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## QUESTION OF ANTARCTICA

Study requested under General Assembly resolution 38/77Report of the Secretary-General

## PART TWO

Views of States

## Volume III

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## 30. NEW ZEALAND

[Original: English]

[6 July 1984]

### I. INTRODUCTION

1. New Zealand has intimate links with Antarctica, based on proximity and exploration and a strong national interest in its future. For over two centuries, explorers and scientists have used New Zealand as a base for their work in the Antarctic region. For the last quarter of a century, New Zealand has undertaken an active programme of scientific research in Antarctica and maintained a permanent scientific station there. Since 1923, New Zealand has exercised sovereignty in the area immediately to its south around the Ross Sea.

2. These factors give New Zealand a strong concern for the security and stability of the region, as well as a determination to ensure that the environment of the Ross Dependency and of Antarctica as a whole is fully protected. New Zealand is deeply committed to the principle embodied in the Antarctic Treaty 1/ that "Antarctica shall continue forever to be used exclusively for peaceful purposes".

### II. ANTARCTICA

#### The physical setting

3. Geographically, Antarctica and New Zealand are very close neighbours. New Zealand's southernmost islands are approximately 1,600 kilometres from the nearest point in the Ross Dependency, making Antarctica the closest land mass to New Zealand, closer even than our nearest neighbour, Australia.

4. There is also a close geological link between New Zealand and the Ross Dependency. The geological history of Antarctica has proven the existence of the southern "supercontinent" of Gondwana and the fact that the area of Antarctica to the south of New Zealand was at one time physically linked with what is now New Zealand.

5. The Antarctic region consists of a continent surrounded by a continuous ocean. The region extends its physical and biological influence to the equator and beyond, in the form of cold air and water currents and migratory sea and bird life. The southern ocean makes up a broad continuous stretch of ocean 36 million square kilometres in extent. Its northern boundary lies between latitudes 47° S and 63° S, where the cold surface waters from the south converge with warmer waters from the north.

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1/ United Nations, Treaty Series, vol. 402, No. 5778.

6. Sea ice and icebergs also extend the physical presence of the continent northwards. During winter the sea surface freezes forming a belt of pack-ice up to 1,700 kilometres wide. Although 85 per cent of this ice melts during summer, the passage of ships to Antarctica is seldom unrestricted by sea ice. Icebergs broken mostly from ice shelves are occasionally over 100 kilometres long and have been seen more than 3,000 kilometres from the Antarctic coast.

7. The continent of Antarctica has an area of 14 million square kilometres and is almost completely covered with ice, which averages more than 2,000 metres in thickness. The 4,000-kilometres-long Trans-Antarctic Mountains which subdivide the continental ice sheet, comprise one of the longest mountain ranges on Earth. The range contains many peaks over 4,000 metres, the highest of which is Mount Kirkpatrick (4,528 m) in the Ross Dependency. Ice partly covers much of the range and totally buries about 1,000 kilometres of it.

8. The ice cover limits rock exposure to about 2 per cent of the total area. About half of this exposure is in the Ross Dependency and the largest single "ice-free" area lies in South Victoria Land 100 kilometres from New Zealand's Scott Base. This area, known as the "dry valleys", consists of three large glaciated valley systems containing about 2,500 square kilometres of exposed rocks, moraine and soil. Several ice-covered lakes with solar heated, saline bottom waters contribute to the unique environment of this area.

9. The "permanent" ice shelves around the continent are composed of ice and snow 100 to 1,700 metres thick. They are fed by glaciers stretching down from the continental ice sheet and also from snowfall and sea water freezing onto their base. The Ross Ice Shelf is the largest, about twice the area of New Zealand.

10. Only a very small proportion of the coast is easily accessible. Beaches are rare. A significant proportion of these accessible locations are situated in the Ross Dependency along the coasts of Victoria Land and Ross Island.

