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LAW OF THE SEA

Report of the Secretary-General

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INTRODUCTION

1. In addition to the present annual report of the Secretary-General on the law of the sea, several other reports have also been prepared at the request of the General Assembly: a report on marine scientific research (A/45/563); a report on the realization of benefits under the United Nations Convention on the Law of the Sea: needs of States in regard to development and management of ocean resources (A/45/712), prepared pursuant to resolution 44/26 of 22 December 1989; and a report on large-scale pelagic driftnet fishing and its impact on the living marine resources of the world's oceans and seas (A/45/663), prepared pursuant to General Assembly resolution 44/225 of 22 December 1989. The present report should be complemented by the above-mentioned reports. It may be noted also that, at the request of the General Assembly in its resolution 44/26 on the law of the sea, a second report will be prepared on the needs of States for submission to the forty-sixth session of the Assembly, as a follow-up to A/45/712, and a second report on protection and preservation of the marine environment will also be prepared as a contribution to the 1992 United Nations Conference on Environment and Development, as a follow-up to the 1989 report on the subject (A/44/461 and Corr.1), which has been submitted to the Preparatory Committee for the Conference.

2. Particular attention is drawn to certain features of the companion reports submitted this year to the General Assembly. From the report on marine scientific research, it is clear that present and future research and monitoring needs call for unprecedented international co-operation, particularly to resolve the many unknowns about the crucial role of the oceans in global climate change and to meet the increasingly demanding task of providing sound scientific bases for resource management and environmental regulation and control. The report on the needs of States in regard to development and management of ocean resources indicates that the development of marine resources and uses is at an early stage in many countries, and that the greatest developmental benefits, in the medium and longer term, may come from an integrated approach to planning and management. The report on large-scale driftnet fishing outlines a need for more international co-operation in the conservation and management of the living resources of the high seas.

3. The present period is marked by a growing interest in improving the role and effectiveness of international environmental law and in devising strategies that will allow decision-making on environmental and resource development issues to take better account of all relevant factors, including the costs of resource depletion and the benefits of conservation. Attention focuses particularly on the need to improve compliance with the relevant international law and close existing gaps, to introduce integrated management of marine and coastal areas and resources, and to improve regulatory régimes in the fisheries sector to deal with the mounting pressures on resources and the ecosystems that support them.

4. There has been an unprecedented focus in discussions in many intergovernmental bodies and elsewhere on these questions, particularly in preparations for the 1992 United Nations Conference on Environment and Development, so that by comparison, many other matters have not seen substantial change or development. The annual

reports on the law of the sea for 1988 and 1989 (A/43/718 and A/44/650 and Corr.1) are thus recommended as still useful overviews of the prevailing situation in ocean affairs.

5. The United Nations Convention on the Law of the Sea 1/ is the primary instrument for the sustainable use and development of the oceans and their resources, particularly for the facilitation of international communication, the equitable and efficient utilization of ocean resources, the conservation of marine living resources, and the study, protection and preservation of the marine environment. It is based on a philosophy of rational use that fully conforms with the concept of environmentally sound development. Its environmental provisions establish a framework of general principles and rules within which the relevant global and regional instruments should be viewed. The importance of the Convention on the Law of the Sea, and certainly its entry into force, for the progressive development of international law and the formulation of more effective management strategies cannot be over-emphasized. It will also give added impetus to the development of internationally agreed rules and standards that the Convention envisages but which have yet to be formulated.

6. The importance of having a Convention in force is voiced in the fisheries sector, particularly as regards the management and conservation obligations of States, whether within the exclusive economic zone (EEZ) or beyond, in the high seas, since the ability to formulate co-operative arrangements and generally strengthen international commitments to conservation and optimum utilization of living resources will greatly depend on the universal acceptance and application of the principles involved. Increasingly also, emphasis is placed on the range of dispute settlement procedures that the Convention offers. In addition to the number of policy statements, expressed in various forums, on the importance of bringing the Convention into force, concrete efforts are currently being made to deal with issues that inhibit ratification of the Convention, which now stands at 44 (see para. 7).

PART ONE

DEVELOPMENTS RELATING TO THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

I. STATUS OF THE CONVENTION

7. The 1982 United Nations Convention on the Law of the Sea received a total of 159 signatures before the period for signature closed on 9 December 1984. It will enter into force 12 months after the date of deposit of the sixtieth instrument of ratification or accession. As at 10 November 1990, 44 instruments of ratification have been deposited with the Secretary-General, as follows: Antigua and Barbuda, Bahamas, Bahrain, Belize, Botswana, Brazil, Cameroon, Cape Verde, Côte d'Ivoire, Cuba, Cyprus, Egypt, Fiji, Gambia, Ghana, Guinea, Guinea-Bissau, Iceland, Indonesia, Iraq, Jamaica, Kenya, Kuwait, Mali, Mexico, Namibia, 2/ Nigeria, Oman, Paraguay, Philippines, Senegal, Saint Lucia, Sao Tome and Principe, Somalia, Sudan, Togo, Trinidad and Tobago, Tunisia, Uganda, United Republic of Tanzania, Yemen, 3/ Yugoslavia, Zaire and Zambia.

II. STATE PRACTICE AND NATIONAL POLICY

A. State practice

8. The Convention, even before its entry into force, has assured a remarkable degree of conformity in State practice with respect to the extent and exercise of national sovereignty and jurisdiction. It is generally agreed that a 12-mile territorial sea, claimed by some 110 States is the international legal norm, as is the 200-mile EEZ, claimed by some 78 States. An additional 18 States claim exclusive fishing zones. The majority of States, including the United States and the Soviet Union in their joint statement of 23 September 1989 (A/44/650, paras. 12 and 13), recognize the need for States to harmonize their laws, regulations and practice with the provisions of the Convention. At the same time, a number of States have made it known that such harmonization will await the entry into force of the Convention.

9. The success of the EEZ concept in improving resource management and environmental protection is increasingly recognized, most recently by North Sea States in their decision to co-ordinate the establishment of EEZs in the region. The Ministerial Declaration of the Third International Conference on the Protection of the North Sea (March 1990) states that this action is taken "with the aim of increasing coastal state jurisdiction in accordance with international law, including the possibility of establishing Exclusive Economic Zones". Such actions would be without prejudice to the completion of the delimitations of all riparian States of the North Sea and to the rights to be derived therefrom.

10. The question of the status of the exclusive economic zone has been raised in respect of the 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. Article 17 of that instrument had given parties the right to take certain actions to suppress illicit traffic in narcotic drugs by

sea. For example, the flag State may authorize the requesting State to board and search a vessel suspected of engaging in illicit traffic in narcotic drugs and take appropriate action with respect to the vessel, person and cargo on board. It was expressly stated that any such action shall take due account of the need not to interfere with, or affect the rights and obligations and the exercise of jurisdiction of coastal States in accordance with the international law of the sea (art. 17, para. 11).

11. On signing the Convention, Brazil declared that "it is the understanding of the Brazilian Government that paragraph 11 of article 17 does not prevent a coastal State from requiring prior authorization for any action under this article by other States in its exclusive economic zone". 4/

12. Belgium made the following objection to this declaration:

> "Belgium, member State of the European Community attached to the principle of freedom of navigation, notably in the exclusive economic zone, considers that the declaration of Brazil concerning paragraph 11 of article 17, of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances ... goes further than the rights accorded to coastal States by international law." 5/

13. The same objection was made mutatis mutandis by Denmark, France, Germany, 6/ Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and the United Kingdom of Great Britain and Northern Ireland. 7/

B. Initiative of the Secretary-General

14. The Secretary-General has taken the initiative to convene informal consultations aimed at achieving universal participation in the United Nations Convention on the Law of the Sea. In these consultations, the Secretary-General noted that, while he has continued to encourage all States that have not yet done so to ratify or accede to the Convention, it has to be recognized that the problems with some aspects of the deep sea-bed mining provisions of the Convention have inhibited some States from ratifying or acceding to it. He expressed the view that these problems have to be addressed. He further noted that eight years have elapsed since the Convention was adopted and that during that period a number of important political and economic changes have taken place, some directly affecting deep sea-bed mining, others affecting international relations in general. These factors have to be taken into account in the consideration of the problems that may exist for certain States with respect to the deep sea-bed mining provisions of the Convention. The Secretary-General was encouraged by the positive and constructive response from States in these consultations and intends to continue his efforts.

C. Regional co-operation

15. The realization that co-operation in marine affairs within the international framework among States of a region or regions surrounding an ocean affords them the prospects of accelerated development of national capabilities and rational integrated management of the oceans and optimum use of opportunities to participate in the development of the resources, has led to a number of regional initiatives in marine affairs since the Convention was adopted. Two examples are the initiatives taken by the Indian Ocean Marine Affairs Co-operation (IOMAC) and the Ministerial Conference on Fisheries Co-operation among African States bordering the Atlantic Ocean.

16. An international agreement on the organization for the Indian Ocean Marine Affairs Co-operation was adopted at the Second Ministerial Conference of coastal and hinterland States of the Indian Ocean and other maritime user States, which which met at Arusha, United Republic of Tanzania, from 3 to 7 September 1990. This represents a unique and pioneering international endeavour to forge co-operation amongst the developing States of Asia and Africa, some of which are amongst the least developed and whose populations represent the largest single concentration of the world's population, which are increasingly dependent on the ocean for their nutritional needs, transport, communications and security in view of the increasing competition for access to resources and maritime activity. The co-operative activities of IOMAC as reflected in its objectives and plan of action are to take measures to integrate the marine sector into development strategies; to give due regard to the rights and needs of land-locked and geographically disadvantaged States among them; to take measures to establish a system to acquire and disseminate marine affairs information; to make, harmonize or strengthen arrangements in implementing co-operation with other States active in the region; to formulate and establish marine affairs policy, and to co-ordinate them at the national and international level; to develop and maintain safe and efficient maritime transport services; to support and strengthen existing marine affairs institutions and, where necessary, to establish new ones; to influence international organizations to accord greater emphasis to marine affairs; and to co-operate with each other's initiatives and to take all measures necessary in accordance with these principles.

17. The initiative for IOMAC was taken in 1981 in the Asian-African Legal Consultative Committee and the principles for co-operation and the plan of action were adopted at the First Ministerial Conference, held at Colombo in January 1987, on the basis of which practical activities and programmes have been implemented. IOMAC has made progress in efforts to integrate the marine sector in national development which has been under way since the first IOMAC conference (1985-1987), and IOMAC has now embarked on its second development phase (1990-1993). It has been emphasized by the Prime Minister of the United Republic of Tanzania that IOMAC is the result of measures aimed at giving practical effect to the emerging new ocean régime embodied in the Convention on the Law of the Sea and the broad realization that marine development is only possible if efficiently co-ordinated in its various components.

18. Following the Ministerial Conference on Fisheries Co-operation among African States bordering the Atlantic Ocean held at Rabat in April 1989, the follow-up Committee of the Conference investigating ways and means to enhance the implementation of the recommendations of the Conference and considering the legal and institutional arrangements likely to promote fisheries co-operation among member States of the Conference, met in May 1990.

19. To further the co-operation, the Committee decided to identify and carry out projects which are likely to foster co-operation among the States in the region in the field of fishing. In addition to its ongoing projects on assessment and conservation of fisheries resources and development of marine scientific research, it decided on an integrated training programme to meet the specific needs of the fisheries sector of its members and the establishment of a regional maritime data bank. It also requested its Chairman to prepare for the next Ministerial Conference a document presenting various institutional options to ensure the follow-up of the co-operation programme between its member States.

D. Coastal and ocean management

Integrated management of coastal and ocean resources

20. A number of countries are undertaking serious efforts towards the rational use of marine resources, the protection and preservation of the environment and the control of interactions among the various users of the ocean and coastal areas. These initiatives show a marked trend towards the integrated planning and management of coastal areas, although each of them differs on account of (a) the different nature of problems found in each country; (b) the importance attributed to coastal and ocean resources within the framework of national development priorities; and (c) the political/institutional structure and decision-making processes chosen to determine policy and to co-ordinate and implement plans.

21. For example, ASEAN countries had taken the initiative to develop integrated coastal management strategies to ensure sustainable development of their renewable resources (see A/44/650 and Corr.1) and are actively seeking to further expand these activities, in recognition of the strong population and economic pressures that are being exerted on their coastal areas and resources, the serious environmental degradation in many areas, the escalation of conflicts among the users of coastal and ocean resources and space, and the over-exploitation of living resources. By the Baquio Resolution adopted at the Policy Conference on Managing ASEAN's Coastal Resources for Sustainable Development (March 1990), they have sought to draw the attention of international donor agencies to the need to support their actions.

22. In other countries, such as Ecuador, the coastal management scheme established by Decree 375 of 1989 includes the creation of six special management zones (ZEMs), five in continental Ecuador and another in the Galápagos Archipelago. The goal of the programme is the development of the coastal areas within a framework of conservation of the resource base, through intersectoral integration. For that purpose, an elaborated institutional framework has been created, both at the

national and local levels that ensures the constant interaction process between the highest levels of government, charged with responsibilities for policy formulation and the lower administrative structures which will ultimately be responsible for the management of the ZEMs and the implementation of the programme. The objective is the design and formulation of integrated development plans, specific for each ZEM. 8/ This innovative approach appears to have gained solid ground and is serving as an example to other countries that are in the process of establishing similar programmes.

23. Concern over the impact of global climate change on coastal areas have also prompted national and international organizations to increase their efforts towards the implementation of coastal area management plans as exemplified by the programme of the Intergovernmental Panel on Climate Change (IPCC) which has advocated a five-year, $10 million programme to enable developing countries to develop and implement coastal area management plans, and has also given priority to the tasks of elaborating or amending legal structures for the integrated management of coastal areas and related resources.

III. SETTLEMENT OF CONFLICTS AND DISPUTES

A. Delimitation agreements

1. United States of America/Union of Soviet Socialist Republics

24. The United States and the Soviet Union signed a treaty on 1 June 1990, concluding negotiations begun in 1981 on a new boundary delimitation in the Bering Sea. The boundary dispute first arose when both States claimed jurisdiction over 200-mile zones, and was complicated by the use of different mapping techniques at the time the original border was drawn in 1867. The treaty has a unique feature in that each party has ceded to the other areas which originally formed part of its EEZ, and in so doing, explicitly states that recognition of the exercise of jurisdiction over such areas derives from the agreement of the parties and does not constitute an extension of either nation's EEZ.

2. Cook Islands/French Republic of French Polynesia

25. The line drawn by the maritime boundary Agreement, signed on 3 August 1990, is described as approximately equidistant between the Cook Islands and the French Republic and can be adjusted by a protocol "if new surveys or resulting charts and maps should indicate that changes in the base points co-ordinates are sufficiently significant to require adjustments of the maritime boundary". The Agreement is based on "the rules and principles of relevant international law, as they are expressed in the United Nations Convention on the Law of the Sea". The preamble of this Agreement, it may be noted, recognized the need to effect a precise and equitable delimitation of the respective maritime areas in which the two States exercise sovereign rights.

