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

DRAFT REPORT

I. HISTORICAL BACKGROUND

A. Work of the Sub-Committee in 1971

1. On 12 March 1971, at its 45th meeting, the Committee on the Peaceful Uses of the Sea-bed and the Ocean Floor beyond the Limits of National Jurisdiction decided to set up three sub-committees of the whole. At that meeting, the Chairman of the Committee read the agreement on the organization of work which provided for the establishment of the three sub-committees and allocated to them subjects and functions in accordance with the mandate of the Committee as defined in General Assembly resolution 2750 C (XXV) of 17 December 1970.

2. Under the terms of this agreement, the following subjects and functions were allocated to Sub-Committee III:

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

3. The allocation of subjects and functions to the sub-committee, as provided for in the agreement on the organization of work was based on the following understanding:

"Treatment and allocation of all outstanding subjects including, inter alia, (1) the precise definition of the area of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction and (2) peaceful uses of that area shall be left for determination by the Committee. It is understood that the Sub-Committees, in connexion with the matters allocated to them, may consider the precise definition of the area of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction. It is clearly understood that the matter of recommendations concerning the precise definition of the area is to be regarded as a controversial issue on which the Committee would pronounce. The Committee shall also decide on the question of priority of particular subjects, including the international régime, the international machinery and the economic implications of exploitation of the resources of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction, proceeding from resolution 2750 (XXV) and the relevant explanations made on behalf of its co-sponsors."

4. Being a sub-committee of the whole, Sub-Committee III was composed of the States members of the Committee. States Members of the United Nations which accepted the invitation to participate as observers in the Committee's proceedings, as well as representatives of certain international organizations, also attended the meetings.
5. During 1971, Sub-Committee III held fourteen meetings in Geneva. The 1st and 2nd meetings were held in March and the 3rd to 14th in July and August.
6. At the 1st meeting, on 12 March, the Sub-Committee elected the Chairman, the two Vice-Chairmen and the Rapporteur, as follows:

<u>Chairman:</u>	Mr. M. Alfred VAN DER ESSEN (Belgium)
<u>Vice-Chairmen:</u>	Mr. Mebratu GEBRE KIDAN (Ethiopia) Mr. Augusto ESPINOSA VALDERRAMA (Colombia)
<u>Rapporteur:</u>	Mr. Takeo IGUCHI (Japan)

B. Work of the Sub-Committee in 1972.

7. Sub-Committee III continued in 1972 the work which the Committee entrusted to it under the terms of the agreement reached on the organization of work, of 12 March 1971.
8. During 1972, Sub-Committee III held two sessions. The first took place in New York from 28 February to 31 March and consisted of 5 meetings (15th through 19th). The second session was held in Geneva from 17 July to 18 August 1972 and consisted of 13 meetings (20th through 32nd).
9. Being a sub-committee of the whole, Sub-Committee III was composed of the States members of the Committee. The five States (China, Fiji, Finland, Nicaragua and Zambia) which joined the Committee pursuant to General Assembly resolution 2881 (XXVI) of 21 December 1971, also participated in the work of the Sub-Committee from the beginning of the March session.
10. Part of the March session was devoted to the consideration of the programme of work on the basis of a proposal by Canada, which as revised and amended in the course of the Sub-Committee's work was finally adopted as document A/AC.138/SC.III/L.14 at the 19th meeting on 29 March 1972. The programme of work contained five main headings as follows:-

- A. Preservation of the marine environment (including the sea-bed)
- B. Elimination and prevention of pollution of the marine environment (including the sea-bed)
- C. Scientific research concerning the marine environment (including the sea-bed)
- D. Development and transfer of technology
- E. Other matters.