#### The climate

11. The mean annual air temperature varies from  $-3^{\circ}\text{C}$  to  $-22^{\circ}\text{C}$  around the coast to  $-56^{\circ}\text{C}$  in the interior. The coldest winter temperature,  $-89.6^{\circ}\text{C}$ , was recorded in July 1983, while the warmest summer temperature may be the  $+15.0^{\circ}\text{C}$  measured at New Zealand's Vanda Station in the dry valleys in January 1974.

12. Strong winds are generated by the frequent cyclonic storms which cross the continent from west to east. Yearly mean wind speeds exceed 20 knots in some locations.

13. Precipitation is low in the interior of the continent, but is higher near the coast and at sea. Net accumulation averages 150 mm over the whole continent and ice shelves. Most precipitation falls as snow, but freezing wind-blown sea spray or blown snow are also common.

14. Despite these cold desert-like conditions, limited melting does occur in some areas during summer and during December, and in January the dry valleys in the Ross



Dependency become one of the wettest places in Antarctica. Streams flow and lakes lose some of their cover of ice. The Antarctic coast is milder during summer than are many parts of Canada, northern United States and Europe during the northern winter.

#### The ecosystem

15. Terrestrial life is very limited and slow growing in the cold, windy, dry conditions and winter darkness. The largest land-based animal is a flightless midge, 3 mm long. Vegetation is sparse comprising lichens, algae, mosses, fungi and microscopic plants, with only two native species of flowering plants.

16. The marine ecosystem also contains relatively few species, ranging from bacteria and phytoplankton to seals, penguins and the once-numerous great whales. Of particular scientific interest are the unique biological adaptations developed by some species to cope with the harsh environment. Populations tend to be relatively high due to the upwelling of nutrient-rich water and long hours of summer sunlight.

17. Several species of euphausiid zooplankton (small shrimp-like crustaceans - known generally as krill) are found in Antarctic waters. They feed on phytoplankton and in turn provide food for penguins, sea-birds, fish, squid, seals and whales. The abundant krill is the main and probably the indispensable link between the simple plants and the lower carnivores. The ecosystem is, therefore, potentially more vulnerable to mismanagement or interference by man than most other marine ecosystems.

### III. EXPLORATION

18. The existence of a large southern land mass was mooted for centuries going back to the philosophers of ancient Greece and to the legends of Polynesia. It is, however, just over 200 years since the first recorded voyage in latitudes south of 60° S latitude and less than 100 years since man first set foot on the continent.

19. The history of Antarctic exploration is contemporaneous with New Zealand's own exploration and settlement and it is no coincidence that New Zealand has played a major role in Antarctic exploration.

20. Tasman, a would-be Antarctica explorer, believed his discovery of New Zealand in 1642 to be the discovery of Terra Australis Incognita, the unknown south land. Cook, following his rediscovery of New Zealand in 1769, ventured south in the years 1772-1775 and twice circumnavigated the Earth in the Antarctic region working from bases in New Zealand. Forty-five years later Bellingshausen, who also spent time in New Zealand waters during his southern voyages, sighted what is now known as Princess Ragnhild coast.

21. Stop-overs in New Zealand became the practice for the succession of nineteenth century Antarctic explorers who followed. These included d'Urville in 1837-1840; Balleny in 1838-1839; Wilkes in 1839-1840; and Ross in 1840-1843.

22. Ross discovered the area of the Antarctic which has become of special interest to New Zealand and is named after him, the Ross Dependency.

23. Substantial assistance was given by New Zealand to the two expeditions by Scott of 1901-1904 and 1910-1913, and to that of Shackleton of 1907-1909 and his Trans-Antarctic Expedition of 1914-1917. Great interest was shown by New Zealanders in these expeditions, and New Zealand scientists and crew accompanied these Antarctic journeys.

24. A magnetic observatory in Christchurch was established in 1900 by the New Zealand Government for use by Antarctic expeditions to standardize instruments and examine magnetic gravity and auroral data obtained from Antarctica. Considerable use was subsequently made of this observatory by Antarctic explorers.

