosphates.

(b) There seems, however, to be no reason for undue concern about the adverse effects on the world market which might occur.

(c) Nevertheless, the possibility of prices being adversely affected and of the world market being disrupted by the exploitation of marine minerals cannot be excluded.

(d) Thus, future international arrangements concerning the production of marine mineral resources might prove very useful; it has been suggested that this could be dealt with by international agreements and co-operation.

Possible repercussions of the exploitation of marine mineral resources on other uses of the sea

39. During its meetings on 25, 26 and 27 June 1968, the Economic and Technical Working Group gave consideration to the question of the "possible repercussions of the exploitation of marine mineral resources on other uses of the sea". The Working Group had before it a note prepared by the Secretariat (A/AC.135/14) as well as a note prepared by IMCO (A/AC.135/23) and a document prepared by the IOC secretariat (A/AC.135/17).

40. Any exploration, evaluation and exploitation of marine mineral resources is likely to lead to some interference with the rights of enjoyment of the high seas, i.e. freedom of navigation, fishing and scientific research activities.

41. Generally, it has been possible to conciliate divergent interests of the various conventional uses of the sea. The task of reconciling marine mineral development with the existing rights of navigation, fishing research and others is already under study in the interested international organizations and must command increasing attention.

42. If the use of drilling rigs, production platforms and other devices for the development of marine mineral resources is not brought into harmony with existing regulatory régimes applied on the seas, they may constitute a hazard to navigation.

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In this context, the importance was also noted of ensuring the safe operation of craft used for marine mineral development and the safety of persons working on them.

43. Pollution caused by oil and chemical wastes represents a great hazard for the marine environment. The International Convention for the Prevention of Pollution of the Sea by Oil, formulated in 1954 and amended in 1962, is under constant review by IMCO, which has also extended its studies to other agents of pollution.

44. Radioactivity produced either by dumping wastes or by the uses of nuclear devices in the recovery of marine minerals constitutes another pollution hazard. Studies to prevent these hazards have been undertaken by the International Atomic Energy Agency following the 1958 United Nations Conference on the Law of the Sea. It was emphasized that these efforts should result in the drafting and eventual adoption of internationally binding provisions.

45. The turbidity resulting from intense exploitation of marine sediments by the use of dredging techniques and by the employment of explosives and chemicals in the process of recovering and enriching minerals at sea might cause bottom-dwelling organisms to be buried and have harmful effects on the other living resources of the sea. Another danger to be feared is the escape of petroleum from the deposits which are being exploited.

46. Mineral exploitation operations in the ocean, dredging in particular, may also have hazardous effects on submarine cables if one does not know their location.

47. It will be necessary to take appropriate measures in order to prevent effectively any deleterious effects on the marine environment that may be caused by the extension of human activity in the ocean. These measures, however, should not tend to discourage advancement in this field.

48. Summing up, the Chairman made the following points:

(a) The interest witnessed in the possible exploitation of mineral resources of the sea should not make us lose sight of the importance of traditional marine activities such as navigation and fishing; exploitation must not result in unjustified interference with the conventional uses of the sea and the means of exploitation must themselves be safe.

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(b) It is extremely important to develop present knowledge in order to be in a position to assess correctly possible effects of marine mineral development on other uses of the sea. In particular, effective means of preventing all forms of pollution should be assured.

(c) These considerations should not discourage the development of marine mineral resources, but rather bring about efforts to reconcile the conflicting interests in the regulatory framework to be set up for the purpose of mineral development.

Possibility of exploiting marine mineral resources for the benefit of mankind as a whole

49. At its meetings on 27 and 28 June 1968, the Economic and Technical Working Group gave consideration to the question of "the possibility of exploiting marine mineral resources for the benefit of mankind as a whole". It had before it, among other documents, the report of the Secretary-General (E/4449/Add.1, chapter V).

50. The need for intensive and expanded international co-operation in the field of marine mineral development was unanimously expressed. As regards the ways of organizing such a co-operation, different views were taken. Some delegations insisted that this co-operation take place in the scientific and technical field. Some others saw this co-operation in the establishment of an international régime to exploit the mineral resources of the sea.

51. It was noted that the sea-bed and ocean floor beyond the limits of national jurisdiction are the legacy of all human beings.