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

11. As part of the process of co-ordination and communication, the Sub-Committee agreed to a suggestion by Australia that the Chairman should communicate the results of discussions at the March session of 1972 to the United Nations Conference on the Human Environment held in Stockholm in June 1972. Accordingly, the Chairman, Mr. van der Essen, addressed a letter, outlining the discussions in Sub-Committee III as reflected in the summary records, to the Chairman of the Committee, Mr. H.S. Amerasinghe, who in turn transmitted it with the Committee's consent, together with the summary record of the March session which contained a number of valuable suggestions on principles, for adoption by the Conference.
12. The discussions in the Sub-Committee covered the preservation of the marine environment, including the prevention of pollution, scientific research and transfer of technology. The general discussion on marine pollution was concluded and the Sub-Committee decided, at its 23rd meeting, on 28 July 1972, to set up a working group on marine pollution based on the same formula as the working group on the régime in Sub-Committee I, the membership of which would for the most part be designated by the various regional groups, on the understanding that any member of Sub-Committee III could participate in the group's discussions.
13. The Working Group, which was named Working Group 2^{1/}, held two meetings during the summer session of 1972 at which it elected its Chairman, Mr. J.L. Vallarta of Mexico. Its terms of reference are to draft texts leading to the formulation of draft

^{1/} The membership of the Working Group, which was open-ended, was as follows: Algeria, Brazil, Bulgaria, Canada, Ecuador, India, Indonesia, Iran, Ivory Coast, Japan, Kenya, Liberia, Madagascar, Mauritius, Mexico, Morocco, New Zealand, Nigeria, Peru, Philippines, Romania, Spain, Somalia, Sudan, Sweden, Thailand, Trinidad and Tobago, Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, the United States of America and Venezuela. There was one vacancy in the Asian group.

treaty articles on the preservation of the marine environment and the prevention of marine pollution. The Working Group invited the members of the Sub-Committee to submit, at their discretion, written observations, including in particular, draft treaty articles, on the question of the preservation of the marine environment and the prevention of pollution for the use of the Working Group. These comments were to be submitted as soon as possible, preferably before the end of the twenty-seventh session of the General Assembly, but in any event before 15 January 1973, assuming that the mandate of the Committee were to be continued by the 28th General Assembly.

C. Work of the Sub-Committee in 1973

14. During 1973 Sub-Committee III held two sessions, one during the spring in New York and the second during the summer in Geneva. A total of meetings were held.

15. The Bureau remained the same for the spring session in 1973, but during the summer session Mr. Espinosa Valderrama was replaced by Mr. Zuleta Torres of Colombia.

16. During the spring session the Sub-Committee continued the general debate on the subject of scientific research. The general debate was concluded towards the end of the session and the Sub-Committee decided to establish a Working Group under the Chairmanship of Mr. A. Olszowka of Poland to prepare draft treaty articles on scientific research, and the transfer of technology.^{2/} During the summer session the Sub-Committee had a general debate on the last subject within its terms of reference, namely, transfer of technology.

17. During 1973, Sub-Committee III heard statements from the observers of IMCO, UNEP, IAEA and IOC.

18. A list of documents submitted to the Sub-Committee for the years 1971-1973 is in Annex 1.

19. A list of statements made in the Sub-Committee for the years 1971-1973 is in Annex 2.

^{2/} The membership of the Working Group, which was open-ended, was as follows: Algeria, Argentina, Brazil, Cameroon, Canada, Colombia, Egypt, Finland, France, Hungary, India, Indonesia, Italy, Japan, Kenya, Mexico, Morocco, Nigeria, Pakistan, Peru, Philippines, Poland, Senegal, Sierra Leone, Tunisia, Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, the United States of America. There were two vacancies in the Asian group.

General debate on scientific research

20. It was suggested that marine scientific research be described as the systematic study, investigation or experimental work to acquire knowledge of the natural processes and phenomena occurring in ocean space. It was said to embrace a multitude of related scientific activities or disciplines and to cover inter alia the study of marine space and its changes, of matter and their circulation in marine space, the amount and flow of energy, of marine life and phenomena at the boundaries of marine space. It could be conducted from land, from the atmosphere or outer space or in ocean space itself. The view was expressed, however, that the Sub-Committee was concerned only with scientific research conducted in the marine environment. It was pointed out that scientific research means any fundamental or applied research and related experimental works which does not aim directly at the industrial exploitation and which is necessary for the peaceful activities of States.