B. Joint development

Australia/Indonesia

26. On 11 December 1989, Australia and Indonesia signed a Treaty on the Zone of Co-operation in an Area between the Indonesian Province of East Timor and Northern Australia concluding 10 years of negotiation, originally begun to delimit a remaining maritime boundary. 9/ It specifically refers to article 83 of the Convention on the Law of the Sea as requiring States with opposite coasts to make every effort to enter into provisional arrangements of a practical nature which do not jeopardize or hamper the reaching of final agreement on the delimitation of the continental shelf (preamble). The Treaty goes on to expressly provide that nothing in it, and no acts or activities taking place while it is in force, shall be interpreted as prejudicing the position of either State on a permanent delimitation, or as affecting the sovereign rights that either claim in the Zone, supplementing this provision with the further requirement that the parties continue their efforts to reach agreement on a permanent continental shelf delimitation in the Zone (art. 2).

27. The Zone of Co-operation is divided into three areas: Area A, where a Joint Authority will control petroleum exploration and exploitation and provide equal sharing of benefits; Area B, where Australia will make certain notifications as to permits, licences and leases and share with Indonesia a "resource rent tax"; and Area C, where Indonesia will do likewise. Treaty annexes applicable to Area A establish a Petroleum Mining Code, a Model Production Sharing Contract Between the Joint Authority and Contractors and a Taxation Code for the Avoidance of Double Taxation.

28. Additional areas of co-operation are laid down for Area A: environmental protection and pollution control (including the establishment of a contingency plan), surveillance, security, search and rescue, air traffic services, marine scientific research, hydrographic surveying, customs, employment regulation, and health and safety regulations. Its provision on marine scientific research (art. 17) is noteworthy: without prejudice to the rights claimed by either State under international law in relation to marine scientific research, a request for consent to conduct research into the non-living resources of the continental shelf is to be a matter for consultation as to whether the project is related to resource exploration and exploitation; if the contracting States decide that the research is so related, they are to seek the views of the Joint Authority and, in that light, will mutually decide on the regulation, authorization and conduct of the research.

C. Settlement of disputes

1. Guinea-Bissau v. Senegal

29. On 2 March 1990, the International Court of Justice dismissed a request from Guinea-Bissau for an indication of provisional measures stating that the purpose of exercising this power under Article 41 of the Statute of the Court was to protect rights which were the subject of "dispute in judicial proceedings" and that the "dispute" in question was not the dispute over maritime delimitation but a new dispute relating to the applicability of the Award of the Arbitral Tribunal for the Delimitation of the Maritime Boundary between Guinea-Bissau and Senegal of 31 July 1989. It will be recalled that on 23 August 1989 Guinea-Bissau had instituted proceedings before the International Court of Justice against Senegal in respect of a dispute concerning the existence and validity of the arbitral award delivered on 31 July 1989 by the Arbitral Tribunal for the Delimitation of the Maritime Boundary between Guinea-Bissau and Senegal. The case concerning the Arbitral Award of 31 July 1989 between Guinea-Bissau and Senegal is still before the International Court of Justice.

2. El Salvador v. Honduras

30. On 17 November 1989, Nicaragua filed an application for permission to intervene in the case concerning the Land, Island and Maritime Frontier Dispute between El Salvador and Honduras. The Court held that it was for the Chamber formed to deal with the case concerning the Land, Island and Maritime Frontier Dispute (El Salvador v. Honduras) to decide whether the application for permission to intervene under Article 62 of the Statute should be granted. The Chamber excluded from the object of intervention the matters of delimitation within the Gulf and the legal situation of the maritime spaces outside the Gulf. 10/

IV. OTHER DEVELOPMENTS RELATING TO THE LAW OF THE SEA

A. Peaceful uses

1. Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof

31. At the Third Review Conference of the Parties to the Sea-Bed Treaty, the three nuclear-weapon States made a declaration to the effect that they have not emplaced any nuclear weapons or other weapons of mass destruction on the sea-bed outside the zone of application of the Treaty and have no intention to do so. This has been regarded as having a welcome confidence-building effect and it is therefore hoped that the declaration will be further strengthened through repetition at future review conferences and at other forums.

2. Nuclear-weapon-free zones

32. Committee-level consensus was reached at the Fourth Review Conference of the Treaty on Non-Proliferation of Nuclear Weapons 11/ on the importance for disarmament of nuclear-weapon-free zones based on arrangements freely arrived at among States of a region. It was further emphasized that such arrangements should be in harmony with internationally recognized principles, taking account of regional characteristics. The Conference Committee agreed that note should be taken of the 1986 Treaty of Raratonga which is now in force and of the positions of the nuclear-weapon States with respect to it: the adherence of China and the Soviet Union to the protocols; the statement of the United States that none of its practices or activities within the region was inconsistent with the Treaty or its protocols; the announcement of the United Kingdom that it would respect the intentions of regional agreements; and the formal decision of France not to adhere to the protocols.

3. Naval issues

33. Consultations on naval armaments and disarmament, within the context of the United Nations Disarmament Commission, have now been concluded, and the results are for the first time annexed to the Commission's report. 12/ The consultative process over the last several years began essentially on the basis of the 1985 report of the Secretary-General on the Naval Arms Race (A/40/535), which examined the main elements of naval forces and armaments potentially impacting on international security, the relevant provisions of the Convention on the Law of the Sea, the perceived need for increased sea surveillance, and the overall expansion of naval forces, naval patrols and fighting capabilities. The consultations yielded a number of conclusions, prominent among them the need to extend existing agreements on avoiding incidents at sea, and to modernize the law regulating naval warfare particularly for the benefit of civilian maritime activities. 13/ The main findings of these consultations were presented in the 1989 annual report and have not changed substantially.

34. It should be noted that the Soviet Union has signed bilateral agreements on incidents at sea with the following countries: United States of America (1972); United Kingdom (July 1986); France (July 1989); Canada (November 1989) and Italy (November 1989). Similar bilateral agreements have been negotiated but not signed with Norway, the Netherlands and Spain.

35. Naval issues were also the subject of two high-level expert seminars, sponsored by the Department for Disarmament Affairs of the United Nations Secretariat. 14/ The openness and informality of these exchanges indicate that there is much merit in pursuing this kind of approach to the international consideration of naval issues.

36. It may be important to note the expert view that regional agreements or other arrangements are likely to prove the most useful, considering that maritime security, for many countries, is more linked to tensions relating to resources and to the delimitation, policing and protection of EEZs. Ecological threats to the

marine environment are also increasingly seen as a more serious threat to national security. The need to police activities in the EEZ has led many countries to acquire sophisticated military hardware, so that regional mechanisms analagous to incidents-at sea agreements were considered helpful. Also discussed was the potential for co-operative naval measures to interdict drug trafficking or pursue large-scale polluters at sea. It may be noted, in this context, that the last South Pacific Forum agreed to revive its Committee on Regional Security Information Exchange to examine whether problems such as drug-related crimes could be dealt with more effectively through regional co-operation. The Organization of East Caribbean States, together with Barbados, have already established a defence arrangement that provides, inter alia, for mutual assistance in areas such as smuggling, illegal immigration, protection of offshore installations, pollution control and threats to national security.

37. Developments with respect to the release of radioactivity from accidents at sea can be expected to take place within the International Maritime Organization (IMO) and the International Atomic Energy Agency (IAEA). It will be recalled also that the Parties to the London Dumping Convention have already agreed that disposal of decommissioned nuclear submarines comes under the provisions of the Convention; and that the 1989 Protocol for the Protection of the South-east Pacific against Radioactive Pollution defines dumping to include any deliberate sinking at sea of vessels containing or transporting radioactive wastes and other substances (see also para. 83 on the IAEA Code on movement of radioactive wastes).

38. It should be noted that the Governments of Argentina and the United Kingdom agreed, on 15 February 1990, to take a series of measures aimed at building confidence and contributing to a more normal situation in the south-west Atlantic. These include an information and consultation system for movements of armed forces units, a set of rules of reciprocal behaviour for naval and air units, a mechanism for air and maritime search and rescue operations and a system of exchange of information on the safety and control of air and maritime navigation. They further agreed to set up a working group on South Atlantic affairs to continue their considerations. The United Kingdom Protection Zone around the Falkland Islands (Malvinas) has been lifted (see A/AC.109/1042 and A/45/136).

B. Protection and preservation of the marine environment

1. Assessments and predictions

39. The main threats to the marine environment come from the land and it is in the nearshore and coastal areas, the most productive zones of the world ocean, that the worst instances of marine pollution and ecosystem destruction are to be found.

40. The Group of Experts on Scientific Aspects of Marine Pollution has concluded that, although concerns may differ from region to region, reflecting local situations and priorities, the major causes of immediate concern on a global basis are coastal development and the attendant destruction of habitats, eutrophication, icrobial contamination of seafood and beaches, fouling of the seas by plastic litter, progressive build-up of chlorinated hydrocarbons, especially in the tropics

and the subtropics, and accumulation of tar on beaches. Issues of particular concern are the apparent increases in harmful algal blooms, eutrophication and associated regional anoxia, and fish diseases. The Intergovernmental Oceanographic Commission (IOC) of UNESCO has consequently initiated a new programme to study harmful blooms. 15/

41. The Group of Experts has also concluded that global climate change may be the most important environmental issue in the long term, and has noted with concern the uncertainties surrounding the role of the oceans in the global carbon cycle. The reports of the United Nations Environment Programme/World Meteorological Organization (UNEP/WMO) Intergovernmental Panel on Climate Change (IPCC), issued in June, conclude that global warming will accelerate sea-level rise, with serious implications especially for small island countries, modify ocean circulation and change marine ecosystems; and that the effects will be added to present trends of rising sea-level and other effects that have already stressed coastal resources, such as population, pollution and overfishing. Major impacts on fisheries are anticipated: rapid sea-level rise would change coastal ecology and threaten many important fisheries; and impacts on the global ocean will affect its capacity to absorb heat and carbon dioxide, changing the upwelling zones associated with important fisheries. Also noted is that an increase in ultraviolet-B radiation can have widespread effects on biological and chemical processes, on life in the upper layer of the open ocean, on corals and on wetlands, although these impacts are not yet well understood. 16/

42. The IPCC scientific assessment is that the average rise in sea level will be at a rate of 6 cm per decade, the uncertainty range being put at 3-10 cm. However, rises are not expected to be uniform because of the regional and local variations caused by thermal expansion, changes in ocean circulation, surface air pressure, and the additional factors of coastal erosion and crustal and sub-crustal movements, which contribute both to a rise and a fall in sea-level. 17/ Assessments of such regional changes must await further research and development of more realistic coupled ocean-atmosphere models, and this depends on the data obtained from continuous observation programmes extending well into the next century. While research advances and increased understanding and improved observations will produce progressively more reliable climate and sea-level predictions, the problems are, however, complex and the scale of the programmes required is such that rapid results cannot be expected. Indeed, further scientific advances may expose unforeseen problems and areas of ignorance.

43. There are many unknowns in our understanding of biological, physical and chemical processes in the marine environment, and thus major challenges in systematically reducing the many uncertainties inherent in predicting the environmental consequences or effects of man's activities, including fishing. An important objective for the international community, at the regional and global levels will be to introduce arrangements providing for periodic examination, critical review and reporting of the state of the marine environment and of the impact of environmental and resource management policies.

44. Environmental monitoring is a basic component of management or regulatory régimes, and monitoring, in turn, requires scientific analysis and knowledge of the

effects of introducing chemical substances, of physically altering or disturbing the natural environment, and of modifying natural biological systems. The Group of Experts on Scientific Aspects of Marine Pollution has stressed that major improvements are needed in the design of environmental monitoring programmes so that they can yield the data and information most needed by decision makers for assessing the adequacy of regulations and verifying compliance. 18/ Considerable advances have been made in developing chemical and biological effects monitoring techniques, but the potential for technically efficient and focused monitoring has not yet been fully exploited.

45. Given the particular link between monitoring capacities and environmental impact assessment, greater attention is now being given to the precedent set by the Convention on the Regulation of Antarctic Mineral Resource Activities in its requirement that the capacity to monitor key environmental parameters and ecosystem components to identify adverse impacts is a prerequisite for approval of proposed activities.

46. In the formulation of a global strategy and in the development of regulatory mechanisms, considerable attention will need to be paid to the development of international systems for monitoring and data and information exchange. It is to be considered, for example, whether recommendations on environmental parameters to be monitored could be incorporated into treaties or agreed monitoring protocols, which would specify how the information is to be exchanged.

2. Strengthening of law and policy of the marine environment

47. In a number of different contexts, the past year has seen a remarkable focus on international legal issues and on the underlying philosphy of environmental control and regulation.

48. Since the Convention on the Law of the Sea provides the necessary framework of rights and obligations for all ocean uses, its importance has been stressed in all discussions regarding the future development of international environmental law and policy. Close attention will need to be paid in any event to the parallel task of ensuring full harmony and complementarity among agreements, taking special account of the Convention.

3. Improving the effectiveness of existing international environmental law

49. There has been a general emphasis on focusing future development of international environmental law on topics that are generally considered important and that can attract wide acceptance; on promoting wider acceptance and more effective implementation and enforcement of existing agreements; on making traditional treaty approaches more responsive to these needs; and on introducing certain innovations in treaty approaches. The expansion of civil liability régimes and dispute settlement procedures are also given high priority. 19/

50. Specialized organizations are focusing increasingly on problems of implementation and enforcement: IMO, for example, has strongly emphasized (in its resolution A.675 (16)) that the effectiveness of maritime safety and pollution prevention standards in preventing or reducing marine pollution depends on their universal application and strict observance, and has consequently instructed its different bodies to review the adequacy of relevant international conventions and codes and urged members to submit specific proposals on improving their effectiveness. Regional organizations have done likewise: for example the Declaration of the European Council (A/45/336) stressed full implementation and enforcement and called for periodic evaluations of existing European Economic Community (EEC) Directives to ensure that they are adapted to scientific and technical progress and resolution of persistent difficulties in implementation.

51. The more rapid updating of treaties has invited particular attention, given the impacts of rapid scientific and technological change. IMO practice in this area is frequently cited: technical standards are annexed to a basic treaty and are subsequently adopted and revised without resort to a diplomatic conference; amendments are prepared by technical experts, adopted by technical committees, and "tacitly" accepted by States, allowing dissenting parties to "opt out" by means of a notification that they do not want to be bound by the new standards. In practice, States have invariably indicated an intention to resolve the technical problem preventing their acceptance of an amendment, so that the risks of coexistence of an amended convention valid for some Parties and an unamended text still valid for others has generally been avoided. At the same time, IMO has emphasized (by its Assembly resolution A.500 (XII)) that a mandatory regulation should remain unchanged for a substantial period of time in order to show its usefulness, and that priority must be given to the enforcement of existing conventions which should only be amended when there is a compelling need to do so.

52. The time required to negotiate conventions and bring them into effect is of mounting concern for dealing with a number of environmental issues where rapid acceptance and implementation will be a distinct goal. Thus, there is a growing interest in such supplementary actions as provisional application of some or all treaty provisions; simultaneous adoption of recommendations that deal with selected convention subjects; and declarations of voluntary compliance. It will be noted that the signatories to the 1989 Basel Convention resolved to act in accordance with the Convention without waiting for it to come into force.