52. In considering the development of marine mineral resources, the Economic and Technical Working Group kept in mind its paramount purpose, which has been set forth in General Assembly resolution 2340 (XXII), that "the exploration and use of the sea-bed and the ocean floor and the subsoil thereof should be conducted... for the benefit of all mankind"; it was pointed out that this concept should not be interpreted as referring only to the immediate profits made by leasing claims or granting licences. "Benefit of all mankind" should rather be understood in terms of the larger value of international output, in particular of the increase in value at stages subsequent to the primary production including the distribution and consumption phases.

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53. The great majority of countries are, for technical, financial and other reasons, not in a position to participate in the exploitation of these resources. The developing and the land-locked countries were specifically mentioned in this respect. In fact, only a few highly industrialized countries possess the technical know-how and the investment capital necessary to start any development of these resources. Many delegations stated that this would accentuate the economic imbalance existing between developed and developing countries, and that it would also be an incentive for the former to grab and hold the areas which are most promising.

54. Failure to reach agreement on some principles to govern exploration and exploitation of these resources might lead to new forms of colonial appropriations. Some delegations thought this aspect falls beyond the purview of the Economic and Technical Working Group because of its political connotations. Others felt compelled, nevertheless, to point out the importance of this aspect, emphasizing that a scramble would develop among the highly industrialized countries themselves, thus creating international tension and resulting in conflicts.

55. The need for some internationally agreed upon arrangements which would govern operations for exploring and exploiting ocean floor minerals has been generally recognized. So far, there has, however, been no sufficiently detailed study of the merits and demerits of differing forms of arrangements which might be possible. The Economic and Technical Working Group discussed the question and a large number of representatives indicated in this connexion that internationally agreed upon arrangements should satisfy certain requirements including the following:

(a) feasibility and acceptability to the international community of any such arrangements;

(b) efficient and equitable means to ensure orderly exploration, evaluation, exploitation and conservation of the resources in accordance with the rules of international law of the sea and the protection of the rights of all States;

(c) means to prevent, or reduce to acceptable limits, damage to living resources and to the environment as a whole and interference with other legitimate activities;

(d) means to assure the practice of appropriate conservation and safety measures that will avoid resource waste and ensure safe working conditions;

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(e) means to prevent or at least mitigate to acceptable limits economic and social dislocations that may arise from exploitation of sea-bed resources.

(f) provision of social overhead-type services such as aids to navigation, maps and charts, weather information, rescue capability and other services required to encourage and support exploration and development

In this way, the Working Group wanted to indicate what characteristics any régime must have and provide guidelines which might be helpful in formulating and evaluating specific proposals.

56. Agreeing that an area of the ocean floor beyond the limits of present national jurisdiction does exist, the Economic and Technical Working Group stressed the need for an internationally agreed boundary between the area over which coastal States exercise jurisdiction and the one in which humanity as a whole has a stake. It suggested that further detailed examination of this matter should be undertaken.

57. Various possible régimes can be conceived to regulate the exploitation of mineral resources of the sea-bed and ocean floor beyond the limits of national jurisdiction. An international régime under the auspices of the United Nations was recommended by some delegations, but this represents only one among several possibilities. These delegations pointed out that by its very nature the United Nations is the most comprehensive world-wide organization and thus in the best position to fulfil the various requirements and meet the aspirations of humanity.

58. Some delegations referred to the possibility of creating a new agency within the system of the United Nations or in some relationship with it. Without entering into the details of the structure of such an agency they mentioned some existing bodies as examples of the type of administration which might be envisaged. Some delegations opposed the creation of any agency with administrative functions and pointed out the necessity at this stage to develop research and exploration of the mineral resources of the sea-bed and the ocean floor and the subsoil thereof on the basis of international co-operation through co-ordination by the Intergovernmental Oceanographic Commission (IOC).

59. In the context of the discussion of a possible international machinery to supervise and govern "exploitation for the benefit of mankind", attention was drawn to the possible disadvantages of large bureaucratic institutions. Such a machinery if allowed to cause lengthy delays at all stages of its activity would

significantly slow down the return on capital invested and thus, in addition to inefficient spending on the administrative machinery itself, stifle progress. Furthermore, it was feared that the creation of such an international machinery would divert government funds at present earmarked for marine research. Some delegations pointed out that such machinery would hinder the development of co-operation among States in research and exploration of the mineral resources of the sea-bed and the ocean floor. This point of view was strongly controverted by many delegations.