21. It was stated that the central preoccupation of the international community was the orderly development and rational exploitation of marine resources as well as the preservation of the marine environment and that the achievement of these general purposes, on a global scale, was dependent on the progress of marine scientific research. It was considered impossible to visualize either effective control of ocean pollution or effective management of fisheries, either national or international, without intensive and co-operative scientific research. In short, scientific research was viewed as the prerequisite for the rational and intensive utilization of ocean space.

22. Doubts were expressed as to the usefulness in this context of the distinction between "fundamental"/"pure" scientific research and "applied research" or "research aimed at commercial exploitation". It was argued that what might appear basic and fundamental research in the eyes of one scientist would be research aimed at the exploitation of marine resources to another. It was pointed out that certain national interests relating to security and commercial matters were involved in scientific research. There was a view that the concept of "pure science" was theoretical and a fallacy in the light of international political and socio-economic realities. On the other hand, an opinion was expressed that it was possible to identify pure scientific research and investigation with non-commercial and non-industrial aims. The soundness of another distinction often made, between research for peaceful purposes and military research, was also the subject of doubt among some members of the Sub-Committee. It was asserted that in 90 per cent of the cases no meaningful distinction could be made.

23. It was said that scientific research should not hamper the normal utilization of the sea such as freedom of navigation and fisheries, nor should it have repercussions which would contravene the principle of the preservation of the marine environment.

24. It was stated that some countries recognized the need to formulate rules as well as general conditions and guidelines to govern the conduct of marine scientific research. It was pointed out that such rules were necessary to reconcile the conflicting views of those who wanted marine scientific research to be unburdened by restrictive measures and the views of those who wished to have the marine environment protected from possible abuses in the exercise of the freedom of scientific research.

25. The attention of the Sub-Committee was directed to the basic drafting question of whether these rules should be formulated as elements of a separate treaty on marine scientific research or whether articles on the subject should be included as parts in a more general treaty or treaties that would result from the third United Nations Conference on the Law of the Sea. The suggestion was made that it might be easier to start with a set of articles that could be included in a treaty or treaties of a general character.

26. In accordance with these views, it was not compatible with existing international realities that scientific research should proceed without fully protecting the legitimate rights and interests in the oceans both of mankind as a whole and of individual States. The protection of these legitimate rights and interests through the formulation of adequate international rules and regulations was the task confronting the Sub-Committee and the Working Group on Scientific Research and Transfer of Technology.

27. In accordance with one school of thought, the expression "freedom of scientific research" was not to be interpreted as one of the freedoms of the high seas and should preferably be replaced by the term "promotion and development of scientific research". It was pointed out that it was untenable under this approach to consider such freedom as "a recognized principle of international law" or as "one of the freedoms of the seas and oceans generally accepted by international law". On the other hand, it was pointed out that it was impossible to limit the right to conduct scientific research and that the concept of the freedom to carry out such research should be reflected in the convention.

28. Another view held that while the freedom of scientific research should be protected, it should also be subject to appropriate restrictions in cases where it did not appear to take into account the interests of other States or ignored the basic provisions established to protect the marine environment.
29. A further view was that it was essential for the new rules to make allowance for the differences in the various rights and interests requiring different régimes in the areas or zones within and beyond national jurisdiction. In areas within the jurisdiction of another State, the latter's consent must be obtained; in areas beyond the limits of national jurisdiction, research should comply with the regulations laid down under the international régime to be established. However, it was also expressed that the term "zones of national jurisdiction" was not yet adopted and defined.
30. Still another opinion envisaged the principles of respect for the sovereignty and equality of all States, large and small, as forming the basis for a reasonable solution to the question of international scientific research on the seas, and held that in the territorial sea of a coastal State and in areas under its jurisdiction, foreign marine scientific research was subject not only to the coastal State's approval, but also to its appropriate control.
31. According to one view, the coastal State has the right to regulate and control marine scientific research in areas under its jurisdiction and to ensure the protection of its vital interests in this regard, as well as the duty to promote such research and act as the custodian of the international community's interest in the development of scientific knowledge concerning the marine environment as a whole. With regard to areas beyond the limits of national jurisdiction, this same view emphasized that freedom of marine scientific research was entitled to some form or degree of recognition and protection only to the extent that the results, data or information so obtained were made genuinely available to all States and contributed to the growth of scientific knowledge in the interests of the international community as a whole.
32. It was said that every State would have the right to undertake both "general marine scientific research" and "marine scientific research aimed at the exploitation of resources" on the high seas while general marine scientific research, within the internationally established limits of the territorial sea, should be conducted only with the consent of the coastal State concerned. There was a view that the