53. Framework conventions are understood to hold a considerable potential for dealing with complex subjects, as proven by the Convention on the Law of the Sea. They do not necessarily impose specific obligations, but rather serve the important purpose of promoting a particular code of conduct and enabling many more States to be involved in important co-operative processes, such as research and monitoring. Framework conventions can also provide for the development of rules and technical standards by specialized intergovernmental bodies.

54. All current examinations of the effectiveness of international law in the environmental sector have taken special note of the proven value of the recommended rules and standards that are contained in non-binding instruments: they carry more information which can then guide the activities of Governments in enacting their

own legislation; they are easier to adopt and are immediately applicable; and they may, as they have in the past, constitute a first step towards the conclusion of conventions that are potentially more readily acceptable in view of the experience already gained. This option, as well as that of the general framework convention, holds particular significance for the forthcoming efforts to improve the regulation and control of land-based sources of marine pollution.

55. It is clear that not every country in the world possesses enough resources to enforce international rules and standards and there is good reason to attribute a large measure of the non-adherence to, or inadequate implementation of, the provisions of existing agreements to their deficiency in providing adequate mechanisms for preferential treatment, financial aid and transfer of technology to developing States. In the maritime sector, for example, developing countries find it extremely difficult to implement provisions on waste-reception facilities, new ship equipment, and sophisticated control techniques over port traffic and traffic in territorial waters. 20/

56. A consensus is in fact emerging that international law should take specific account of the different economic situations and developmental needs of States. Special mechanisms, incorporated in treaties, to provide financial and technical assistance in support of implementation are thus receiving priority attention. Other treaty devices that can be expected to grow in importance are differentiated objectives and standards which target the main "polluters" while ensuring wide acceptance of the general principles; and delayed compliance, as in the 10 year "grace period" given to developing countries in the 1987 Montreal Protocol. Given the evolution towards a highly restrictive régime under the London Dumping Convention, regional differences, including the availability of alternatives to dumping at sea, may have to be accommodated with different timetables for compliance with new measures.

57. With respect to sustainable development of resources, there is recognition of the need to integrate science, technology and economics more closely into the decision-making processes involved, for example, by treaty-based arrangements for the use of specialized advisory groups in the formulation and implementation of laws and regulations. Much more can also be done to formalize international arrangements for the collection, processing and dissemination of data and information and for co-operation on research and monitoring, including special arrangements to assist developing countries in those processes, at their request.

58. Many of the above-mentioned points are exemplified by discussions on the proposed global climate convention within the context of the WMO/UNEP IPCC. This convention is expected to contain general principles and obligations and to be framed in such a way as to gain the adherence of the largest possible number and most suitably balanced range of countries, while permitting timely action to be taken; to contain provisions for separate annexes/protocols to deal with specific obligations; to address the particular financial and other needs of developing countries (particularly those most vulnerable to climate change); and to address technology aspects and the need for research and monitoring, as well as institutional arrangements. IPCC has generally emphasized that any recommended measures will require a high degree of international co-operation with due respect

for national sovereignty. The disaggregation of global targets is also under active consideration, the objective being to find means for allocating different targets to States or groups of States and to phase the approach adopted.

4. A new strategy for marine environmental protection

59. The process of strengthening existing agreements and concluding new agreements may be expected to reflect a more comprehensive and integrated approach, including harmonization of rules and regulations for those sectors or sources which are clearly interrelated. Logic dictates that environmental problems cannot be solved if they are merely transformed or transferred to the environment via another route; and this principle is embodied as an obligation of States in the Convention on the Law of the Sea (art. 195). This holistic principle has already produced a more comprehensive approach to the management of wastes, as evidenced by developments under the London Dumping Convention. The principle may see further development in respect of more rational use and development of the marine environment and its resources, bringing the requirements of environmental protection and resource conservation, for example, into a closer relationship. 21/ Thus, an area deserving of close attention is the establishment of a strategic framework within which to achieve a more holistic approach.

60. Of considerable significance for future approaches to marine environmental protection and resource conservation is the "precautionary principle", endorsed by virtually all recent international forums. The decision of the 1990 special session of the UNEP Governing Council (SS.II/4) on a comprehensive approach to hazardous wastes exemplifies much of the current thinking, particularly since it takes as its point of departure the continuing degradation of the marine environment and its ecosystems. That decision affirms the precautionary principle, "that waiting for conclusive scientific proof regarding the impacts of contaminants entering the environment may result in significant and irreversible damage to the environment and the human population". 22/

61. Also to be noted is the new "Environment" section of the recent Lomé Convention (December 1989), whereby the Parties (68 African, Caribbean and Pacific countries and the 12 members of the European Community) agreed to give priority to a preventive approach aimed at avoiding harmful effects on the environment as a result of any programme or operation; a systematic approach that will ensure ecological viability at all stages, from identification to implementation; and a trans-sectoral approach that takes into account not only the direct but also the indirect consequences of the operations undertaken.

62. In the case of living marine resources, a similar approach has been advanced in order to reduce the probability of serious and irreversible consequences.

63. It is widely assumed that a global strategy for protection and preservation of the marine environment will be developed within the context of the United Nations Conference on Environment and Development 1992, based on certain globally applicable principles that recognize the legitimacy of social and economic development while ensuring the long-term protection of the world's oceans, their

resources and coastal marine areas. A strategy would be expected to identify the subjects which require attention at the global level, to specify those on which further regional action is to be taken and co-ordinated, and the means of providing the technological and financial assistance needed by developing countries, including that required to develop and extend international systems for monitoring, data collection and management. Special attention would be paid to measures that would promote wider adherence to all relevant existing agreements and help strengthen them in respect of effective implementation and enforcement. Considerations for the development of such a strategy have been outlined in a joint preliminary statement, prepared by all the organizations of the United Nations system competent in marine affairs and circulated in a paper dated 20 June 1990 at the first session of the Preparatory Committee for the United Nations Conference on Environment and Development.

(a) Land-based sources of marine pollution

64. The major component of any future strategy would be the approach taken to land-based sources of marine pollution which contribute some 80 per cent of all marine pollution. Various calls have been made for Governments and international agencies and forums to take special steps at the global, regional and national levels to address the serious and growing problem of land-based sources of marine pollution.

65. Besides the Paris and Helsinki Conventions, which contain provisions for the protection of the marine environment from land-based sources, only two of the eight UNEP Regional Seas Conventions (for the Mediterranean and South-east Pacific) have been supplemented by protocols on land-based sources. 23/ It has long been assumed that land-based sources of pollution are principally a matter to be dealt with at the national level but that regional level action is highly desirable, especially in enclosed and semi-enclosed seas. Those sources which make direct inputs into coastal waters, for example, pipes and outfalls that discharge wastewater, would appear relatively amenable to control, and sources so located as to raise greater possibilities of transboundary effects would appear to call for special attention. However, when it comes to important sources, such as run-off from agricultural lands and atmospheric inputs, a very broad range of prevention and reduction measures are indicated. As the Group of Experts on the Scientific Aspects of Marine Pollution has pointed out, control of eutrophication problems, for example, may involve changes in agricultural practices and riverine transport of contaminants, as well as modification of sewage treatment and discharge.

66. Proposals have been made for a global agreement on the basic approach that should be taken to land-based (and atmospheric) sources of marine pollution. The economic declaration of the seven most industrialized countries summit, held at Houston, Texas, United States, in July 1990, called for a comprehensive strategy to be developed to address land-based sources while EEC, at the Bergen Conference, held from 8 to 16 May 1990, had earlier called for a global convention for the prevention of marine pollution from industrial sources. It is also understood that any approach would need to recognize the complementary roles of comprehensive waste management and of integrated management of marine and coastal areas and resources, considering especially the deleterious effects that unplanned coastal development can have on the marine environment and its living resources.

67. As discussed in various forums, including the UNEP Governing Council and meetings of London Dumping Convention parties, a framework convention would have to allow for the different conditions and requirements of the various sea regions (oceanographic conditions, uses of the sea, and the stage of development with respect to industrialization, population, scientific and technical development). Reference is frequently made to the 1985 Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-based Sources as providing a useful basis for drafting a new instrument.

68. Where the preference is for restricting agreements and other arrangements to the regional and subregional level, there is an emphasis none the less on the progressive development of common approaches and the development of global mechanisms that would lend substantial technical and financial support to regional efforts.

69. Important progress may be expected from the expert meeting organized by the Government of Canada for May 1991 to develop general principles for the protection of the environment from land-based sources of marine pollution.

(b) Regional-level action

70. The role of regional-level action under more comprehensive approaches to the protection and preservation of the marine environment deserves special attention. While there has been a long-standing international consensus that the main opportunities for internationally agreed regulations and other action lie at the regional level, it is also clear that regional action alone will not suffice in every case. Some environmental problems - ozone layer, hazardous wastes, loss of biological diversity and climate change - are understood to require global action, supplemented by regional arrangements. 24/ Also more apparent is the need, on the one hand, for interregional efforts to facilitate development of common methodology (e.g. data collection, research and monitoring), and, on the other, for more subregional level action to bring together States with more concrete motivations to co-operate actively (e.g. for integrated management of international watersheds and associated coastal areas). The eight regional seas conventions and their associated protocols also require close global co-ordination in order, inter alia, to avoid codification of conflicting interests for parties adhering to several regional conventions, as well as to global conventions, including particularly the Convention on the Law of the Sea. 25/

71. Many regional seas programmes urgently need support to carry out their missions, as well as to meet the requirements for increased interregional, subregional and inter-country co-operation. 26/ Moreover, their role in respect of land-based sources of marine pollution and the development of coastal area planning and management will necessarily be a central one. Also to be considered is the need for closer linkage with regional fisheries, particularly for the study of ecosystems and the protection of habitats.

(c) Regulatory system of the London Dumping Convention

72. There has been a rapid evolution in the regulatory approach taken to ocean dumping, so that under the London Dumping Convention the sea disposal option now has to be considered within a comprehensive waste management régime. Currently, the main focus is on the incorporation of the precautionary principle within the régime established by the London Dumping Convention, bearing in mind that in the European region ocean dumping is being rapidly phased out in response to this approach. The thirteenth Consultative Meeting decided to cease sea disposal of industrial wastes by 1995.

73. The parties to the London Dumping Convention are now considering introducing a new assessment procedure, formulated by the Scientific Group on Dumping. 27/ The new assessment procedure asserts that avoidance of pollution demands rigorous controls over the emission and dispersion of contaminating substances and the use of scientifically based procedures for selecting appropriate methods of waste disposal. It thus provides a set of technical procedures for evaluating wastes and the associated circumstances for which ocean disposal might be considered as a waste disposal option. Compared to the existing London Dumping Convention structure the new assessment procedure places yet more emphasis on consideration of such matters as the practical availability of alternatives, including the conduct of a waste management audit. The new assessment procedure provides for a prior notification procedure to address those dumping operations which may prove unacceptable in a regional context.

74. The new assessment procedure is prefaced by a caution: that uncertainties in relation to assessments of impacts on the marine environment will need to be considered when applying the procedure and a precautionary approach must be taken to address these; and that acceptance of sea dumping under certain instances does not remove the obligation to make further attempts to reduce the necessity for dumping. The recent amendment to annex III of the London Dumping Convention (approved on 8 February 1990) already requires parties to consider whether an adequate scientific basis exists concerning characteristics and composition of the matter to be dumped to assess the impact of that matter on marine life and human health.

(d) Radioactive waste disposal

75. The Co-ordinated Research and Environmental Surveillance set up by the OECD Council has completed its five-year review of the scientific and technical bases for assessing the suitability of deep-sea disposal of radioactive wastes and of discharges into coastal waters. 28/

76. IAEA is continuing its studies of comparative risks of low-level radioactive waste disposal in the ocean, as requested by the contracting parties to the London Dumping Convention, and is developing an inventory of radioactive material entering the marine environment from all sources, in order to establish an information base with which the impact of dumping could be more adequately assessed and compared. It it will also serve as a deterrent against disposal of more waste, coming from various countries, than can be recommended in a single oceanic basin. 29/

77. IAEA has many times emphasized that energy production from any source will generate waste and, in order to make accurate comparisons between, for example, the various ways of producing electricity and/or disposing of hazardous substances, the scientific concepts underlying the international policy for the control and impact assessment of release of radioactive substances into the environment could also serve as the basis of a policy for non-radioactive pollutants generated by other practices.

78. A Protocol for the Protection of the South-east Pacific against Radioactive Pollution was adopted 21 September 1989. 30/ It applies to the maritime area within the 200-mile zone and also to the continental shelf where it extends beyond 200 miles. The Protocol also requires Parties, to the extent possible, to participate in international agreements to monitor areas beyond the limits of national jurisdiction.

(e) Disposal of offshore platforms and other man-made structures

79. With respect to the disposal of offshore platforms, the scope of the definition of dumping and the responsibilities of coastal States are to be addressed by the forthcoming meeting of the London Dumping Convention legal expert group.

80. While there appears to be no need, in the light of the adoption of the IMO Guidelines and Standards for the Removal of Abandoned and Disused Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone, to consider additional guidelines for their "dumping", it is queried whether the abandonment of offshore platforms or the toppling of platforms at site, or their placement on the sea bottom as artificial reefs, should be considered as "dumping" in the context of the definition contained in the London Dumping Convention, and thus subject to its permit system. 31/ This in turn has raised questions as to coastal States' rights and responsibilities under international law. There has also been an ongoing difficulty with respect to article 216 of the Convention on the Law of the Sea, as to whether a coastal State presently has jurisdiction over dumping activities on its continental shelf (or EEZ), and to what extent this depends on having enacted applicable national legislation.

81. There is currently discussion in the London Dumping Convention forum, and in those of the Paris, Oslo and Helsinki Conventions as to whether a land-accessed sub-sea-bed disposal operation (for low-level radioactive wastes) would constitute dumping at sea and pose a risk to the marine environment. A recommendation is to be made by the London Dumping Convention Group of Legal Experts in October, although replies to a questionnaire have indicated a possible majority opinion that such disposal would not fall within the definition of dumping. With respect to repositories accessed from the sea, the London Dumping Convention has already agreed that such disposal would be considered dumping. The Organisation for Economic Co-operation and Development/Nuclear Energy Agency (OECD/NEA) Sea-bed Working Group has recently concluded that, while this disposal option appears to be generally feasible, even for high-level wastes or spent fuel, further research would be needed, particularly on ocean-mixing in continental slope and coastal areas to study transportation accidents in these zones, and on deep-sea

biological activity and its role in redistribution of materials in the ocean. 32/ Such research is needed for many purposes, as has been emphasized elsewhere in the present report.