60. However, the opinion prevailed that it was a timely endeavour to consider the possible establishment of a régime to ensure an exploitation for the benefit of all mankind.

61. Summing up, the Chairman made the following points:

Generally accepted concepts

(a) With respect to the question of marine mineral development and related aspects, all delegations are in favour of international co-operation.

(b) There is also unanimous agreement that any international co-operation to be established for the exploration, evaluation and exploitation of the resources of the sea-bed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction be for the benefit of mankind as a whole.

Various possible régimes of exploitation

(c) To regulate the exploitation of mineral resources of the sea-bed and ocean floor beyond the limits of national jurisdiction, various régimes can be conceived.

(d) It will be necessary to study carefully the economic merits and demerits of these systems. The requirements which must be met by any possible régime should be spelled out without delay.

Ensuring the benefit of mankind by means of an international régime

(e) Many delegations pointed out that the great majority of countries, in particular developing and landlocked countries, are, for technical, financial and other reasons, not in a position to participate actively in the exploitation of these resources.

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(f) These delegations believe that an international régime under the auspices of the United Nations or in relationship with it would ensure that the marine mineral resources would be exploited in the interest of humanity as a whole.

(g) They pointed out that without some international régime a new form of colonial competition would occur which would entail definite risks of oppositions and conflicts.

(h) Some delegations stressed that the questions raised in points (f) and (g) mainly fall under the purview of the Legal Working Group and of the Ad Hoc Committee.

(i) They emphasized the disadvantages which might result if a bureaucratic administration were to be set up considerably hampering the progress in the development of these resources.

(j) They further emphasized that the interests of all mankind lie in the larger benefit resulting from the broadest possible use of the minerals no matter where they come from rather than in the narrow goal of ensuring profits to the resource owners.

(k) From the examination of the economic and technical aspects of the problems of the sea-bed and ocean floor and the subsoil thereof beyond the limits of national jurisdiction, many delegations drew the conclusion that there was need for an internationally agreed boundary delineating the area which should be subject to a régime for the widest possible international co-operation and exploited for the benefit of all mankind. Other delegations felt that these considerations were of a legal nature and outside the competence of this Working Group.

(l) Finally, a number of delegations believe that the Secretary-General should be requested to undertake a detailed comparative study of mechanisms that could be established for this purpose. This would facilitate the discussion of this question. Some delegations considered that at this stage such a request should be made to Member States.

62. The Economic and Technical Working Group has still to consider one item of its programme of work entitled "Prospects for International Co-operation in the Development and Exploitation of the Resources of the Ocean Floor".

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63. In forwarding the present report to the Ad Hoc Committee, the following reservations were made by the representatives of Argentina, Brazil, Chile, Ecuador, El Salvador and Peru in the Economic and Technical Working Group: "In view of the extremely technical nature of the matters dealt with by the Economic and Technical Working Group, the delegations of Argentina, Brazil, Chile, Ecuador, El Salvador and Peru reserve their positions generally with respect to the report of the Working Group. It is their understanding, in particular, that the conclusions reached by the Working Group in no way constitute a prejudgement concerning the legal aspects of the question."

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ANNEX III

DRAFT RESOLUTIONS AND AMENDMENTS SUBMITTED TO THE AD HOC COMMITTEE
(In order of submission)

Union of Soviet Socialist Republics: draft resolution on the prohibition of the use of the sea-bed and the ocean floor beyond the limits of territorial waters for military purposes
(A/AC.135/20)

The General Assembly,

Recalling its resolution 2340 (XXII) in which it referred to the importance of preserving the sea-bed and the ocean floor, and the subsoil thereof, from actions and uses which might be detrimental to the common interests of mankind, and recognized that the exploration and use of those areas should be conducted in accordance with the purposes and principles of the Charter of the United Nations, in the interest of maintaining international peace and security and for the benefit of all mankind,

Recognizing the need to take steps to prevent the arms race from spreading to the sea-bed and the ocean floor,

1. Solemnly calls upon all States to use the sea-bed and the ocean floor beyond the limits of the territorial waters of coastal States exclusively for peaceful purposes;

2. Requests the Eighteen-Nation Committee on Disarmament to consider, as an urgent matter, the question of prohibiting the use for military purposes of the sea-bed and the ocean floor beyond the limits of the territorial waters of coastal States.