principles established in Article 5, paragraph 8 of the 1958 Convention on the Continental Shelf should be maintained in any future convention regarding general non-commercial research into the characteristics of the continental shelf or economic zone. It was also suggested that the coastal State should be required in the general interest to cut bureaucratic red tape to a minimum in matters concerning requests by foreign States wishing to undertake research in the jurisdictional zones of the coastal State. Thus, time limits should be established for the submission of requests to undertake research as well as for the reply of the coastal State.

33. The view was expressed that the Sub-Committee could consider another comprehensive legal approach which would be capable of resolving any possible conflict between unfettered sovereignty of the coastal State within its national jurisdiction and laissez faire beyond national jurisdiction. It was advocated that scientific research in the ocean should be considered as a public interest of the international community. As such, it was pointed out that it would be endowed with special protection throughout ocean space, subject only to essential safeguards to protect truly vital interest of coastal States, as well as to non-discriminatory international regulations to minimize the possibility of abuses and to ensure equitable benefits to all members of the international community. This outlook called for the establishment of comprehensive international institutions to regulate scientific research in a non-discriminatory manner and assist less scientifically advanced countries. According to this opinion, an international register would indicate who was entitled to undertake scientific research, even in areas under some form of national jurisdiction. States, institutions or persons in the register would assume legal responsibility for damages to the environment or to the legitimate rights and interests of States.

34. As to the régime that should prevail in the zone under the sovereignty and jurisdiction of the coastal State, views were expressed to the effect that scientific research could be carried out by the coastal State itself or with its consent. This requirement would apply to such areas as internal waters, territorial seas, continental shelf and the subsoil thereof and zones of specific economic jurisdiction, like fishing zones or the patrimonial sea, adjacent to the territorial sea. In accordance with these views, any foreign country wishing to carry out marine scientific research within such areas must obtain the prior consent of the coastal State and strictly observe its relevant laws and regulations. Prior consent of the coastal State was considered of crucial importance in view of the difficulties in making a precise distinction between scientific research proper and economic exploration and even military intelligence.

35. The view was expressed that the coastal State should also be entitled to take part on an equal footing in the scientific research carried out by other countries within its jurisdiction. With limited or no capacity to acquire knowledge through marine scientific research, the developing coastal State had a right to ensure for itself an equal share in the knowledge about areas under its sovereignty and jurisdiction. Thus it should be entitled to receive and use data and samples and the results should be reported to it with a minimum of delay. It was held that publication of such results should in no way be prejudicial to the interests of the coastal State and should be subject to the prior consent of the coastal State concerned.

36. Another view was that the participation of coastal States should be facilitated and encouraged also in the areas outside of, but adjacent to the zones of national jurisdiction because of the inter-connexions between the two areas. In these cases at least advance information of research plans should be given to the nearest coastal States.

37. It was pointed out that in practice some coastal States permitted the conduct of marine scientific research within their jurisdiction when other States applied for obtaining the prior consent of the coastal State. This practice, it was also pointed out, had worked well in the past and could therefore continue in the future.

38. It was suggested that it should be possible to establish a workable system of safeguards governing scientific research projects in areas within national jurisdiction, in a manner consistent with the basic principle of full international co-operation and the need to accommodate certain national interests.

39. There were views holding that the variety of areas and jurisdictions, the conflicting claims related thereto and the separate administrative practices of coastal States on the conduct of research in areas within their jurisdiction, created uncertainties and increased the costs and had a detrimental or inhibiting effect on the planning and conduct of marine scientific research.