25. In 1903, the New Zealand Government contributed funds towards the expenses of Scott's relief ships and also towards the Antarctic Expedition of 1907-1909 led by Shackleton. In addition, New Zealand provided a base for the preparation of the expedition and also for the towage of Shackleton's ship to the ice.

26. The New Zealand Government overprinted 24,000 "universal postage" stamps with the words "King Edward VII Land". The Premier, Sir Joseph Ward, gave Shackleton a number of the stamps and they were left in a brass cylinder at 88°23' S, 162° E, together with the King's flag.

27. Scott, in his expedition of 1910, also took to Antarctica an issue of the current New Zealand postage stamps which had been overprinted "Victoria Land". New Zealand newspapers extensively covered the Antarctic expeditions and, when Scott failed to return from his second expedition after reaching the pole, it was felt that a New Zealand explorer had been lost.

28. Over the years, New Zealand's southern city, Christchurch and its port Lyttelton, became a major gateway to Antarctica, providing a setting-off point for Antarctic expeditions entering the continent through the Ross Sea. This role continues today, although modern travellers to Antarctica from New Zealand generally depart in jet aircraft rather than the sailing vessels of the "heroic" age.

29. New Zealand has a history of welcoming Antarctic explorers. With the establishment of permanent scientific stations under the Antarctic Treaty and the consequent need for regular and extensive logistic support, New Zealand has been willing to make its ports and other facilities available to assist scientific programmes by other States. To this end, New Zealand has bilateral agreements with both the United States of America and the Federal Republic of Germany. These agreements accord rights of transit and associated facilities and provide for co-operation and co-ordination in scientific research programmes and logistic support.

30. In this way, New Zealand is pleased to co-operate with countries already active in Antarctica both on the ice and in the provision of facilities at New Zealand cities and ports, and also to facilitate the development of an interest in Antarctica by including in the New Zealand Antarctic Research Programme

scientists from countries which are not yet active in the region. In this regard, over the past five years scientists from Brazil, China, Italy, Peru and Uruguay have been invited to participate in the New Zealand programme in response to requests from appropriate national scientific organizations.

#### IV. NEW ZEALAND SOVEREIGNTY IN ANTARCTICA

31. New Zealand sovereignty over the Ross Dependency was established in 1923. An order in Council of 30 July 1923 vested in the New Zealand Governor-General executive and legislative power in respect of the Ross Dependency and defined its boundaries as all the islands and territories in Antarctica between the 160th degree of east longitude and the 150th degree of west longitude. The New Zealand Antarctic Territory, therefore, comprises the Ross Ice Shelf, the Balleny Islands, Scott Island and adjacent islands and the land mass within these longitudes to the point of their convergence at the South Pole.

32. Acting pursuant to this Order in Council, the Governor of the Ross Dependency, on 14 November 1923, made regulations concerning the Ross Dependency which had the effect of adopting as the law of the Ross Dependency all future enactments of the New Zealand Parliament so far as was applicable to the conditions of the Dependency.

33. The New Zealand Letters Patent and associated Prerogative Instruments which describe the Realm of New Zealand and constitute the office of the Governor-General of New Zealand, state the following:

"[Her Majesty the Queen of New Zealand does] hereby constitute, order and declare that there should be, in and over Our Realm of New Zealand including the Cook Islands, Niue, Tokelau and the Ross Dependency, a Governor-General and Commander-in-Chief who shall be our representative in Our said Realm of New Zealand, and shall have and may exercise the powers and authorities conferred on him by these Our Letters Patent ..."

34. New Zealand has exercised jurisdiction in the Ross Dependency since the formal announcement of territorial sovereignty in 1923. The New Zealand Administrator of the Ross Dependency visited the territory in 1923 and subsequently and, during these voyages, collected licence fees from foreign whaling ships operating in the territorial waters of the Ross Dependency.