5. Transboundary movement of hazardous wastes

82. Resolutions adopted with the 1989 Basel Convention on the Transboundary Movement of Hazardous Wastes called for reviews of its relationship with the rules, regulations and practices on maritime transport and ocean dumping of hazardous wastes; and for harmonization with IAEA procedures. It may be noted also that the Preparatory Committee for the United Nations Conference on Environment and Development has asked for recommendations on measures to strengthen global, regional and subregional co-operation, taking account of the Basel Convention, and to resolve any problems encountered in ratifying this Convention, bearing in mind the positions of regional groups. 33/

83. The IAEA Code of Practice on International Transboundary Movement of Radioactive Waste (February 1990) establishes a set of principles intended to serve as guidelines for the development and harmonization of policies and laws, namely, that such movements should only take place when they are authorized by all States involved; when all stages of the movement can be conducted consistent with international safety standards; and when all States involved have the administrative and technical capacity and regulatory practice to fulfil their responsibilities consistent with those standards. 34/ The Code declares that it is the sovereign right of every State to prohibit the movement of radioactive waste into, from or through its territory. However, the Code carries the footnote that "nothing in this Code prejudices or affects in any way the exercise by ships and aircraft of all States of maritime and air navigation rights and freedoms under customary international law, as reflected in the 1982 Convention on the Law of the Sea, and under other relevant international legal instruments". It should be noted that the Convention on the Law of the Sea specified the requirements for "ships carrying nuclear or other inherently dangerous or noxious substances" in their exercise of the right of innocent passage (arts. 22 and 23). The Preparatory Committee of the United Nations Conference on Environment and Development will be examining the need to strengthen the guidelines set forth in the Code, including the feasibility of a world-wide ban on the export of radioactive wastes to developing countries.

84. The review being conducted by the various IMO committees has so far concluded that new provisions in the IMO International Maritime Dangerous Goods Code, as well as in the Codes for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, would be the best way to regulate maritime transport of hazardous wastes, whether they are carried for purposes of reprocessing, dumping, incineration or other methods of disposal. IMO is also preparing specimen forms for the information required under the Basel Convention on advance notification and movement of wastes.

85. In the review process being conducted within the framework of the London Dumping Convention, a number of important observations have been made. The prior notification principle of the Basel Convention is of interest and some Parties have

proposed its development for special permits and a consultation scheme for States which might be affected (see Convention on the Law of the Sea article 210 (5)). So far, consultation is required only for emergencies involving annex I (on prohibited substances). It will be recalled that the parties to the London Dumping Convention adopted a resolution in 1986 (LDC.29(10)), which requested parties not to export wastes to non-parties unless the wastes would be disposed of in compliance with the requirements of the Convention, and not to transport wastes between non-parties without taking the responsibility for the issue of a disposal permit and subsequent notification, controls and monitoring. That resolution did not consider the role of transit States, nor did it provide for a prior notification system; the London Dumping Convention forum can thus be expected to bring this decision up to date to take account as much as possible of any perceived discrepancies between the two Conventions. Views have also been expressed that the Basel Convention and the London Dumping Convention are compatible régimes, in that articles 11 (2) and 9 of the Basel Convention have been interpreted as deferring to the London Dumping Convention as the exclusive regulatory régime for ocean dumping, and that the Convention on the Law of the Sea (arts. 194 and 210) establishes the general principles of international law, including the rule that dumping may not be carried out without the permission of the competent authorities of States. 35/

6. Protected areas

86. The need to attribute special status to vulnerable areas and to areas of special significance is becoming more and more closely associated with fisheries conservation and management measures and with the maintenance of biological diversity, as well as with environmental protection as such. In many countries however, accurate and up-to-date information on marine and coastal resources at risk from maritime and other activities is generally lacking, creating major difficulties for comprehensive coastal area management and for national contingency planning.

(a) Special areas and particularly sensitive sea areas

87. The Convention on the Law of the Sea provides that a coastal State may adopt "special mandatory measures for the prevention of pollution from vessels" in certain special areas of its exclusive economic zones when this is required for recognized technical reasons in relation, inter alia, to certain oceanographical and ecological conditions (see article 211 (6)).

88. The North Sea will become a Special Area under annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL) (garbage) on 18 February 1991. There is also an application with respect to the Gulf of Mexico; and the Antarctic Treaty area (sea area south of 60 degrees S) is being proposed for Special Area status under both annexes I and V of MARPOL. Since the Antarctic Treaty Parties require that all possible waste be removed from Antarctica, the proposal does not include establishment of waste reception facilities in the Area, as normally mandated under MARPOL. Instead, it requires flag States to ensure that their vessels discharge wastes before entering Antartica or after leaving, and also calls on the relevant port States to undertake to provide facilities.

89. Revised criteria for Special Areas and particularly sensitive sea areas were adopted by the IMO Marine Environment Protection Committee in March 1990. 36/ The special protective measures envisaged for such areas, falling within the competence of IMO, would include: designation as a Special Area under MARPOL annexes I, II and V, or application of the relevant Special Area discharge restriction to vessels operating in the Area; adoption, under the International Convention for the Safety of Life at Sea (SOLAS) General Provisions on Ships' Routing, of special routing measures near or in the area, or designation as "an area to be avoided" or other navigational restrictions (e.g. compulsory pilotage); and establishment of a buffer zone around the area. The new Caribbean Protocol (see para. 92 below) allows for such buffer zones "at contiguous international boundaries".

90. The criteria for the designation of Special Area status under MARPOL are grouped in categories of oceanographic conditions, ecological conditions and vessel traffic characteristics, at least one of which is needed to justify additional protection for a specific sea area through more stringent restrictions on the disposal of harmful substances (i.e. oil, noxious liquid substances, garbage). It may also be noted that there is an interest in amending MARPOL annexes to reduce further the present levels of oil and other harmful substances that ships are permitted to discharge, rather than proliferating the number of areas that have Special Area status. 37/

91. Particularly sensitive sea areas may be identified both within and beyond the territorial sea, in the latter case, only by IMO, with a view to developing internationally agreed protective measures. It is noted that such an area may be established within a MARPOL Special Area. The characteristics which contribute to giving an area special significance are elaborated (i.e. ecological, scientific, socio-economic values and vulnerability to damage) together with certain oceanographic and meteorological factors and pre-existing environmental stress whether natural or man-made. 38/ The IMO Marine Environment Protection Committee, at its November 1990 meeting, identified Australia's Great Barrier Reef as the first "particularly sensitive sea area". It also passed a resolution calling upon Governments to instruct ships flying their flag that they should act in accordance with Australia's pilotage system in the Great Barrier Reef region.

(b) Caribbean Protocol

92. The Protocol Concerning Specially Protected Areas and Wildlife was adopted on 18 January 1990, although its technical annexes have yet to be finalized. The difficulties encountered earlier over coastal State rights (see A/44/650, para. 57) have been resolved with a formulation that provides for control over "the regulation of passage of ships, of any stopping or anchoring, and of other ship activities that would have significant adverse environmental effects on the protected area, without prejudice to the rights of innocent passage, transit passage, archipelagic sea lanes passage and freedom of navigation in accordance with international law".

93. It may be noted that the term "threatened species" (article 194 (5) of the Convention on the Law of the Sea) has been elaborately defined in this Protocol to mean species "that are likely to become endangered within the foreseeable future

throughout all or part of their range if the factors causing numerical decline or habitat degradation continue to operate; and that are rare and usually localized within restricted geographical areas or habitats or are thinly scattered over a more extensive range, thus potentially or actually subject to decline and possible endangerment or extinction".

94. The West Central Atlantic Fishery Commission (WECAFC) has recognized that the conservation and protection of critical habitats is one of the urgent problems for fisheries management within the region, and has been a strong proponent of the new Protocol on protected areas.

C. Maritime safety and vessel-source pollution

Strengthening preventive action

95. IMO, by its resolution A.675 (16), has emphasized that the prevention of maritime casualties is the primary and preferred method for avoiding pollution and that the adequacy of international instruments in this respect must be continuously reviewed. It has called for the prompt submission of reports of casualty investigations, since these will yield information which is a crucial element to the development of new measures; and for an examination of the human role and the design of tankers in accidents.

(a) Maritime casualty investigations

96. There are presently a high number of investigation reports still outstanding (498 of the 1,168 requested). IMO has thus emphasized the need for full co-operation between States both in the conduct of investigations and in the exchange of information regarding investigations. States are urged to carry out their obligations, in accordance with the requirements of the Convention on the Law of the Sea (articles 94(7), 217(5) and 223), as well as of SOLAS and MARPOL, and to ensure greater consistency in international practice in relation to official investigations. IMO resolution A.637 (16) has now introduced procedures for consultations, and co-ordination and co-operation in conducting an investigation between the flag State and other States having a substantial interest in a maritime casualty. A definition is given as to when a State has a "substantial interest" in a maritime casualty, namely: if it is the flag State that is the subject of the investigation; if the casualty occurred within its internal waters or territorial sea; if the casualty caused or threatened serious harm to its environment or within those areas over which the State may exercise jurisdiction as recognized under international law; or if the consequences of the casualty caused, or threatened, serious harm to that State or to artificial islands, installations, or structures over which it may exercise jurisdiction. The procedures also recognize that a State may have a substantial interest if the casualty resulted in loss of life or serious injury to its nationals, or if it has at its disposal important information that may be of use to the investigation. Furthermore, the procedures do not preclude a State from establishing a substantial interest in the casualty based upon the special circumstances of the incident or of the ship(s) involved. However, it is only the State conducting the investigation that can determine whether States other than those defined above have a substantial interest.

97. These procedures do not apply to, or affect, preliminary informal investigations into the cause of the casualty, criminal proceedings, proceedings conducted with respect to the revoking or suspension of licences or certificates, or to the imposition of non-criminal penalties, or private litigation to ascertain civil liability.

(b) The human factor

98. The human element in maritime casualties is receiving attention by all relevant IMO bodies in respect of all aspects of safety and protection of the environment. One estimate made by Norway indicates that human error is the primary cause of more than 80 per cent of all marine accidents.

99. Conventions such as SOLAS, Load Lines and MARPOL mostly contain requirements on how to design and equip a ship in order to obtain international certification. They also contain requirements on manuals, operation, maintenance, etc., but these are not given the same attention as compared to design and equipment. The conclusion reached has been that far greater emphasis needs to be placed on the human factor, both in ship design and operation, the latter being greatly dependent on the level of competence, structure of organization and safety commitment of ships' crews and officers, as well as shoreside management. It is urged that far greater use be made of the IMO guidelines on management for the safe operation of ships and pollution prevention (resolution A.647(16)), whether by making them mandatory, by adding more stringent provisions, or by introducing new provisions or amendments to SOLAS, as has been suggested. The guidelines provide the companies that operate ships with a framework for the proper development, implementation and assessment of safety and pollution-prevention management, setting forth the responsibilities of management, master and crew.

(c) Ships' routing

100. Recent developments include: amendment of regulation 10 of the International Regulations for Preventing Collisions at Sea to limit generally the use of inshore traffic zones to small vessels and vessels engaged in fishing. France, for instance, has set up an inshore vessel traffic service that requires all ships navigating in that area to report their course, and has asked IMO to consider adopting such an approach. France is also making it mandatory for all ships carrying oil or dangerous substances to report prior to entering French territorial waters; and adoption of a recommendation on use of the Strait of Bonifacio (Corsica/Sardinia) calling upon ships of more than 5,000 grt transporting dangerous chemicals or other substances likely to cause pollution, to avoid it, and endorsing the ship reporting and information system established for the Strait by France and Italy (IMO resolution A.670(16)).

101. Ships' routing schemes, including areas to be avoided and precautionary areas, are being used increasingly to cover also pollution prevention, a process that has been interpreted as reflecting a lesser degree of reliance on flag State authority for pollution prevention. Various recent proposals are justified on the basis of protecting fishing grounds and nature reserves, for example, as well as on the existence of dangers to navigation. Also notable, is a marked increase in the number of cases where prior notification of vessel movements is being sought.

102. The General Provisions on Ships' Routing 39/ do not include specific criteria that should be considered in establishing an area to be avoided to protect the marine environment or amenities, whereas the criteria adopted for the identification of particularly sensitive sea areas include establishment of such an area as one possible protective measure. There are currently 16 such areas. In view of the concerns of the IMO Maritime Safety Committee about the possible proliferation of areas to be avoided, without some guidelines to validate the adequacy of environmental justification, that Committee and the Marine Environment Protection Committee have now to co-ordinate the designation of particularly sensitive areas where measures are proposed concerning ship navigation.

(d) Response to accidents

103. Recent major oil pollution incidents, such as those involving the Exxon Valdez, Kharg 5 and Porto Santo Island, have prompted a series of actions by IMO which could eventually lead to the adoption of new design and construction standards for oil tankers, as well as a new IMO convention to provide the framework for international co-operation in combating major oil pollution incidents. The draft convention, which will go to a diplomatic conference in November, covers such matters as the establishment of national oil pollution response centres, the development of shipboard emergency plans, the drawing up of world-wide inventories of pollution response equipment, co-operation in research and development, training of personnel and the prepositioning of equipment for emergency use. As such, the convention will supplement the various actions taken at the regional level to deal with pollution emergencies and, in particular, will facilitate the movement of equipment and expertise to the scene of the incident, wherever it might occur.

104. There are presently some 14 joint or regional incident response agreements either in effect or under development. 40/ One such new agreement is that drawn up by the United States of America and the USSR for the Chukchi and Bering Seas to deal with risks posed by potential oil development in that region, as well as with possible risks posed by the transport of hazardous substances other than oil. Response to incidents will be co-ordinated under a Joint Marine Pollution Contingency Plan. Wadden Sea States have agreed to a transboundary early warning and information procedure on incidents involving hazardous substances; and a new Convention on co-operation in case of marine pollution disasters in the Northeast Atlantic was concluded in October 1990 between France, Morocco, Portugal, Spain and EEC, establishing a notification system and the modalities for reimbursing expenditures incurred by one party assisting another.

105. National contingency planning is essential to response capabilities as has been amply demonstrated in developed countries. Many existing contingency plans are known to suffer not only from problems of insufficient or inadequate equipment, but also from inadequate information on resources to be protected and lack of co-ordination arrangements with salvage operations. IMO has recognized the importance of coastal sensitivity maps, both for marine pollution contingency planning, and for the identification of specifically sensitive areas, and has suggested that such maps should be developed on a regional basis, using a uniform system of symbols, preferably those adopted by the International Hydrographic Organization (IHO). Salvage capacities can be an important element of response,

particularly now that the 1989 Salvage Convention provides financial rewards to salvors who prevent a pollution disaster (even though they do not save a ship). In Antarctica, several nations are exploring the possibility of jointly establishing a means to deal with salvage operations, as a component of marine pollution response. North Sea States have agreed to take concerted action within IMO to ensure sufficient salvage capacity on a world-wide basis.

106. It should also be noted that IMO has been revising the list of substances annexed to the 1973 Protocol relating to the Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil. Quick response to accidents, even on the high seas, is in the interests of both the coastal State in danger and the owner of the ship, and an important condition is that the legal instrument be clear and the list of substances related thereto equally so. There was an urgent need to update the annex to the Protocol to take account of developments in maritime transport of hazardous substances and new knowledge of the threats they can pose to safety and to the environment.

D. Conservation and management of living marine resources

107. World fisheries continue to face mounting problems. Various forces of a biological, technical or economic nature are at work: scarcity of resources in the wake of overfishing, degradation of ecosystems and natural stock fluctuations; economic decline in the production value of many fisheries; over-capitalization of commercial fleets; rapid redeployment of fleets within regions and interregionally in the search for new grounds; a technological trend which intensifies fishing effort; biological and economic waste from non-selective gear; underlogging and a continuously deteriorating data base; and increasing competition between artisanal and industrial fishing, particularly in tropical waters where the fishery resources are generally concentrated in relatively shallow waters close to shore. Under these conditions, there has been a marked increase in the attention given to the objectives of management and the tools to be used, nationally and internationally.