40. To create a régime which permitted the maximum accumulation of knowledge for the benefit of mankind, while also protecting the legitimate economic interests of coastal jurisdictional areas beyond the territorial sea State, views were expressed

that coastal State rights could be protected through a series of obligations rather than following the consent régime of the Continental Shelf Convention. The obligation would include the following requirements:

- (i) advance notification to the coastal State;
- (ii) meaningful participation by the coastal State in the research directly or through an international organization of its choosing;
- (iii) sharing of all data and samples with the coastal state;
- (iv) assistance directly or through an international organization to the coastal state in interpreting the data and samples;
- (v) flag state certification that the research is being conducted by a qualified scientific research institution;
- (vi) publication of significant research results in an open readily available scientific publication; and
- (vii) required compliance with all applicable international environmental standards. In the territorial sea, coastal states should have the right to approve or reject the conduct of scientific research.

41. With regard to the sea-bed beyond national jurisdiction, it was stated that scientific research should be conducted exclusively for peaceful purposes pursuant to the terms of General Assembly resolution 2749 (XXV) of 17 December 1970. Thus, it should be subject to international regulations with a view to benefiting mankind as a whole. Concerted programmes of international marine scientific research should be worked out jointly provided that they guarantee the equality of all States, large and small.

42. More particularly, one view held that scientific research carried out in the area should be subject to regulation by the international machinery to be established.

43. Another view was that it should be possible without prejudice to co-operative programmes, to recognize the freedom of States to carry out scientific research in areas beyond the limits of national jurisdiction provided it met certain requirements, such as advance notification to the international authority, prompt dissemination of results and training of experts from the developing countries. It was added that the international regulations should be such that the developing countries do not become totally dependent on the developed countries for their marine research technology.

44. In reference to the status of the area, there were views to the effect that the results of scientific research should be regarded as part of the common heritage of mankind and should therefore be of benefit to all States whatever their level of development. For this purpose, developing States should be able to undertake or participate in scientific research projects as well as to have access to the results thereof. These results ought to be globally disseminated and such dissemination should be institutionalized by requiring, for example, that data be reported to an appropriate international organization. Marine scientific research efforts should be co-ordinated, duplication avoided and available resources used in the most effective manner.

45. It was also pointed out that the existing régime of freedom of research in the area beyond national jurisdiction had produced results of great benefit and no harm to mankind as a whole. There was, therefore, no need for the control or regulation of scientific research in this area, subject only to the need to protect the marine environment by, for example, regulating research drilling.

46. The view was expressed that marine scientific research should not form the legal basis for any claims of exploitation rights or any other rights in areas beyond the limits of national jurisdiction.

47. It was pointed out that if the goals and benefits of marine scientific research were to be realized, the participation of all States, particularly developing countries, in such research must be encouraged and ensured. Scientific research was the key to the development of the riches in the oceans and had disclosed the resources lying beyond the limits of national jurisdiction and principal goals of scientific research should include provision of basic data for the prevention of marine pollution. Efficient scientific research would indicate how the marine environment could be protected against pollution, what environmental changes were occurring and where the mineral and living resources of the oceans could be found. In order to eliminate, reduce or limit marine pollution, coastal States must be able to regulate the areas within their jurisdiction without being hampered by technological inexperience. On the other hand, doubts were raised as to the use of the term "areas within their jurisdiction" which is not yet established.

48. Attention was called to limitations in the capacity of developing countries either to partake in the development and fruits of the common heritage of mankind or to fully meet their international responsibilities concerning the preservation of the marine environment.

49. As to the manner of enhancing the capacity of developing countries in scientific research, the idea was expressed that for international co-operation to be really meaningful, national or regional efforts would have to be supplemented by assistance from technologically advanced countries and appropriate international organizations. In accordance with this view, assistance to developing countries at their request should relate to items such as financial resources, personnel training, establishment of research centres and dissemination of scientific data. It was pointed out that such assistance to developing countries could be organized on the basis of bilateral agreements.