35. New Zealand criminal law extends to criminal acts committed in the Ross Dependency. New Zealand courts have jurisdiction over such acts committed by anyone in the Ross Dependency. Under New Zealand citizenship law, any person born in the Ross Dependency is a New Zealand citizen. There is also provision in New Zealand law for the establishment of an exclusive economic zone beyond the outer limit of the territorial sea of the Ross Dependency.

36. Since 1957, New Zealand has maintained a base on Ross Island. Scott Base has been continuously occupied by scientists and support staff involved with the New Zealand Antarctic Research Programme for 27 years. New Zealand has also operated two other stations: Hallett Station (jointly with the United States of America) at Cape Hallett (now closed), and Vanda Station, in the dry valleys.

New Zealand Scientific Research Programme

37. The New Zealand Antarctic Research Programme was initiated in 1956. The annual programme is formulated by the Ross Dependency Research Committee, which comprises representatives of government departments, non-governmental agencies and the scientific disciplines with Antarctic interests, and which is responsible to the Minister of Science and Technology. Implementation of the programme and logistic support is the responsibility of the Antarctic Division of the Department of Scientific and Industrial Research.

38. The 1983 report by New Zealand to the Scientific Committee on Antarctic Research (SCAR) and the 1983 statement of planned New Zealand Antarctic activities for 1983/1984 will be provided to the Secretary-General under separate cover, together with the bibliography of New Zealand Antarctic research programme publications (four volumes). 2/

39. Up to 210 New Zealand personnel are normally involved in the New Zealand programme during the summer season, either conducting scientific studies or providing support facilities. Up to 12 staff members "winter-over" at Scott Base each year to sustain important continuous scientific observations. Some 80 to 90 New Zealanders are normally associated with the Antarctic programmes of other countries.

40. The New Zealand scientific programme has focused on upper atmosphere studies at Scott Base, meteorology, hydrology and glaciology at Vanda Station, and earth and biological sciences at camps out from these areas. New Zealand scientists have contributed substantially to the fund of knowledge being amassed on Antarctica by the international scientific community. Some notable achievements include:

(a) The topographical and geological mapping of most of Ross Dependency (an area of 770,000 square kilometres);

(b) Detailed geological investigations in selected areas of the Dependency providing information on the geological history of Antarctica;

(c) The discovery of a fossil bone fragment from a triassic amphibian - the first record of tetrapod life in Antarctica and similar to discoveries made in South America and South Africa;

(d) Numerous discoveries of fossilized plants, petrified trees and coal, all indicative of warmer climates in ages past;

(e) Correlations in age and composition of many Antarctic rocks to those found in other southern latitude continents.

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2/ The supplementary information will be available for consultation upon request addressed to the Office of the Under-Secretary-General for Political and Security Council Affairs of the Secretariat.

41. As one of the key stations in the network of observatories providing significant new information covering solar/terrestrial relationships, the observatory at Scott Base has continuously gathered data over a period of more than two sunspot cycles (22 years). Important discoveries include the identifying of a solar wind which transports the strong solar magnetic fields to the Earth, where they inter-connect with the geomagnetic field in the region known as the magnetosphere. Variations to this input have been found to affect the Earth's ionosphere and its magnetic field, and more recent studies have been directed towards possible correlation between these solar changes and the Earth's weather.

42. New Zealand biologists have gained considerable knowledge about the primitive forms of life that survive in the narrow life support zones of the Antarctic. Birds, seals and fish have been found to have unique body mechanisms for withstanding the abnormal environment, and our studies have provided data of considerable value to the wider field of human biology and medicine. In recent years, biologists have concentrated more on environmental problems and the study of the ecosystem of the southern ocean, especially the population dynamics of various species, including krill.