108. As coastal States around the world continue to take larger proportions of the catch within their EEZs and come to displace foreign fishing entirely, pressures will grow both to concentrate effort on adjoining high-seas areas and on other areas of the high seas. The fact that uncontrolled development of fishing leads to disaster is widely acknowledged by scientists and by fisheries development and management authorities, so that the future of common resources must therefore be considered carefully.

109. The freedom to fish on the high seas is a well-established principle of international law but this freedom is not unqualified. Under the Convention on the Law of the Sea, all members of the international community have the duty to take, and co-operate with other members in taking, such measures as may be necessary to ensure the conservation of living marine resources on the high seas. It is the obligation of members of the international community to ensure that their fisheries are adequately regulated and monitored to permit the full and timely assessment of fishing impacts and the state of the exploited population. Such assessment must be conducted with the co-operation and participation of other members of the international community with interests in the living resources of the region.

110. Growing problems encountered with "highly migratory", "straddling" and "shared" stocks call for co-operation among States on conservation and management, whether among neighbouring States, between coastal States and foreign fishing, and between coastal States and States fishing on the high seas, particularly in areas close to the EEZ. The development of practical management policies, which can be generally endorsed, would greatly facilitate the resolution of problems and avoid fisheries disputes.

111. The conservation and management of marine living resources is prominent on the international agenda for the United Nations Conference on Environment and Development. 41/ To this end the Convention provides the necessary framework. Recommended in various quarters is the elaboration of management strategies and codes of practice for the high seas and for some endangered species in the EEZs, whereby States acknowledge their basic obligations, establish common goals and co-ordinate their actions. The relative rights and responsibilities of States with particular concerns as to the conservation of specific species or as to the management of fisheries in specific areas will need close examination.

1. Trends and prospects in world fisheries

112. The world catch is now at or about 100 million tons (about 10 per cent or more of which comes from freshwater fisheries): preliminary figures for 1989 are 99,390,000 mt (98,353,000 in 1988), of which the developing countries took 54,561,000 (52,684,000 in 1988) and the developed, 44,828,000 (45,668,000 in 1988). Catch distributions for developing countries were as follows: Latin America and the Caribbean, 17,743,000; Africa, 3,680,000; Near East, 1,488,000; Asia, 31,465,000; and Oceania, 185,000. For developed countries, the distribution was: North America, 7,400,000; Western Europe, 10,988,000 (EEC, 6,972,000; others, 4,016,000); USSR and Eastern Europe, 12,488,000; Japan, 11,900,000; and Oceania, 725,000. The main increases are in the North-west and South-east Pacific regions. 42/

113. Most of the reported increases in marine production come from the small pelagic, primarily herring-like, species. These, however, are of relatively low value, being used primarily for fish meal. Also to be noted is that continued, but small, increases in total catch have obscured the fact that the natural limits of supply have been reached in many countries, particularly tropical countries; that increases have generally been made up of significant shifts in catch composition as larger and higher priced predators are replaced by faster growing and lower priced prey species; and that wastage in both the fishing and processing stages continues to be a major contributor to stock reductions. Consequently, real gains in economic terms have generally decreased.

114. Very few substantial untapped resources of conventional species remain and, because of the nature and small size of most unconventional species, there is no incentive presently for commercial investment. There is consequently growing emphasis on the role of inland fisheries and aquaculture in increasing supplies of fish and fish products.

115. In a recent Canadian paper, it was noted that, of the 186 stocks or stock complexes, 10 are under-exploited, 43 moderately exploited, 89 fully exploited, and, as opposed to a 1985 estimate of 23 over-exploited stocks, 44 are now estimated to be overfished, meaning that fishing is yielding less catches than would occur if reduced or altered patterns of fishing effort were employed. Thus, roughly 25 per cent of the world's fish stocks are now overfished, and the Northwest Atlantic and East Central Atlantic together account for 43 per cent of the stocks in decline.

116. The best future prospects lie with the small shoaling pelagics, for example, sardine, anchovy and herring, even though they are subject to periods of high and low abundance, sometimes extending over decades. Additional harvesting may be feasible by more intensive exploitation in some areas and by improved fishery management in others. Increased research and regional collaboration is needed to improve knowledge and develop appropriate monitoring and management approaches. 43/

117. For some years, the Food and Agriculture Organization of the United Nations (FAO) has emphasized that the future of harvest fisheries depends most critically on better fisheries management and on measures which protect important resources from coastal pollution and habitat degradation. Particular attention must be paid to the development of small-scale fisheries in developing countries. The array of management measures and tools is wide, but since management is ultimately concerned with the overall economic performance, government intervention must include measures to reduce fishing costs (overcapitalization being a basic factor in virtually all fisheries), improve revenues and satisfy social objectives. Also vitally important is the need to establish cost-effective systems to monitor and control fishing operations by both domestic and foreign vessels. 44/

118. Also important is improved utilization of resources, including landing of present discards from fisheries, reducing post-harvest losses and fully utilizing the small pelagic species as food rather than fish meal. While there is little prospect of significantly increasing the catch of demersal (bottom dwelling) species, it should be noted that large quantities of these species are discarded in trawling operations, particularly shrimping. Special incentives would have to be provided to resolve the economic and logistic problems associated with the landing and marketing of these fish; more selective fishing methods would also contribute.

119. Both the present and the prospective world fisheries situation underline the continued need for further research into fisheries biology, socio-economics and technology. Sustained efforts are needed on the elaboration of improved methods of fish stock assessment, on efficient exploitation of multi-species fisheries and on research into existing or innovative management practices. While fishery development and management are implemented primarily at the national level, strategic problems of resource conservation, economic development and scientific research are regional, interregional and global.

2. Regional situations

120. There is a continuing trend towards regional and subregional approaches to fisheries management, particularly as to harmonizing access to EEZs, and an increase in the concerns over shared and straddling stocks and the management of highly migratory species.

121. In the North Pacific and Northwest Atlantic, straddling stocks have become a major challenge for international conservation and management. Intensification of fisheries involving straddling stocks is also evident in areas close to the EEZs of Argentina, Chile and New Zealand, for example.

122. The United States and the Soviet Union are presently discussing ways to improve the state of knowledge of the fisheries in the high seas "donut" area of the Bering Sea, which are subject to heavy fishing pressure. The concerns focus on the unregulated fishery for pollock, conducted primarily by distant water fishing fleets. Recent catch data submitted by these nations indicate that annual harvests are approaching 1.5 million tons annually, and United States and USSR fishery scientists have concurred that the fishery in question is having adverse impacts upon adjacent EEZ stocks. The two Governments are exploring mechanisms for the establishment of an effective conservation and management régime which will involve all nations with fisheries in the central Bering Sea.

123. Concentrated fishing in high seas areas close to the EEZ is apparent off the coast of Canada in the Atlantic; illegal incursions and violations of fisheries laws in the EEZ have also been reported. In the Northwest Atlantic Fisheries Organization (NAFO) region, there is evidence of overfishing, vessel reflagging to escape controls, harmful fishing practices, underlogging and other falsified catch records. The growing numbers of fishing vessels from non-NAFO countries operating in the region is considered an additional problem for regional management.

124. In September 1990, the Canadian Government convened a meeting of international legal and scientific experts from some 15 countries to discuss problems relating to high seas resources, including particularly straddling stocks. 45/

125. The communiqué issued at the conclusion of the meeting stated that fishing on the high seas must take account of the need to respect internationally accepted conservation and management principles; and that while the rules reflected in the Convention constitute a sound framework, they must be given full effect to achieve the basic objective of conservation of living resources of the high seas. The experts reached a number of conclusions which can be expected to promote and facilitate continued examination of the issues relating to high seas fisheries, highly migratory species and anadromous and straddling stocks. Emphasis was placed on the need for all States whose nationals are fishing in a region to establish or strengthen regional organizations or other arrangements whereby effective and timely conservation measures and prudent management régimés can be adopted and enforced. Thus, high seas fishing by parties to the regional agreement could only be undertaken in accordance with quotas and other rules adopted under that arrangement, and they would have the duty to ensure that their nationals comply with all measures adopted and do not resort to techniques such as reflagging of

vessels to escape controls. Regional arrangements should furthermore include dispute settlement procedures as appropriate.

126. With regard to the Southwest Atlantic, it should be noted that the Governments of Argentina and the United Kindom have agreed to proceed to exchange and jointly assess information on fishing fleet operations, appropriate catch and effort statistics and analyses of the status of the main species in the area between 45 degrees S and 60 degrees S They also agreed to assess the information jointly and to explore bilaterally the possibilities for co-operative action. There is strong interest in replacing the existing voluntary agreements between the United Kingdom and other countries fishing in the region with a bilateral regulatory régime (see para. 38 above).

127. In the South Pacific region, where there is a well-established regional arrangement for harmonized control over tuna fishing, supported by the 1987 Treaty between the United States and the Pacific Island States, efforts continue to strengthen this regional régime: the South Pacific Forum is still seeking to enter into an analagous multilateral access arrangement with Japan; and has recently agreed to give high priority to the implementation of the revised Minimum Terms and Conditions as the basic regional standard of access by foreign fishing vessels to EEZs. The Forum has also noted the potential threats posed by increased purse seining in the western Pacific and has endorsed the need to control the number of such vessels licensed to fish in members' EEZs. 46/

128. In the Caribbean region, the OECS is developing a common approach to foreign access to EEZs, and is seeking to synchronize closed seasons and introduce subregional catch and effort monitoring. The Caribbean Community (CARICOM) is also considering a policy on access to the EEZs of its member States.

129. OECS is devoting considerable effort to the definition of "natural fishery management areas", that is, those having similar fisheries resources and common problems in resource management and development. In practice, the concept that the Lesser Antilles is such an area, underlay the decision of the WECAFC to institute a separate Committee for the Management and Development of Fisheries in the subregion. Suggestions have been made to further this approach by sub-dividing the Caribbean into four subregions: Florida/Gulf of Mexico, Central American Shelf, South American Shelf and The Islands (Lesser and Greater Antilles). 47/

130. In the Mediterranean, where there has been a marked decline in fish stocks, EEC is seeking to allocate only a limited number of fishing licences according to the size of fish stocks. Under the current EEC quota system, designed to cut overcapacity in the EEC members' fleets, national Governments are responsible for ensuring that their fleets meet EEC agreed limits on specific varieties and stocks. But the quotas have been exceeded repeatedly. The EEC Fisheries Commissioner has called for an international conference bringing together the 18 Mediterranean States and other countries that fish there, including Japan and the Soviet Union, to endorse a common policy on fishing and stock conservation. Northern countries also anticipate that EEC will see the need to take similar action over the North Sea quota system when it is reviewed in 1992.

131. In the Indian Ocean, tuna fisheries invite particular attention. These fisheries operated at a relatively low intensity until the early 1980s; but the status of the stocks is less well known, since they have been studied for a shorter period and with less effort than in the Atlantic and Pacific. Substantial improvements will need to be made in the assessment of Indian Ocean tuna resources, particularly as regards yellowfin, skipjack and some small tunas. Traditional assessment methods cannot be applied, owing to the lack of adequate fishery statistics and information and because of multi-gear and multi-species problems. Some progress has been made in the collection of data from participating countries and in the development of a tuna data base with UNDP and EEC support. However there are still problems in the collection of data on a timely basis and there is a particular need of a tagging programme for the purse-seine and small scale fisheries.

132. There is strong support for special management measures for southern bluefin tuna, 84 per cent of the catch coming from the Indian Ocean (the rest from the Pacific). Australia, Japan and New Zealand have already agreed on substantial reductions in their catches and are urging that special status be given to this species under the new agreement by establishing a subsidiary body with a certain degree of autonomy.

133. In view of the rapid development of tuna fisheries in South-East Asia, especially in the Indonesian tuna longline fisheries, the tuna purse-seine fleet in the Philippines and Thai purse-seining in the Gulf of Thailand, countries of the region have escalated work on data collection, mapping of resources and development of a tagging programme and are now seeking to introduce management measures.

V. THE PREPARATORY COMMISSION FOR THE INTERNATIONAL SEA-BED AUTHORITY AND FOR THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

134. The Preparatory Commission met twice during 1990: it held its eighth session at Kingston from 5 to 30 March 1990, and a summer meeting in New York from 13 to 31 August 1990. It has been decided to hold its ninth session at Kingston from 25 February to 22 March 1991. In accordance with General Assembly resolution 37/66 of 3 December 1982, provision has been made for servicing a summer meeting of the Preparatory Commission in 1991 in New York.

A. Plenary 48/

1. Implementation of resolution II of the Third United Nations Conference on the Law of the Sea

135. At the eighth session of the Preparatory Commission, the Chairman resumed consultations on the modalities for the implementation of the obligations of the registered pioneer investors and their certifying States. Although the matter was extensively discussed and significant progress was made, owing to lack of time, no final conclusion could be reached.

136. This matter was finally resolved during the summer meeting when, on 30 August 1990, the General Committee, on behalf of the Preparatory Commission, adopted the Understanding on the Fulfilment of Obligations by the Registered Pioneer Investors and their Certifying States. 49/

137. On the adoption of the Understanding, the Chairman made the following statement:

> "(a) Should any agreement be made which would affect in any way this Understanding, such adjustments as may be necessary shall be made to it;
>
> "(b) The required date for the submission of a plan of work by each registered pioneer investor under resolution II, paragraph 8 (a), shall be reviewed in the light of the assessment of the Group of Technical Experts in accordance with paragraph 12 of the Understanding."

138. The main elements of this Understanding related to (a) the payment of a fixed fee of $US 1 million commencing from the date of allocation of a pioneer area; (b) the carrying out of exploration in the area reserved for activities by the Authority; and (c) the training of personnel designated by the Authority.

139. By the Understanding, the three registered pioneer investors, Japan, France and the Soviet Union, undertook to carry out free of cost the preparatory work and stage I of the plan for exploration contained in the report of the Group of Technical Experts. 50/

140. As regards to stage II of the exploration plan it was "the Understanding that this will be agreed upon following the completion of stage I and the review of the results obtained, and taking into account the decision of any pioneer investor to undertake stage II of the plan of exploration in the areas allocated to it. The terms and conditions for such further exploration shall be agreed upon in accordance with resolution II, paragraph 12 (a) (i)."

141. The four registered pioneer investors agreed to provide training also free of cost pursuant to paragraph 12 (a) (ii) of resolution II and in accordance with the Preparatory Commission Training Programme. 51/

142. Once the three registered pioneer investors had "satisfactorily complied" with the obligations relating to training and exploration their duty "to pay $US 1 million per annum shall upon the completion of stage I of the exploration plan be waived as of the date of their registration." 49/

2. The preparation of draft agreements, rules, regulations and procedures for the International Sea-Bed Authority

143. At the eighth session and the summer meeting of the Commission, the plenary dealt with the following matters: (a) the draft headquarters agreement; (b) the draft protocol on the privileges and immunities of the International Sea Bed Authority; and (c) certain issues left pending during the consideration of the

draft rules of procedure of the various organs of the Authority, such as subsidiary organs, observers, the Finance Committee and decision-making, and the articles left pending during the consideration of the draft headquarters agreement and the draft protocol on privileges and immunities.