50. In support of the need for the dissemination of scientific research data, it was argued that marine scientific research was, or should be, essentially an international co-operative activity, the results of which should be part of the common heritage of mankind and consequently available to all countries on the basis of equality. On the other hand, the view was expressed that the concept of the common heritage of mankind was not supported by all, although scientific knowledge belonged to mankind. The interdependence of nations having been increased by advancing technology, all States had therefore a responsibility to develop and institutionalize international co-operation in all fields, including scientific research and the exchange and dissemination of information.

51. It was suggested, therefore, that the Sea-bed Committee might ask the General Assembly to request the specialized agencies to organize and promote the training of personnel from developing countries in marine technology. A further suggestion was made for the formation of an agency under the supervision of the sea-bed authority which could pool the necessary finance and facilities (e.g. research ships, equipment and highly trained personnel) required and co-ordinate the research programme and adequate dissemination of results. Nevertheless, another view was expressed that it was not necessary to establish a new agency for covering oceanographic research.

52. It was also suggested that competent international organizations and technically advanced countries should assist the developing countries to build up technical personnel capable of participating in scientific expeditions and utilizing the results of research by such means as the provision of special training programmes for specialists and the establishment of research centres in the countries concerned. Under this approach, scientific research and development and transfer of technology

were complementary and such approach would greatly contribute towards the utilization of scientific research data by the recipient developing countries and the closing of the gap between scientifically advanced and developing countries.

53. It was added that international co-operation must be based on the principles of mutual respect for sovereignty, equality and mutual benefit and on the right to conduct scientific research, and must be agreed through bilateral or multilateral consultations. The co-operative effort should be so organized as to enable the developing countries to train their own scientists and technicians with a view to the best utilization of available resources through effective co-ordination and the avoidance of duplication in marine scientific research.

54. The view was also expressed that assistance to developing countries and dissemination of scientific data should be part of any draft treaty articles relating to scientific research in the ocean.

General debate on transfer of technology

55. It was pointed out that, with reference to the subject of transfer of technology, three main points had to be considered. Firstly, a study should be undertaken with a view to devising an international set of rules governing technical assistance and transfer of technology. Secondly, States and other bodies involved in scientific research should support parallel programmes of technical assistance, including the transfer of technology, aimed at the countries of the zone or region in which the research programmes were to be carried out. And thirdly, all programmes of scientific research, technical assistance and transfer of technology should be co-ordinated and guided by a large technical and scientific body, functioning under the International Authority.

56. The view was expressed that only a few of the most developed countries benefit from the application of technology to the exploration and exploitation of the sea-bed, and this did not improve the conditions in developing countries. It was stated, therefore, that there was a need to provide for the establishment of international centres to give information on technological markets and such centres could help reduce the total cost of transferring technology which, it was stated, represented one of the major obstacles to development programmes. It was important that transfer of technology should be carried out more efficiently and be put to better use if institutions were to be set up in developing countries so as to analyse the various aspects regarding the process of transfer of technology. The view was also

expressed that the international community had a responsibility to ensure that benefits derived from the exploitation of marine resources contributed effectively towards the narrowing of the gap that separated some States from others.

57. It was said that just and equitable rules should be applied to a broad programme for the transfer of technology, as already agreed upon by the United Nations General Assembly in 1970, when it adopted its Strategy for the Second Development Decade. Another suggestion was that the forthcoming Law of the Sea Conference could be provided with a study which would enable it to establish the main objectives of the transfer of technology.

58. It was further said that experience had shown the transfer of technology on a commercial basis was not in keeping either with the principles on which marine scientific research could be based or with the general principles of international development policy. Therefore efforts had to be made to establish new relations among States with regard to the market for technology in general and with particular regard to the sea and its resources, and this could only be achieved with the setting up of a new legal régime and machinery which could provide opportunities to achieve this aim.

59. Another view expressed was that many States supported the proposal that assistance should be given to developing countries to acquire the knowledge of technology regarding the oceans but modern oceanographic research was extremely costly and complicated and frequently required funds and resources which were beyond the means of moderately developed States, and it was therefore desirable that a considerable number of States should participate in such programmes to help provide such technology to the less developed States. It was further stated that participation in scientific expeditions was only one of the measures that could help to strengthen the capabilities of developing countries in the area of scientific research and therefore there was need for much work to be done on such matters as the implementation of joint programmes, the transfer of scientific and technical information, joint action to assist the developing countries in establishing scientific research centres, and the setting up of machinery for transferring patented know-how.