43. One of the greatest attractions for research in Antarctica has been the morphology of the ice sheet. New Zealand glaciologists and meteorologists have combined their efforts in recent years in studying the recent climatic history and current trends. These efforts have been most productive in the unique dry valley areas of Victoria Land, based at Vanda Station, which was established for this purpose in 1968. New Zealand geologists and geochemists have also contributed to the study of past climate, where much of the research has been undertaken through New Zealand's major involvement in the deep-drilling programmes recently conducted in McMurdo Sound and the dry valley area.

44. The New Zealand Antarctic Research Programme has continued to increase over the years both in scope and magnitude. There has also been a significant evolution in research objectives and methods. The most fundamental change has been the shift from field reconnaissance studies, which are largely complete, to investigations of more intricate natural phenomena and of large-scale processes at work in the atmosphere, the ice, and the southern ocean, all of which have major global implications. Routine observations and small independent projects are still being done but the emphasis is on long-term interdisciplinary and international efforts where New Zealand scientists combine their talents with those of many other countries.

45. In the 25-year period, 1957-1982, the New Zealand Antarctic Programme had provided several hundred thousand "words" to world data centres and New Zealanders had 1,484 papers published in recognized scientific journals worldwide. This achievement placed New Zealand as number three producer of scientific information among all those countries conducting research in the Antarctic.

#### Environmental impact of the New Zealand scientific programme

46. It is evident that the Antarctic environment is highly susceptible to human impact in places and that its protection requires careful regulation of human

activity. In response to this situation, New Zealand has introduced environmental protection controls on its scientific and other activities. These measures implement and, in many cases, exceed the standards set out in the Antarctic Treaty "Code of conduct for Antarctic expeditions and station activities" adopted in recommendation VIII-2.

47. For season training of staff provides an awareness of all aspects of environmental protection. Within Antarctica, both Scott Base and Vanda Station are operated in accordance with a "minimum impact code". Rubbish from Scott Base is either returned to New Zealand for recycling, or, if disposable, burnt in a specially designed incinerator. Vanda Station, in the dry valleys of Victoria Land, has particularly stringent operating procedures. Power for the station is provided by a wind generator and solar panels. Vehicles are not permitted to operate beyond 500 metres from the station and all waste is removed by helicopter to Scott Base. These measures ensure that the impact of any scientific research conducted at Vanda is kept to an absolute minimum, thus protecting the unique nature of the dry valleys.

48. Additional controls have been worked out in conjunction with the United States Antarctic Research Programme. These relate to activities which may have an impact on the environment within the McMurdo Sound area. Co-ordination and management is the responsibility of the McMurdo Land Management and Conservation Board, which was established in 1967, with representation from New Zealand's Antarctic Division, the United States National Science Foundation and the United States Navy. The Board exemplifies the close co-operation which exists between the United States and New Zealand in the operation of scientific programmes and matters of mutual concern relating to the Antarctic environment.

49. Land use classifications have been implemented by the Board covering the areas immediately surrounding McMurdo Station and Scott Base. These include the zoning of central station complexes and future scientific or logistic development areas, historic sites and an outlying scientific installation. During the late 1960s, the Board instigated a general clean-up of the Hut Point Peninsula and a similar joint programme in the dry valley region. Many old-food dumps and unused items of equipment were removed. Subsequently, all activities in these areas have been strictly controlled and dumping of waste or altering of the landscape there is prohibited.

## V. ORIGINS OF THE ANTARCTIC TREATY

50. The origins of international scientific co-operation in Antarctica can be traced back to the preparations in the early 1950s for an International Geophysical Year (IGY), which took place in 1957/1958. In New Zealand, the Royal Society (the New Zealand affiliate of the International Council of Scientific Unions) formed a New Zealand National Committee to organize New Zealand's contribution.

51. The range of scientific work conducted during IGY by New Zealand scientists at Scott Base and Hallett Station included meteorology, geomagnetism, aurorae, vertical ionosphere soundings, glaciology, oceanography, seismology, gravity, ground temperatures, ground resistivity and whistlers.