144. The plenary completed the second reading of both the draft Agreement between the International Sea-Bed Authority and the Government of Jamaica regarding the Headquarters Agreement of the International Sea-Bed Authority 52/ and the draft Protocol on the Privileges and Immunities of the International Sea-Bed Authority. 53/

145. On the issue of subsidiary organs, it was agreed that the Preparatory Commission should not make any recommendations to the Authority with regard to the establishment of subsidiary organs, the only exception being the Finance Committee.

146. With respect to the issue of observers, agreement was reached on the list of entities now contained in the draft rules of procedure of the Assembly. 54/ The question as to the nature and extent of observer participation in the work of the Assembly and the Council was deferred to a later stage.

147. Informal consultations continued on the establishment of a Finance Committee. Broad agreement was reached on its status and composition. It was understood that the question of decision-making in the Finance Committee will be considered within the broader context of decision-making in the organs of the Authority.

148. At the ninth session, the plenary would undertake a first reading of the draft Agreement concerning the Relationship between the United Nations and the International Sea-Bed Authority and the paper on administrative arrangements, structure and financial implications of the International Sea-Bed Authority. The Chairman will also continue his consultations on the articles left pending during the consideration of the draft Protocol on the Privileges and Immunities of the International Sea-Bed Authority and the draft Headquarters Agreement, as well as the issues relating to the Finance Committee and on the hard-core issue of decision-making.

B. Special Commission 1 55/

149. The Special Commission is undertaking studies on the problems that would be encountered by developing land-based producer States from deep sea-bed mineral production.

150. At the seventh session, the Commission completed the first reading of the provisional conclusions that will form the basis of the Commission's final recommendations to the Authority. At the summer meeting, the Special Commission considered a revised list of the provisional conclusions, which had been prepared incorporating the comments and suggestions of delegations in the course of the first reading. They fall under the following sections: projection of production from the Area; application by developing land-based producer States; and consideration of applications, determination of measures to assist developing land-based producer States.

151. The Commission gave preliminary consideration to the provisional conclusions, except those which were directly related to the issues under consideration in the ad hoc Working Group. The ad hoc Working Group is continuing consideration of certain "hard-core issues", such as the system of compensation/compensation fund, effects of subsidized sea-bed mining and dependency thresholds and trigger thresholds.

C. Special Commission 2 56/

152. Special Commission 2 is making preparations for the establishment of the Enterprise - the operational arm of the Authority. The Special Commission had completed its work on the subject of training when the Preparatory Commission adopted, at the eighth session, a series of recommendations aimed at implementing the Preparatory Commission Training Programme. 51/

153. The Special Commission undertook a paragraph-by-paragraph reading of the suggestion of the Chairman to facilitate discussion of transitional arrangements for the Enterprise. It was generally agreed that the purpose of transitional arrangements for the Enterprise could be: (a) generally ensuring the continuity of the work initiated by the Preparatory Commission, introducing modifications and additions as required; (b) providing a focus within the Authority for the collection and analysis of all information and data pertinent to the development of the sea-bed mining industry; (c) providing expert advice on the scientific, technical and economic aspects of the Authority's policies and programmes relating to the Enterprise; and (d) providing a mechanism for the implementation of the Training Programme for the Enterprise, initiated by the Preparatory Commission.

154. The Special Commission continued its review of the working paper on the structure and organization of the Enterprise. It concentrated on those provisions which would enable the Commission to comment on provisions of the Convention in the interest of promoting reasonable interpretation and to suggest draft provisions to facilitate effective application.

155. At its summer meeting, the Special Representative of the Secretary-General for the Law of the Sea introduced a working paper on a draft basic joint venture 57/ which will be considered at the ninth session of the Preparatory Commission.

156. The Chairman's Advisory Group on Assumptions reviewed the current market developments in respect of nickel, copper, cobalt and manganese and continued to examine economic and technical factors and parameters for arriving at a new set of basic assumption for a deep sea-bed mining model.

157. The programme of work for the next session will be as follows:
(a) Transitional arrangements for the Enterprise: finalization of recommendations; (b) Structure and organization of the Enterprise: recommended annotations on LOS/PCN/SCN.2/WP.16; (c) Operational options referred to in LOS/PCN/SCN.2/WP.18 and Add.1; and (d) Other matters arising from paragraph 12 of resolution II, including its subparagraphs 12 (a) (i), 12 (a) (iii) and 12 (b), on which recommendations may be needed.

D. Special Commission 3 58/

158. Special Commission 3 is preparing the rules, regulations and procedures for the exploration and exploitation of the deep sea-bed. During the eighth session, it concluded the first reading of the draft regulations on production authorization 59/ and began its consideration of the draft regulations on the protection and preservation of the marine environment from activities in the Area, 60/ which had been prepared by the secretariat. The Special Commission first held a general exchange of views on the draft and then commenced a first reading article by article of the draft regulations.

159. Certain salient elements emerged from the consideration of the draft. It was noted that there was a need to conduct further environmental studies of the marine environment in the international sea-bed area. Safe methods of exploitation, and with it adequate regulations, could be established only on the basis of appropriate comprehensive experimental data and information on the effects of exploitation of polymetallic nodules on the living and non-living components of the marine environment. It was observed that the current prospects for deep sea-bed mining provided the required time to develop appropriate measures to preserve the marine environment.

160. It was emphasized that there should be a balance in the draft between the needs to protect and preserve the marine environment from activities in the Area and the development of the resources of the Area.

161. The use of the term "serious harm" in the draft caused concern. It was stated that the notion of "serious harm" could lead to the utilization of economic rather than ecological standards.

162. The question of liability was a source of much discussion. At a more general level, the view was expressed that the liability and responsibility rules should be of a general nature and that more detailed and specific rules could be added at a later stage. It was also noted that the question of liability for environmental harm warranted further study since it was, to a large extent, unprecedented.

163. The suggestion was also made that a separate chapter on the settlement of disputes be drafted for the mining code as a whole.

164. A seminar on the environmental aspects of deep sea-bed mining was held under the aegis of the Special Commission at the beginning of the summer meeting. It was generally acknowledged that the seminar produced information and data which would be very useful in the consideration of the draft regulations of the mining code on the protection and preservation of the marine environment. It was clear, however, that more substantial research needs to be conducted before any concrete solutions could be reached.

165. During the 1991 Spring session, the Special Commission should complete its first reading of the draft regulations on the protection and preservation of the marine environment from activities in the area, and then consider draft regulations on accounting principles and on accommodation of other activities in the Area.

E. Special Commission 4 61/

166. Commission 4, which is dealing with the preparation of recommendations regarding practical arrangements for the establishment of the International Tribunal for the Law of the Sea, continued its consideration of the administrative arrangements, structure and financial implications of the International Tribunal for the Law of the Sea and the draft relationship arrangements between the United Nations and the International Tribunal for the Law of the Sea prepared by the secretariat.

167. During the consideration of the document on the administration of the Tribunal, 62/ it was generally agreed that there was a need for maximum economy in the establishment of the Tribunal and its functioning while maintaining the highest level of efficiency. The suggestion was made that the costs of members' allowances and of the Registry of the Tribunal should be further reduced and that in its initial phase, the Tribunal should employ a minimum staff with a view to a gradual increase as the case-load required.

168. There was some debate on the number of official languages to be used by the Tribunal since that would have a direct impact on costs.

169. The Special Commission also examined the draft agreement on co-operation and relationships between the Tribunal and the United Nations. 63/ It discussed the document part by part, in particular, the preamble; the governing principles and mutual recognition of responsibilities, rights and obligations; consultation, co-operation and co-ordination; exchange of information and documents; administrative co operation and personnel arrangements; and budgetary and financial arrangements. During the discussion, the view was expressed that a decision of principle would have to be taken as to the necessity for the Tribunal to conclude a relationship agreement with the Authority, since this would tend to influence some decisions of the Tribunal. It was explained that the independence of the Tribunal should be maintained at all costs.

170. The programme of work for the next session is as follows: (a) Administrative arrangements, structure and financial implications of the International Tribunal for the Law of the Sea - a scheme to phase in the establishment of the International Tribunal for the Law of the Sea (LOS/PCN/SCN.4/WP.8/Add.2); (b) Consideration of the building requirements and facilities for the Seat of the International Tribunal for the Law of the Sea and report of the host country on the progress of work in this respect; other issues related to the Seat of the Tribunal may be considered in this context; (c) Elements of supplementary arrangements between the International Tribunal for the Law of the Sea and the International Court of Justice; (d) Review of the revised texts of the Headquarters Agreement between the International Tribunal for the Law of the Sea and the Federal Republic of Germany; and (e) Review of the revised texts of the Protocol on the Privileges and Immunities of the International Tribunal for the Law of the Sea.

PART TWO

ACTIVITIES OF THE OFFICE FOR OCEAN AFFAIRS AND THE LAW OF THE SEA

I. INTRODUCTION

171. By its resolution 38/227 of 20 December 1983, the General Assembly adopted a major programme which included within a single chapter of the medium-term plan, the activities of the United Nations in the field of marine affairs. This initial step towards a closer linking of United Nations activities in the marine field was reinforced at United Nations Headquarters by an organizational and programmatic consolidation of marine affairs activities in the Office for Ocean Affairs and the Law of the Sea, thereby strengthening, as noted in the 1989 report of the Secretary-General to the General Assembly on the Law of the Sea, "the integration of the Organization's diverse efforts in this field" (A/44/650, para. 163).

172. In the 1990-1991 programme budget, this process was substantially advanced, and in the 1992-1997 proposed medium-term plan, submitted to the General Assembly at its present session for approval, it is completed through the establishment of a new subprogramme structure of activities for implementation by the Office for Ocean Affairs and the Law of the Sea which covers - within a coherent framework - the legal, political, economic, environmental, scientific and technical aspects of the Convention on the Law of the Sea and the implications of its implementation by States in terms of needs and opportunities. As requested by the General Assembly in paragraph 9 of its resolution 44/26, the plan takes into account the prospective entry into force of the Convention and the increased needs of States for assistance in the implementation of the Convention. It also addresses the additional responsibilities of the Secretary-General upon entry into force of the Convention, the servicing of the intergovernmental bodies to be convened, including the Commission on the Limits of the Continental Shelf, and the functions flowing from the relationship to be established with the International Sea-Bed Authority and with the International Tribunal for the Law of the Sea.

173. In 1990, the activities of the Office for Ocean Affairs and the Law of the Sea have continued to be directed to the provision of information, advice and assistance primarily to States and also to global and regional bodies of the United Nations system and other organizations, to subregional organizations and to academic institutions, scholars and other users. In this context, as noted in the proposed medium-term plan for 1992-1997 (A/45/6 (Prog. 10), paras. 10.3 and 10.4), the programme implemented by the Office has sought to facilitate the establishment by States of national legislative frameworks that would secure for them the extended maritime areas of sovereignty and jurisdiction under the new legal régime and assist them in exercising their rights and fulfilling their obligations under the Convention, so that they may harness the benefits of it.

174. To this end, the programme has also provided methodological approaches to, and formulated guidelines for, integrated marine policy-making, and management and has assessed their applications in specific instances, in particular at the regional and national levels. Technical studies and training courses covering general

issues and broad implications pertaining to sea-use planning, and the development of the maritime areas under national jurisdiction, on an environmentally sound and sustainable basis, marine scientific research and the assessment of ocean non-fuel mineral resources, are also being implemented.

175. In 1990, there has also been increased emphasis on assistance to States in regional and subregional co-operation in recognition of the fact that such co-operation is given major importance in the implementation of the new régime for the oceans, as it is for development in general.

176. The General Assembly and other United Nations intergovernmental bodies have annually reviewed the activities of the Office for Ocean Affairs and the Law of the Sea. In addition, the Office continues to serve as the secretariat of the Preparatory Commission for the International Sea-Bed Authority and the International Tribunal for the Law of the Sea in its task of preparing for the entry into force of the Convention and for the commencement of the functioning of the two international organizations established by the Convention, namely, the International Sea-Bed Authority and the International Tribunal for the Law of the Sea.

177. In support of its activities, the Office continues to monitor and analyse developments related to the new ocean régime at the global, regional, subregional and national levels. These functions require continuing research and data and information collection and evaluation, which are supported, among other means, by the convening of groups of technical experts on specialized subjects and by developing the Office's reference library and its Law of the Sea Information System.

178. As the focal point for marine affairs within the United Nations, the Office also participates in and supports inter-agency programmes and activities, as well as inter-agency co-ordination activities and mechanisms, with a view to promoting co-operation in areas of common interest and a consistent approach towards the new régime for the oceans.

II. SERVICING THE PREPARATORY COMMISSION

179. The progress of work in the Preparatory Commission is described in part one of the present report. As in previous years, the General Assembly, by its resolution 44/26, requested the Secretary-General to place special emphasis on the work of the Preparatory Commission. The Office continued to provide the integrated servicing required by the Commission, including the implemention of resolution II of the Third United Nations Conference on the Law of the Sea. In 1990, in addition to a number of meetings of the subsidiary organs, 99 meetings of the main organs of the Preparatory Commission were held, including 5 formal meetings of the plenary, 15 of the plenary as a working group on the organs of the International Sea-Bed Authority and between 16 and 20 for each of the four special commissions.

180. The secretariat continued to prepare studies and working papers dealing with various matters under consideration by the plenary of the Preparatory Commission and its four special commissions. These working papers and studies included:

Information on existing international or multilateral economic measures which could be of relevance to the work of Special Commission 1; Bilateral trade in minerals; Implementation of the Preparatory Commission Training Programme; Draft regulations on the protection and preservation of the marine environment from activities in the Area; Administrative arrangements, structure and financial implications of the International Tribunal for the Law of the Sea; Relationship arrangements between the United Nations and the International Tribunal for the Law of the Sea; Draft Agreement concerning the relationship between the United Nations and the International Sea-Bed Authority; and Administrative arrangements, structure and financial implications of the International Sea-Bed Authority.

III. ADVICE AND ASSISTANCE

A. Direct assistance to Governments and intergovernmental organizations

181. The trend identified in the 1989 report of the Secretary-General on the Law of the Sea to the General Assembly, namely, the increasing number of requests from Member States for assistance in developing national legislation and integrated policy and development plans in the marine field within the framework of the Convention on the Law of the Sea, has continued (see A/44/650, para. 174).

182. At the request of Mauritania, a technical assistance project financed by UNDP relating to the establishment of an overall marine profile for that country was completed and a final report was submitted to the Government. In follow-up, the Mauritanian authorities requested the Office to assist them in the preparation of draft legislation relating to marine scientific research and the protection and preservation of the marine environment.

183. Upon its independence, Namibia took immediate action to adopt appropriate legislation establishing its sovereignty and jurisdiction over its adjacent marine areas. In accordance with a request from the Ministry of Justice of Namibia, and with the support of UNDP, the Office provided the Government of Namibia with "umbrella" draft legislation covering different maritime jurisdictional zones, including legislation relating to the protection and the preservation of the marine environment and regulations for marine scientific research.