60. It was stated that it was essential that the subject of transfer of technology should not be neglected in the preparatory work for the Conference on the Law of the Sea, and this was because developing States (which were virtually dependent on the ocean) were aware of the fact that scientific and technological know-how was the

basis of the economic prosperity and if deprived of it such States were doomed to dependence and under-development with all the resultant economic and social consequences.

61. It was suggested that due to lack of such technological and financial help from developed States, developing countries may not be able to maintain strict international standards for the prevention of marine pollution unless they stop development activities. However, such an alternative was not feasible due to the need of such countries to better the living standards of their populations.

62. It was pointed out that the sea, with the immense potential resources to be found in its waters, its bed and its subsoil, offered the under-developed States a genuine opportunity of improving their condition, but they had to acquire the necessary technology, especially through transfers. Three major aspects of such transfers to developing countries were pointed out and these were: (i) utilization of coastal resources; (ii) exploitation of fishing resources of the adjacent areas; and (iii) exploration and exploitation of mineral resources.

63. The view was expressed that the transfer of technical knowledge necessary to profit from scientific research was a two-stage process. In the first stage, developing countries should receive assistance in interpreting data about marine areas of concern to them in a manner favourable to their interests. In the second stage, means would be devised to enable countries not only to interpret the data for themselves but also to engage in scientific research in the marine environment. To achieve this, it was pointed out, a mechanism should be established within appropriate international organizations whereby coastal States could seek assistance in interpreting data and samples obtained from scientific research conducted in the areas off the States which exercise jurisdiction over the area's sea-bed resources and fisheries. In such a case the State would have the right to participate or be represented in the research and to have access to the data and samples obtained. It was also stated that with respect to the interpretation of data the coastal State should be in a position to receive assistance from an international or regional organization participating in scientific research on its behalf and the coastal State could thus determine its priorities for the benefit of the scientists taking part in the project on its behalf and could then obtain assistance from the organization to analyse the data.

64. On the other hand, it was pointed out that not all scientific research projects generated data with immediate relevance to the coastal State and that data might emerge in a form which could not be used for more than one purpose, and as such the assistance of the proposed international or regional organization would be helpful in determining the immediate relevance of the data for the coastal State.

65. Another view expressed was that the development of training and education were the main means of achieving the transfer of technology and it was also important to provide equipment for such training. Furthermore, the transfer of technology should be viewed in the context of a global strategy and medium and long-term plans should be worked out providing in particular for the necessary technical assistance and the services of experts. It was stated that Sub-Committee III, to enable it to do useful work, should only deal with the technology of scientific research and should not involve itself in industrial and commercial technology which raises very sensitive problems regarding patents because in most cases those patents were the property of private companies over which Governments had no or little control, and for the time being there are few instruments of oceanographic research protected by patents. Another problem, it was pointed out, was how treaty articles on the transfer of technology would be worked out in a comprehensive convention. The only solution possible was to formulate general provisions on the need to foster the transfer of scientific research technology.

66. A view was expressed that guidance from the Sub-Committee was needed concerning the precise nature of the subject of transfer of technology because it was difficult to determine exactly what the Sub-Committee should deal with; whether we should deal with the question of the technology of all activities conducted on the sea-bed or the technology which enabled men to use ocean space. It was also stated that the orderly exploitation of the resources of the oceans and seas would certainly have a tremendous impact on the world economic system but in that context those States which were at present placed at technical disadvantage were in danger of suffering a worsening of their handicaps. It was felt that the "injection" of technology into disadvantaged countries was not enough to solve the problem because the transfer of technology involved a whole economic, social and political process.

Report of Working Group II

67. Below are two notes from the Chairman of Working Group II (A/AC.138/SC.III/L.39 and A/AC.138/SC.III/L.52), reflecting the work achieved in the Working Group. The first note deals with work done in the working group during the March/April session, and the second note concerns the period during the July/August session.