52. The IGY was non-political in its concept, organization and management. The degree of international co-operation it generated in Antarctica eased substantially the political apprehensions which were then present or developing among the countries with Antarctic interests. Moreover, the presence of these countries on the continent for scientific purposes, pursuant to a temporary arrangement that set aside the question of sovereignty, was seen to offer a pointer to and a foundation for the development of a stable political régime on a continuing basis.

53. The establishment in 1958 by the International Council of Scientific Unions (ICSU) of the special (later Scientific) Committee on Antarctic Research (SCAR) provided the basis for continuing international scientific programmes after the IGY ended.

54. With the IGY coming to a close in 1958, efforts to reach a more permanent settlement of Antarctic differences were renewed. The United States took the initiative and invited the other countries which participated in IGY's Antarctic programmes to a conference to discuss the matter. These countries were Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the United Kingdom of Great Britain and Northern Ireland and the Union of Soviet Socialist Republics. The conference was held in Washington in 1959 and its outcome was the Antarctic Treaty, which was signed by all the participants on 1 December 1959. The Treaty entered into force in June 1961 after it had been ratified by the Governments of all the signatory countries.

## VI. OUTLINE OF THE TREATY

### The sovereignty question

55. The adoption of the Antarctic Treaty did much to allay the political tensions existing at the time and the possibility of disputes or conflict inherent in the situation then existing. The major achievement of the Treaty is the maintenance over the last 22 years of a stable, secure and peaceful régime in Antarctica.

56. The primary task of the Treaty negotiators was to devise a reconciliation, acceptable to all participating countries, of the differing interests of the seven States exercising sovereignty: Australia, Argentina, Chile, France, Norway, New Zealand and the United Kingdom, on the one hand, and, on the other, the five countries: Belgium, Japan, South Africa, the Soviet Union and the United States, which wished to be active in the Antarctic, but did not recognize any sovereignty in the region.

57. The Treaty provided a basis for the demilitarization of Antarctica and the conduct of scientific research there without prejudicing the legal and political position of any country on the question of sovereignty. The achievement of these objectives was permitted by:

(a) An imaginative composition on sovereignty which is set out in article IV of the Treaty;

(b) A number of conditions on activity in Antarctica including:

- (i) A detailed notification régime;
- (ii) A requirement for reporting and exchange of data;
- (iii) Inspection and verification procedures;
- (iv) A system of ongoing consultation.

58. The composition on sovereignty enshrined in article IV provides that nothing in the Treaty is to be interpreted as:

- (a) A renunciation of previously asserted rights of or claims to sovereignty in Antarctica;
- (b) A renunciation or diminution of any basis of claim to sovereignty there;
- (c) Prejudicing the position of any party as regards its recognition or non-recognition of any other State's right of or claim or basis of claim to sovereignty in Antarctica.

59. Furthermore article IV provides that no acts or activities taking place while the Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica, but that no new claim or enlargement of an existing claim is to be asserted while the Treaty is in force.

60. As will be clear from this description, the Antarctic Treaty does not, as is sometimes suggested, "freeze" or "set aside", sovereignty. To the contrary, article IV specifically preserves and protects the legal position of all parties.

#### Demilitarization

61. Article I and article V of the Treaty, which totally demilitarize the continent, are central to the success of the Treaty. There is a prohibition on any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres and the testing of any type of weapon.

62. Article V prohibits any nuclear explosion and the disposal of radioactive waste in Antarctica. Antarctica is thus the only completely nuclear-free zone in the world.

63. The Antarctic Treaty is also the only arms control measure under which independent on-site inspection and verification may be carried out. To ensure the observance of the demilitarization provisions, the Treaty establishes a system of inspection of the activities carried out in the Antarctic by Treaty parties. Inspection may be undertaken unilaterally, and article VII allows each of the Consultative Parties to the Treaty to designate observers to carry out inspections. Observers have complete freedom of access at any time to any and all areas of



Antarctica. All stations, installations and equipment within those areas and all ships and aircraft at points of discharging or embarking cargoes or personnel in Antarctica may be inspected. Aerial inspection is also authorized at any time over any or all areas of Antarctica.