184. In close co-operation with the Economic Commission for Latin America and the Caribbean (ECLAC), the Office convened an Expert Group Meeting on Sea Use Planning and Coastal Area Management in Latin America and the Caribbean, at the headquarters of the Commission at Santiago, from 28 November to 1 December 1989. The main objective was to identify priority needs faced by the countries of the ECLAC region and to examine possible solutions to their problems. The report on the meeting, including the recommendations made by it, will be published by the Office and should provide useful guidance to the countries of the Latin America and Caribbean region as well as to countries in other regions.

185. As was mentioned in the 1989 report to the General Assembly, the Office is involved in continuing support to the Ministerial Conference on Fisheries and

Co-operation among African States bordering the Atlantic Ocean. A follow-up meeting to the 1989 conference was held in Morocco in May 1990, during which several proposals were made by the participants, indicating the need for the continuing support of the Office, which will be provided.

186. Within the framework of the activities pursued by the States members of the Zone of Peace and Co-operation of the South Atlantic, the Office organized the First Technical Seminar of Experts of the Zone of Peace and Co-operation of the South Atlantic of the Law of the Sea at Brazzaville in June 1990. The meeting gave an opportunity to legal experts of the region to describe their national activities in marine affairs and to focus attention on their common needs in this field, in the light of the United Nations Convention on the Law of the Sea. In addition the experts discussed priority areas of co-operation and identified a number of issues that require further discussion.

187. This initial expert meeting was referred to in the final document of the second meeting of the States of the Zone of Peace and Co-operation of the South Atlantic, held from 25 to 29 June 1990 at Abuja, Nigeria, at which the representatives expressed "their confidence that the second Seminar, scheduled to be held in Uruguay in 1991, will indicate specific areas for co-operation on all common marine programmes" (see A/45/474, annex).

188. In July 1990, with the Indian Ocean Marine Affairs Co-operation (IOMAC) secretariat as lead agency, the Office, together with FAO and the United Nations Educational, Scientific and Cultural Organization/Intergovernmental Oceanographic Commission (UNESCO/IOC) as supporting agencies, undertook a mission to the United Republic of Tanzania (including Zanzibar), Mauritius and the Seychelles. The mission was invited by the Governments of the three countries to assist them in improving their capabilities to meet their requirements and to derive benefits under the Convention on the Law of the Sea.

189. The Office continued to provide assistance to the ongoing process of IOMAC by providing assistance and advice in the preparations for, and at the Second ministerial level meeting, held at Arusha, United Republic of Tanzania, from 3 to 7 September 1990, which formalized the organization by the adoption of its statute and rules (see paras. 16-17 above).

B. Advice, special studies

190. The Office continues to provide advice on matters related to the Law of the Sea and Ocean Affairs in response to requests of States, and intergovernmental and other organizations. This advice and assistance has included clarification of various provisions of the Convention as they relate to the rights and duties of States. It has also entailed the provision of analyses of the implications of the Convention for individual States, taking account of their geographical situation and legal and political systems. Such analyses are of particular importance for States when they undertake legislative and policy reviews that are an integral part of the process of ratifying the Convention.

191. The Office also provides substantive advice and prepares documents and studies for meetings of intergovernmental, governmental and non-governmental bodies and organizations outside the United Nations system. In 1990, such meetings included: the IOMAC Information Workshop and fourth Meeting of IOMAC Legal Experts (Jakarta); the Meeting of Legal and Technical Experts on the Framework of the Action Plan for South Asian and East Asian Seas (Bangkok); the International Scientific Meeting in preparation for the International Symposium on Environmental Law and the Meeting of the Symposium on Environmental Law (Siena, Italy); the eighty-fourth meeting of the American Society of International Law - Law of the Sea: Evolving National Policies (Washington, D.C.); the meeting organized by the Centre for Ocean Law and Policy of the University of Virginia (Lisbon); the Workshop on Maritime Baselines Project organized by the Centre for Ocean Management Studies of the University of Rhode Island (Narragansett, United States of America); the Meeting on the Technical Aspects of the Law of the Sea Working Group organized by the International Hydrographic Organization (IHO); the Conference on Development of Ocean Resources for Economic Progress, organized by the Ministry of Science and Technology, Government of Pakistan, through the National Institute of Oceanography (Karachi, Pakistan); the Panel on Land-based Ocean Pollution of the International Conference on the Environment and Development, organized by Hofstra University (New York, United States of America); the Meeting on Law of the Sea, organized by the Institute of International Law of the University of Kiel (Kiel, Germany); the Second Conference on Indian Ocean Marine Affairs Co-operation (Arusha, United Republic of Tanzania); the Conference of Governmental Legal Experts on Problems Related to the Conservation of the Living Resources of the High Seas (St. John's, Newfoundland, Canada); and the nineteenth session of the South Pacific Applied Geoscience Commission (Tarawa, Kiribati); the Symposium on Marine Policies towards the Twenty-first Century: World Trends and Korean Perspectives, organized by the Korean Ocean Research and Development Institute (Cheju Island, Republic of Korea).

C. Training and fellowships

192. In the field of integrated ocean managment, the Office has continued its substantive contribution to the conduct of the annual "Marine Affairs II Seminar: Sea-Use Planning and Management", which was held at the World Maritime University at Malmö, Sweden, from 2 to 7 September 1990, in co-operation with the International Centre for Ocean Development of Canada.

193. In addition, as part of the longstanding co-operation established with the World Maritime University, the Office was requested to assist the University in its on-the-job training efforts by receiving selected groups of students and briefing them on the work of the United Nations in the field of ocean affairs and the law of the sea.

194. At the request of the Department of Public Information of the United Nations Secretariat, the Office prepared and conducted an action-oriented seminar and simulation exercise entitled "Introduction to Ocean Affairs and the Law of the Sea", at United Nations Headquarters from 5 to 7 June 1990.

195. The Office also contributed to courses organized by the IMO International Maritime Law Institute at Valletta; to the 1990 United Nations/UNITAR International Law Fellowship Programme organized at The Hague; and to the annual Training Course on Integrated Ocean Management organized by the International Ocean Institute at Halifax, Canada.

196. The fourth annual fellowship award under the Hamilton Shirley Amerasinghe Memorial Fellowship on the Law of the Sea was made to Miss Patricia Sobion, a State Counsel with the Ministry of Legal Affairs of Trinidad and Tobago. She has commenced her fellow-in-residence programme at Dalhousie Law School under the supervision of Professor E. Gold. This will be followed by the usual period of internship with the Office for Ocean Affairs and the Law of the Sea.

197. The fellowship provides all facilities, including travel costs and subsistence allowances, for post-graduate research and study on the law of the sea, its implementation, and related marine affairs, at one of the participating institutions, and thereafter, for internship with the Office.

198. The award was made on the basis of the review of candidates by the Advisory Panel, which met on 5 December 1989. The recommendation was conveyed by the Panel's Chairman, Ambassador Tommy T. B. Koh. 64/

199. Nominations and applications from numerous applicants and various countries were again received this year, owing to the continued interest in the programme and the publicity given to it. However, prevailing economic factors concerning the Fellowship Trust Fund has not made it possible to accommodate more than one fellow per year. As the Office continues its efforts to obtain additional funding and to seek assistance from funding programmes, it would welcome contributions to the Trust Fund from Member States, philanthropic institutions, and others.

200. The universities and institutions which support the programme by providing research and study facilities free of tuition cost to successful fellows are: Centre for Ocean Law and Policy, University of Virginia, United States; Dalhousie Law School, Halifax, Canada; Graduate Institute of International Studies, Geneva; Marine Policy Center, Woods Hole Oceanographic Institution, Massachusetts, United States; Netherlands Institute for the Law of the Sea, University of Utrecht, Netherlands; Research Centre for International Law, University of Cambridge, England; School of Law, University of Georgia, United States; School of Law, University of Miami, United States; School of Law, University of Washington, United States; and William S. Richardson School of Law, University of Hawaii, United States.

IV. PUBLICATIONS AND MONITORING AND ANALYSIS OF DEVELOPMENTS

A. Legislative history, State practice and technical guides

201. In order to provide a better understanding of the provisions of the Convention and to assist States in their implementation, the Office is pursuing a programme of publication of the legislative history of various provisions of the Convention. The legislative history of pollution by dumping; the right of access of land-locked

States to and from the sea and freedom of transit; the régime of islands; and navigation on the high seas have already been issued. The latest publication issued by the Office covers part IV of the United Nations Convention on the Law of the Sea on archipelagic States. 65/ The issues concerning archipelagic States had never been fully discussed in any international codification conference until the third United Nations Conference on the Law of the Sea and had never been subject of treatment as comprehensive as that set out in part IV of the Convention. Work is also under way on further legislative history covering subjects such as the exclusive economic zone, artificial islands, offshore installations and structures, and passage through straits.

202. Similarly, the Office has continued to collect, analyse and disseminate national and international materials which reflect developments in State practice relating to the Law of the Sea. Previous publications have covered such subjects as national legislation on the exclusive economic zone, maritime boundary agreements, the continental shelf, and marine scientific research. In addition, the Office has issued two special publications on State practice that provide an overview of current developments, including recently adopted treaties - multilateral as well as bilateral - national legislation available to the Office, and communications from States in regard to the new régime for the oceans.

203. In the year under review, the Office has issued two new publications. One deals with the practice of States in relation to the establishment of straight baselines and includes excerpts of national laws, accompanied by maps attached for illustrative purposes. 66/ The other publication comprises a repertory of international agreements relating to sections 5 and 6 of part XII of the United Nations Convention on the Law of the Sea, dealing with the protection and preservation of the marine environment. 67/ Sections 5 and 6 of part XII of the Convention refer to a number of rules, standards, practices and procedures contained in other legal instruments. In order to assist States in their identification, the repertory provided in the latter publication arranges global and regional rules on a source-of-pollution basis in chronological order.

204. Some provisions of the Convention are of a highly technical nature. In order to assist in understanding them and to clarify, as required, their underlying intent and practical implications, the Office prepares studies in the form of technical handbooks. Following the publication of the first handbook of the series devoted to the issue of baselines, the Office has prepared a second handbook on the practical implications of the régime for marine scientific research in areas under national jurisdiction. This publication has been delayed for technical reasons, but will be issued shortly. It will be followed by the preparation of another technical guide that will address a specific matter of particular interest to States, namely, the determination of the limits of the continental shelf as contained in article 76 of the Convention.

B. Bulletins, annual reviews and information circulars

205. Further issues of the Law of the Sea Bulletin have been published during the period under review (altogether, 15 regular Bulletins and two special issues of it have been issued).

206. The Bulletin is viewed by States and intergovernmental bodies and academic institutions as a most useful vehicle for keeping abreast of important developments. Its first objective is to provide Governments with the most recent legal material relevant to the law of the sea - including, in particular, national legislation, bilateral agreements and multilateral treaties, as well as information on decisions of the International Court of Justice, arbitral tribunals or other dispute-settlement procedures - and periodic up-dates on the status of the Convention, with tables of ratifications, texts of declarations and objections to declarations or statements made in accordance with articles 287, 298 and 310. A special chapter, usually included in the November/December issue, is devoted to the annual work of the Preparatory Commission. It presents a report on the work of the bodies of the Commission and when appropriate reproduces the texts of decisions adopted by the Commission and provides the list of documents under consideration; it lists member States, observers and participants. More than 1,000 copies of each issue are circulated to meet the demands.

207. The third volume (1988) in the new series entitled Annual Review of Ocean Affairs: law and policy, main documents, compiled and edited by the Office, was published by UNIFO Publishers, Ltd. (United States of America) in 1990. The first two volumes were published last year and covered the years 1985-1987, while the third and subsequent volumes are annual.

208. The Annual Review provides practitioners and researchers with an overview, in one convenient source, of the main developments in international law and policy. It first presents the annual report of the Secretary-General on the law of the sea and then gives supplementary documentary materials - the main provisions of relevant conventions, resolutions, decisions, selected extracts from reports, studies, working papers, etc. - from a variety of organizations to provide more in-depth or additional information on the main issues covered by that report. It also includes materials not referred to in the annual report, in order to take into account developments that have taken place since the time the report was prepared. The materials are organized according to the major subject areas involved. Additional references are given to facilitate further research and a cumulative subject index with cross references enables the reader to trace the origins and previous history of developments. The Annual Review for 1989 is currently being prepared.

209. The Office continues circulating periodically current and up-to-date information on national and international developments relating to ocean affairs and the law of the sea to other offices and departments of the Organization concerned with ocean-related activities and those connected with peace and security in relation to the uses of the seas.

C. Law of the Sea Information System and Library

210. The Office has proceeded with the further development of its computerized Law of the Sea Information System. This system is composed of a group of data bases, each containing information relating to the different aspects of the law of the sea. These are currently being supplemented by the collection of additional

marine-related data (see A/42/688, A/43/718 and A/44/650 for details on the data bases). The Information System continues to be used as a source of information and data within the Office and to respond to requests from other agencies, national Governments, etc.

211. All currently available references to legislation and regulations have been coded into the National Marine Legislation Database (LEGISLAT), which comprises some 3,822 entries. The next phase is to verify these entries with Governments as to accuracy and completeness. A further phase, which is currently being undertaken, is to generate computer files containing extracts of texts of the appropriate aforementioned LEGISLAT entries so as to allow for retrieval of those items. The Office has been consulted by the University of the West Indies for assistance in developing a regional legislative data base of Caribbean States. LEGISLAT was used to provide lists of the relevant legislation and it is envisaged that this compatible system can supply additional regional legislation for incorporation into the world-wide LEGISLAT data base. Another regional application was the co-ordination with IOMAC in designing their regional data bases and centres. Again, compatibility with the Law of the Sea Information System was maintained so that this Office could both provide and receive data from their system.

212. The latest addition to the Information System is the Law of the Sea Bibliographical Information System which is currently under development. This data base will comprise all holdings of the Law of the Sea Library and will be indexed by author, title, subject, etc. and can be accessed according to State or geographical area dealt with in the article or book concerned. Once fully integrated, the Aquatic Sciences and Fisheries Abstracts data bases will also be accessible in a similar fashion.

213. A comprehensive bibliography on the law of the sea, covering 20 years (1968-1988), will be published in early 1991.

214. As in the past, the Ocean Affairs and Law of the Sea Library and Reference Collection continues to serve the needs of the Member States and permanent missions to the United Nations, as well as Secretariat staff and researchers from academic institutions who are interested in all aspects of the United Nations Convention on the Law of the Sea and in the field of marine affairs. The Library also provides reference materials for consultation in relation to the implementation of the Office's work programme. A specialized library is also maintained at the Office of the Special Representative at Kingston, to facilitate the work of that Office and to service the Preparatory Commission during annual meetings. As in previous years, this reference library has worked in close collaboration with the Dag Hammarskjöld Library.

215. The Law of the Sea Library and Reference Collection continues to publish an annual bibliography on law of the sea and marine affairs. The fifth bibliography in this series: The law of the sea: a select bibliography - 1989, was published in early 1990. 68/ The sixth bibliography in this series (1990), will be published in January 1991.