India: draft declaration of legal principles governing the reservation exclusively for peaceful purposes of the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the uses of their resources in the interests of mankind
(A/AC.135/21)

The General Assembly,

Noting that developing technology is making the sea-bed and the ocean floor, and subsoil thereof, accessible and exploitable for scientific, economic, military and other purposes,

Recognizing the common interests of mankind in the sea-bed and the ocean floor, which constitute the major portion of the area of this planet,

Believing that the exploitation and use of the sea-bed and ocean floor and the subsoil thereof should be carried out for the betterment of mankind and for the benefit of States irrespective of their degree of economic or scientific development,

Desiring to contribute to broad international co-operation in the scientific as well as in the legal aspects of the exploration and uses of the resources of the sea-bed and ocean floor,

Believing that such co-operation will contribute to the development of mutual understanding and to the strengthening of friendly relations between nations and peoples,

Mindful of the importance of preserving the sea-bed and ocean floor, and the subsoil thereof from actions and uses which might be detrimental to the common interests of mankind,

Recognizing that the exploration and use of the sea-bed and the ocean floor and the subsoil thereof should be conducted in accordance with the principles and purposes of the United Nations Charter, in the interests of maintaining international peace and security and for the benefit of all mankind,

Mindful of the provisions and practice of the law of the sea relating to this question,

Recalling its resolution 2340 (XXII) of 18 December 1967,

Convinced that, pending the conclusion of a Treaty regulating the administration and utilization of the sea-bed and ocean floor and the subsoil thereof, in the common interests of mankind, it is necessary to set forth the principles applicable in this regard,

Declares as follows:

1. The exploration and use of the sea-bed and ocean floor and the subsoil thereof, beyond the limits of present national jurisdiction, shall be carried on for the benefit and in the interests of mankind;
2. The sea-bed and ocean floor and the subsoil thereof, beyond the limits of present national jurisdiction, are the common heritage of mankind. As such, they are not subject to national appropriation and shall be used exclusively for peaceful purposes, for the benefit of all countries, particularly the developing countries;
3. The activities of States in the exploration and use of the sea-bed and ocean floor shall be carried out in accordance with international law, including the Charter of the United Nations, in the interests of maintaining international peace and security and for promoting international co-operation and understanding;
4. Taking into account the work currently being performed by other bodies, the United Nations shall endeavour to provide direction and purpose to international and inter-governmental activities with regard to the sea-bed and ocean floor and the subsoil thereof, beyond the limits of present national jurisdiction.

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United States of America: draft resolution on preventing the
emplacement of weapons of mass destruction on the sea-bed and
ocean floor (A/AC.135/24)

The General Assembly,

Desiring that workable arms limitation measures be achieved that will enhance the peace and security of all nations and bring the world nearer to general and complete disarmament,

Requests the Eighteen-Nation Disarmament Committee to take up the question of arms limitation on the sea-bed and ocean floor with a view to defining those factors vital to a workable, verifiable and effective international agreement which would prevent the use of this new environment for the emplacement of weapons of mass destruction.

United States of America: draft resolution containing statement
of principles concerning the deep ocean floor (A/AC.135/25)

The General Assembly,

Desiring to encourage the exploration, use and development of the deep ocean floor to the fullest extent possible for the benefit and in the interest of all mankind,

Believing that such exploration and use of the deep ocean floor will contribute to international co-operation and understanding,

Convinced that no nation, regardless of geographical location, level of economic development, or technological capability, should be denied the opportunity to participate in the exploration and use of the deep ocean floor,

Conscious of the importance of promoting the general welfare of all peoples, and of furthering scientific study and the conservation of resources,

Reaffirming the traditional freedoms of the high seas under international law,

Recalling its resolution 2340 (XXII) of 18 December 1967,

Commends to States for their guidance the following principles concerning the deep ocean floor:

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1. No State may claim or exercise sovereignty or sovereign rights over any part of the deep ocean floor. There shall be no discrimination in the availability of the deep ocean floor for exploration and use by all States and their nationals in accordance with international law;

2. There shall be established, as soon as practicable, internationally agreed arrangements governing the exploitation of resources of the deep ocean floor. These arrangements shall reflect the other principles contained in this Statement of Principles concerning the Deep Ocean Floor and shall include provision for:

(a) the orderly development of resources of the deep ocean floor in a manner reflecting the interest of the international community in the development of these resources;

(b) conditions conducive to the making of investments necessary for the exploration and exploitation of resources of the deep ocean floor;

(c) dedication as feasible and practicable of a portion of the value of the resources recovered from the deep ocean floor to international community purposes; and

(d) accommodation among the commercial and other uses of the deep ocean floor and marine environment;

3. Taking into account the Geneva Convention of 1958 on the Continental Shelf, there shall be established, as soon as practicable, an internationally agreed precise boundary for the deep ocean floor - the sea-bed and subsoil beyond that over which coastal States may exercise sovereign rights for the purpose of exploration and exploitation of its natural resources;

Exploitation of the natural resources of the ocean floor that occurs prior to establishment of the boundary shall be understood not to prejudice its location, regardless of whether the coastal State considers the exploitation to have occurred on its "continental shelf";

4. States and their nationals shall conduct their activities on the deep ocean floor in accordance with international law, including the Charter of the United Nations, and in the interest of maintaining international peace and security and promoting international co-operation, scientific knowledge, and economic development;

5. In order to further international co-operation in the scientific investigation of the deep ocean floor, States shall:

- (a) disseminate, in a timely fashion, plans for and results of national scientific programmes concerning the deep ocean floor;
- (b) encourage their nationals to follow similar practices concerning dissemination of such information;
- (c) encourage co-operative scientific activities regarding the deep ocean floor by personnel of different States;

6. In the exploration and use of the deep ocean floor States and their nationals:

- (a) shall have reasonable regard for the interests of other States and their nationals;
- (b) shall avoid unjustifiable interference with the exercise of the freedom of the high seas by other States and their nationals, or with the conservation of the living resources of the seas, and any interference with fundamental scientific research carried out with the intention of open publication;
- (c) shall adopt appropriate safeguards so as to minimize pollution of the seas and disturbance of the existing biological, chemical and physical processes and balances;

Each State shall provide timely announcement and any necessary amplifying information of any marine activity or experiment planned by it or its nationals that could harmfully interfere with the activities of any other State or its nationals in the exploration and use of the deep ocean floor. A State which has reason to believe that a marine activity or experiment planned by another State or its nationals could harmfully interfere with its activities or those of its nationals in the exploration and use of the deep ocean floor may request consultation concerning the activity or experiment;

7. States and their nationals shall render all possible assistance to one another in the event of accident, distress or emergency arising out of activities on the deep ocean floor.

United Republic of Tanzania: amendments to the draft
resolution submitted by the Union of Soviet Socialist
Republics (A/AC.135/20)-(A/AC.135/26)

Substitute operative paragraph 1 by the following paragraph:

1. Declares that the sea-bed and the ocean floor and the subsoil thereof, underlying the high seas beyond present national jurisdiction, should not be used by any State or States for any military purposes whatsoever.

Substitute operative paragraph 2 by the following paragraph:

2. Requests the ENDC to consider, as a matter of urgency, the question of (a) banning the use of the sea-bed and ocean floor beyond the limits of national jurisdiction by nuclear submarines; (b) banning of military fortifications and missile bases on the sea-bed and ocean floor.

United Republic of Tanzania: amendments to the draft resolution
submitted by the United States of America (A/AC.135/24)-(A/AC.135/27)

Replace preambular paragraph 1 by the following paragraph:

Recalling the preamble of its resolution 2340 (XXII) on the question of the reservation exclusively for peaceful purposes of the sea-bed and ocean floor, beyond present national jurisdiction, in which it was especially stated that "mindful also of the importance of preserving the sea-bed and ocean floor, and the subsoil thereof, as contemplated in the title of the item, from actions and uses which might be detrimental to the common interests of mankind".

Add an operative paragraph as follows as operative paragraph 1:

1. Declares that the sea-bed and the ocean floor and the subsoil thereof, underlying the high seas beyond present national jurisdiction, should not be used by any State or States for any military purposes whatsoever.

Substitute operative paragraph 1 with the following paragraph which will become operative paragraph 2:

2. Requests the ENDC to consider, as a matter of urgency, the question of (a) banning the use of sea-bed and ocean floor beyond the limits of national jurisdiction by nuclear submarines; (b) banning of military fortifications and missile bases on the sea-bed and ocean floor.