64. The Treaty's demilitarization provisions provide a satisfactory assurance that military activity will not pass unnoticed. Even during periods of international tensions and worse, these provisions have been honoured by all parties. Since the entry into force of the Treaty, inspections of Antarctic activities and installations have been carried out on a regular basis and no evidence of any violation of the Antarctic Treaty has been found.

#### Freedom of scientific research

65. Of great importance to the international community at large has been the system of international co-operation set up under the Treaty in the field of scientific research.

66. Articles II and III provide for the freedom of scientific investigation in Antarctica and the promotion of international co-operation in scientific investigation by the exchange of: information regarding scientific programmes, scientific personnel, and scientific observations and results.

67. Because of its unique location, almost totally unpolluted environment, harsh climate and simple ecosystem, Antarctica offers special research opportunities in many scientific fields. The cost and practical difficulties of conducting such research are considerable, but a wide range of activities has been carried out in an equally wide range of fields, including meteorology, upper atmospheric physics, oceanography, glaciology, cosmic ray physics, biology, geology and geophysics and medical research. This research has contributed substantially to man's knowledge of the planet. Scientific results are made freely available in scientific publications and, where appropriate, are provided to world data centres.

68. SCAR has played a prominent role in the development of the Treaty measures outlined above to safeguard the Antarctic environment. Although SCAR is a body independent of the Governments of the Consultative Parties, it is closely associated with the Treaty system and is a primary source of international scientific advice on Treaty activities. SCAR initiates, promotes and co-ordinates international scientific activity among the countries involved with Antarctic science. It has permanent working groups in the various disciplines which periodically review research needs and hold symposia on research programmes and logistics. SCAR is currently involved with the BIOMASS (Biological Institution of Marine Antarctic Systems and Stocks) programme and with studies being carried out on the scientific and environmental aspects of a minerals régime.

#### Environmental protection measures

69. The preservation and protection of the Antarctic environment has been a major and constant preoccupation of the Antarctic Treaty system. From the outset, the Consultative Parties to the Treaty have demonstrated a concern about man's impact

on that environment and the importance of protecting the flora and fauna of the continent. At the First Antarctic Treaty Consultative Meeting, the parties recognized the "urgent need for measures to conserve the living resources of the Treaty area and to protect them from uncontrolled destruction or interference by man". Since then, nearly 70 of the binding recommendations drawn up at meetings of the Consultative Parties have dealt with environmental matters. They cover virtually every form of human impact in Antarctica. Although the protection available so far is not complete, these recommendations are continually evolving to extend the type and quality of protection offered.

70. At the Third Antarctic Treaty Consultative Meeting in 1964, the Agreed Measures for the Conservation of Antarctic Fauna and Flora were adopted. They prohibit the killing or capturing of native mammals or birds. They establish measures to minimize harmful interference with habitats. They also provide for the designation of specially protected areas and establish a prohibition on the introduction of non-indigenous species. A rigorous system for the issue of permits in exceptional cases (e.g., scientific specimens) is established, together with a reporting requirement.

71. The Agreed Measures have been supplemented by the designation of a number of additional specially protected areas from which the collection of flora and fauna is prohibited and access strictly controlled except in cases of "compelling scientific purposes" when a permit may be issued. Three of these areas are located in the Ross Dependency.

72. There is also provision under the Antarctic Treaty system for the designation as sites of special scientific interest of areas to be used exclusively for scientific research programmes. Four of these sites are located in the Ross Dependency with a further two under consideration.

73. Recommendations have also been adopted to regulate the environmental impact of bases and scientific expeditions (recommendation VIII-2) and of tourism. Recommendation X-8 established a "statement of accepted practices" applicable to tourism and non-governmental expeditions. It provides basic guidance on environmental matters for visitors to the Antarctic. Recommendation XII-3 provides for scrutiny of the impact on the environment of research and logistical activities.