V. CO-OPERATION WITHIN THE UNITED NATIONS SYSTEM

216. In paragraph 11 of its resolution 44/26, the General Assembly invited the organs and organizations of the United Nations system to co-operate and lend assistance to the Secretary-General in his endeavours to assist States in the implementation of the Convention and in the development of a consistent and uniform approach to the legal régime thereunder, as well as in their national, subregional and regional efforts towards the full realization of the benefits therefrom.

217. Furthermore, in paragraph 12 of that resolution, the Assembly requested the competent international organizations, in accordance with their respective policies, to intensify financial, technological, organizational and managerial assistance to the developing countries in their efforts to realize the benefits of the comprehensive legal régime established by the Convention and to examine means of strengthening co-operation among themselves and with donor States in the provision of such assistance.

218. Under the above-mentioned resolution and those of previous years which have emphasized the importance of co-operation with the United Nations system, the Office for Ocean Affairs and the Law of the Sea has continued its close co-operation with, and assistance to, United Nations agencies and bodies, and other departments of the United Nations. In 1990, specific examples of such co-operation may be cited as follows.

219. In relation to specific joint activities and programmes with United Nations system agencies, the Office has continued its co-sponsorship of and participation in the Joint Group of Experts on Scientific Aspects of Marine Pollution, which held its twentieth session in May 1990 and in its relevant working groups; its co-sponsorship of the Joint United Nations/IOC Programme on Ocean Science in Relation to Non-Living Resources; and its co-sponsorship of the joint United Nations/FAO/IOC Aquatic Sciences and Fisheries Information System (ASFIS).

220. As an international co-ordinating input for Aquatic Sciences and Fisheries Abstracts (ASFA), the major informational module of ASFIS, the Office has continued to support development of this inter-agency bibliographical information service. In this connection, it monitors documents and publications relating to the law of the sea and other marine-related activities from which abstracts and bibliographical data are prepared for inclusion in the ASFA computer-searchable data base and the corresponding ASFA monthly journals. The Office participated in the twentieth meeting of the ASFA Advisory Board, held at Bergen, Norway, 18 to 22 June 1990.

221. The Office hosted the twenty-eighth session of the Inter Secretariat Committee on Scientific Programmes Relating to Oceanography (ICSPRO) in May 1990 at the United Nations Office at Geneva. That body, which is the only standing co-ordination mechanism in marine affairs within the United Nations system, is hosted on a rotation basis by each of the five United Nations member agencies. 69/ The major subject of co-operative activity at the twenty-eighth session was related to the contribution of the various members and observers participating in ICSPRO to the 1992 Conference on Environment and Development. In this connection, the Committee drafted a joint statement as a contribution to the work of the

Preparatory Committee for the 1982 United Nations Conference on Environment and Development. Subsequent to the ICSPRO meeting, this statement was circulated to several other United Nations organizations for comment and endorsement.

222. Pursuant to General Assembly resolution 44/26, the report of the Secretary-General on the protection and preservation of the marine environment (A/44/461 and Corr.1) to the General Assembly at its forty-fourth session, was made available to the first session of the Preparatory Committee of the United Nations Conference on Environment and Development, held at Nairobi in August 1990. In compliance with the request contained in the same resolution, the Office is preparing an updated and expanded version of the report as a contribution to the Conference.

223. Also the joint statement referred to in paragraph 222 above, prepared by ICSPRO and endorsed by several other United Nations bodies, 70/ was submitted by the Office in co-operation with the Intergovernmental Oceanographic Commission, as the Secretariat of ICSPRO, to the first session of the Preparatory Committee as a preliminary contribution to the work of its Working Group II. The statement was made available to participants in all official languages of the United Nations.

224. The Office is currently preparing, jointly with the relevant agencies as appropriate, its contributions to the comprehensive report with recommendations for action to be drafted by the Conference secretariat for the Preparatory Committee on the topic of protection of the oceans and all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources. The Office also participated in the special session of the UNEP Governing Council (30 July-3 August, Nairobi); the Preparatory Committee for the United Nations Conference on Environment and Development - First session (6-31 August, Nairobi); and follow-up discussions to the Nairobi Meeting/Informal inter-agency consultation on oceans (United Nations Conference on Environment and Development (26 September, Geneva)).

225. In addition, the Office was represented at, and provided substantive contributions to, the meetings of several United Nations organizations, including the Technical Committee on International Oceanographic Data and Information Exchange (IODE) (IOC, 17-24 January, New York, hosted by the United Nations Office for Ocean Affairs and the Law of the Sea; the Fifth Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme and Second Meeting of Contracting Parties to the Convention for the Protection and Development of Marine Environment in the Wider Caribbean Region (UNEP, 17-18 January, Kingston); the twenty-third session of the Executive Council of the Intergovernmental Oceanographic Commission (7-14 March, Paris); the Preparatory Meeting on the Conference on International Co-operation on Oil Pollution Preparedness and Response (IMO, 14-18 May, London); the Seminar on Confidence-Building Measures in the Maritime Domain (United Nations, 13-15 June, Elsinore, Denmark); and the Workshop on the Legal Régime for the Management of the Living Resources of the High Seas (United Nations Office for Ocean Affairs and the Law of the Sea, UNEP, IOC, FAO, Monaco, 5 October 1990).

226. Extensive informal co-ordination has also been carried out on a bilateral basis over the year.

Notes

1/ Official Records of the Third United Nations Conference on the Law of the Sea, vol. XVII (United Nations publication, Sales No. E.84.V.3), document A/CONF.62/122.

2/ The Convention on the Law of the Sea was ratified by Namibia represented by the United Nations Council for Namibia on 18 April 1983. Namibia acceded to independence as an independent State on 21 March 1990.

3/ On 22 May 1990 Democratic Yemen and Yemen merged to form a single State. Since that date they have been represented as one Member with the name "Yemen".

4/ Multilateral Treaties Deposited with the Secretary-General, United Nations publication, Sales No. E.90.V.6, document ST/LEG/SER.E/8, p. 282.

5/ Ibid., p. 283.

6/ Through accession of the German Democratic Republic to the Federal Republic of Germany with effect from 3 October 1990, the two German States have united to form one sovereign State. As from the date of unification, the Federal Republic of Germany acts in the United Nations under the designation of "Germany".

7/ Multilateral Treaties, op. cit., p. 284.

8/ Arriga, L. Paper presented at the Expert Group Meeting on Sea Use Planning and Coastal Area Management in Latin America and the Caribbean, November-December 1989.

9/ American Society of International Law, International Legal Materials, vol. 29, 1990, p. 469.

10/ The International Court of Justice is still seized of the case concerning the Maritime Delimitation in the Area between Greenland and Jan Mayen (Denmark and Norway), and the Delimitation of Maritime Area between France and Canada (St. Pierre and Miquelon) is still before the Court of Arbitration.

11/ A final consensus by the Conference failed over the issue of a comprehensive ban on nuclear testing.

12/ Official Records of the General Assembly, Forty-fifth Session, Supplement No. 42 (A/45/42), annex II.

13/ The most recent draft for a protocol on sea mines is contained in document A/CN.10/141.

Notes (continued)

14/ A special publication on these will be issued as United Nations topical papers on disarmament. The Disarmament Review, vol. XIII, No. 4, 1990, also contains a chapter on confidence-building measures in the maritime domain.

15/ Group of Experts on Scientific Aspects of Marine Pollution (GESAMP): report on the State of the Marine Environment; and report of GESAMP twentieth session, 1990, and its Reports and Studies Nos. 39 and 41. GESAMP is an interdisciplinary group of scientists, jointly sponsored by seven United Nations organizations to provide independent advice on existing and potential marine pollution problems. It prepares regular overviews of the state of the marine environment and advises on particular problem areas, namely, assessment of the potential effects of marine pollutants; the scientific basis for research and monitoring programmes; international exchange of scientific information relevant to the assessment and control of marine pollution; scientific principles for the control and management of marine pollution sources; and the scientific basis and criteria for legal instruments and other measures for prevention, control or abatement of marine pollution.

16/ The four IPCC policy makers summaries were issued in June 1990: Scientific Assessment of Climate Change (Working Group I); Environmental Socio-Economic Impacts of Climate Change (Working Group II); Response Strategies (Working Group III); and Special Committee on the Participation of Developing Countries.

17/ See also, "Relative sea-level change: a critical evaluation" (UNESCO reports in Marine Science 54, 1990); and "Implications of expected climate changes in the South Pacific region: an overview" (UNEP Regional Seas Reports and Studies, No. 128, 1990).

18/ Discussions on environmental matters at the 1989 Consultative Meeting on Antarctica also stressed the importance of closer definition of environmental monitoring programmes. For a general review of monitoring objectives and design, see Managing Troubled Waters: The Role of Marine Environmental Monitoring. United States National Academy of Sciences Press, 1990.

19/ For example, see the conclusions of the Siena Forum on International Law of the Environment (A/45/666, appendix); and the report of the Secretary-General on the United Nations Decade of International Law (A/45/430 and addenda).

20/ IMO Assembly resolution A.677 (16) has called on IMO to undertake on a priority basis an evaluation of the problems faced by developing countries in preventing pollution.

21/ C.f. Antarctic Treaty Parties' decision to examine the need for comprehensive measures for the protection of the Antarctic environment and dependent and associated ecosystems, taken at the 15th consultative meeting of the contracting parties to the Treaty, Paris, 9-20 October 1989 (LDC.12/INF.13).

Notes (continued)

22/ See Scientific Group on Dumping document (LDC/SG 13/14), which places emphasis on the need to take active measures to reduce contamination "where there was reason to suspect that harmful effects may occur, even though stringent proof of a cause-effect relationship may be lacking".

23/ A draft protocol is now being prepared for the Caribbean.

24/ For recent developments on preparation of a legal instrument on biological diversity, see UNEP/Bio.Div.3/12.

25/ The most recent regional convention to enter into force is SPREP (South Pacific) on 22 August 1990.

26/ A detailed review of the status of regional seas programmes is contained in UNEP/IAMRS.6/4, 1989.

27/ IMO document LDC/SG 13/14 and LDC.2/Circ.266.

28/ In LDC.13/INF.29.

29/ The draft of the section dealing with sea disposal of packaged low-level radioactive waste is contained in LDC.13/INF.23.

30/ Text in LDC.13/INF.4.

31/ See IMO document LDC.13/7.

32/ IMO document LDC.13/6.

33/ See A/45/46, annex I, decision 1/22.

34/ The text of the Code is also contained in IMO document MSC 58/2/2. The relevant IAEA safety standards referred to are those for radiological protection, safe transport of radioactive material, safe management and disposal of wastes, safety of nuclear facilities, and physical protection of nuclear materials.

35/ Document LDC.13/8, submitted by the United States of America.

36/ Marine Environment Protection Committee, MEPC 30/19/1.

37/ See submission of North Sea States and EEC in MEPC 30/4/2.

38/ Ecological criteria in particular were evaluated by the IOC-UNEP-IMO Group of Experts on Effects of Pollutants. See IOC-UNEP-IMO/GEEP-V/3 in IOC Reports series.

39/ IMO resolution A.572(14).

Notes (continued)

40/ IMO co operates with UNEP on regional seas contingency planning and on developing equipment stockpiles in several areas (South and East Asia, the Caribbean and the Gulf of Aden).

41/ See also UNEP decision SS.II/6, which appeals for the strengthening and expediting of global, regional and national measures to protect the living resources of the sea from all sources of marine pollution and to provide for their sustainable development.

42/ FAO Committee on Fisheries, document FT/III/90/Inf.6.

43/ Developing countries having important small pelagic fisheries include Angola, Chile, Mauritania, Mexico, Morocco, Namibia, Peru, Somalia and Senegal.

44/ COFI/89/2. FAO has also reported a strong trend among countries to privatize their State fleets through joint ventures and other techniques.

45/ Conference on the Conservation and Management of the Living Resources of the High Seas, held in Newfoundland, 5 to 7 September 1990.

46/ For the communiqué of the 21st Forum Meeting, see A/45/456, annex. As of 1991, a "Post-Forum Dialogue" will be instituted with Canada, China, France, Japan, the United Kingdom, the United States of America and the European Community.

47/ WECAFC Working Party on Assessment of Marine Fishery Resources, 1989, FIPL/R431.

48/ See reports of the Chairman of the Preparatory Commission (LOS/PCN/L.82/ ov.1 and LOS/PCN/L.87).

49/ LOS/PCN/L.87, annex.

50/ LOS/PCN/BUR/R.5.

51/ LOS/PCN/SCN.2/L.7.

52/ LOS/PCN/WP.47/Rev.1.

53/ LOS/PCN/WP.49/Rev.1.

54/ LOS/PCN/WP.20/Rev.2.

55/ See reports of the Chairman of Special Commission 1 (LOS/PCN/L.78 and LOS/PCN/L.83).

56/ See reports of the Chairman of Special Commission 2 (LOS/PCN/L.80 and LOS/PCN/L.85).

Notes (continued)

57/ LOS/PCN/SCN.2/WP.8.

58/ See reports of the Chairman of Special Commission 3 (LOS/PCN/L.79 and Corr.1 and LOS/PCN/L.84).

59/ LOS/PCN/SCN.3/WP.6/Add.1.

60/ LOS/PCN/SCN.3/WP.6/Add.5.

61/ See reports of the Chairman of Special Commission 4 (LOS/PCN/L.81 and LOS/PCN/L.86).

62/ LOS/PCN/SCN.4/WP.8.

63/ LOS/PCN/SCN.4/WP.9.

64/ The Panel was composed of: T. T. B. Koh (Chairman of the Panel), Ambassador of Singapore to the United States of America (President of the Third United Nations Conference on the Law of the Sea, 1980-1982); Professor John Norton Moore, Director, Centre for Ocean Law and Policy, University of Virginia (Deputy Special Representative of the President of the United States for the Law of the Sea Conference and Vice-Chairman of the United States Delegation, 1975); Paul Bamela Engo, Permanent Representative of Cameroon to the United Nations (Chairman of the First Committee of the Third United Nations Conference on the Law of the Sea); Felipe Paolillo, Permanent Representative of Uruguay to the United Nations (former Senior Adviser in the secretariat of the Third United Nations Conference on the Law of the Sea and Director and Deputy to the Special Representative of the Secretary-General for the Law of the Sea); Mr. Dmitriy V. Bykov, Deputy Permanent Representative of the Union of Soviet Socialist Republics to the United Nations; Professor Tullio Treves, Attaché (Legal Affairs), Permanent Mission of Italy to the United Nations (former Chairman of the French Language Group of the Drafting Committee of the Third United Nations Conference on the Law of the Sea); Mr. Carl-August Fleischhauer, (Under-Secretary-General and the Legal Counsel of the United Nations) and Mr. G. E. Chitty (Secretary to the Panel, Nominee of the Special Representative of the Secretary-General for the Law of the Sea).

65/ United Nations publication, Sales No. E.90.V.2.

66/ United Nations publication, Sales No. E.89.V.10.

67/ United Nations publication, Sales No. E.90.V.3.

68/ United Nations publication, Sales No. E.90.V.8.

69/ The five members are: United Nations, UNESCO, IMO, FAO and WMO.

70/ UNEP, IOC, ECA, ECLAC, ESCAP and IAEA.