74. Protected areas in Antarctica total some 500 square kilometres designated because of scientific interest and uniqueness or rarity and they protect breeding colonies of birds and mammals. Other reserved areas include areas of general ecological value, geological history and landscapes, flora and marine environments.

75. SCAR and its national committees keep under continuing review the case for an extension of specially protected areas and sites of special scientific interest.

76. In 1972, the Consultative Parties responded to concern about the vulnerability of Antarctic seals if Antarctic sealing were to be renewed. Accordingly, the Convention for Conservation of Antarctic Seals was adopted. The Convention prohibits the taking of Ross, southern elephant and southern fur seals, sets quotas for crabeaters, leopard and Weddell seals and provides for the establishment of an inspection system should commercial sealing begin.

#### Duration of the Treaty

77. Article XII of the Antarctic Treaty has occasionally been wrongly interpreted as providing for the expiration of the Treaty in 1991. The Treaty does not have such a terminal date.

78. Article XII provides that, after 30 years, amendments to the Treaty may be adopted at a review conference of the parties by a majority of those at the conference, including a majority of the original and active parties. If, after two years from its adoption such an amendment has not entered into force through the approval of all such parties, then any party may at any time withdraw from the Treaty and this withdrawal would become effective after a further two years. There is thus a possibility, within the Treaty provisions, that 34 years after the entry into force of the Treaty, i.e., 1995, one or more parties may withdraw. Experience to date suggests that that eventuality is very unlikely indeed.

#### Membership

79. There are now 31 parties to the Antarctic Treaty. In 1961 when the Treaty entered into force, there were 12 parties - the original signatories, Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Union of Soviet Socialist Republics, the United Kingdom and the United States of America. Since that time, 19 States have acceded to the Treaty, 10 of these since 1980. The acceding States are: Brazil, Bulgaria, China, Czechoslovakia, Denmark, Finland, German Democratic Republic, Germany, Federal Republic of, Hungary, India, Italy, Netherlands, Papua New Guinea, Peru, Poland, Romania, Spain, Sweden and Uruguay.

80. The Treaty is an open régime. Its benefits are being increasingly recognized as demonstrated by the increasing number of States which have become party to it in recent years.

#### Consultative status

81. Article IX provides that a country which has acceded to the Treaty and which "demonstrates its interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the despatch of a scientific expedition" may participate in consultative meetings. Four countries have qualified for consultative status in recent years: Poland in 1977, the Federal Republic of Germany in 1981, and India and Brazil in 1983.

82. The distinction between Consultative Parties and other parties to the Treaty has received some criticism. However, in New Zealand's view, the consultative status that is provided for in article IX of the Treaty is based on a valid distinction. Any party which initiates a scientific research programme in Antarctica assumes a substantial range of practical, financial and legal responsibilities relating to its activities on the continent. The effective discharge of those responsibilities necessitates regular consultation and co-operation with the other countries carrying out similar activities and that was the original purpose of consultative meetings.

83. The Treaty provides that the consultative meetings should be held at suitable intervals to consult on measures in furtherance of the principles and objectives of the Treaty, including measures regarding:

- (a) Use of Antarctica for peaceful purposes only;
- (b) Facilitation of scientific research in Antarctica;
- (c) Facilitation of international scientific co-operation in Antarctica;
- (d) Facilitation of the exercise of the rights of inspection provided for in article VII of the Treaty;
- (e) Questions relating to the exercise of jurisdiction in Antarctica;
- (f) Preservation and conservation of living resources in Antarctica.

84. It makes sense that those countries which have undertaken major practical commitments in the region should play a more active role in consultations on the co-ordination of the activities under the Treaty. This principle is not unique to the Antarctic Treaty and may be found in many agreements and in the practice of many international organizations, including some within the United Nations system.

85. The Antarctic Treaty system has responded to the growing interest in Antarctica by making provision for participation in consultative meetings by all parties to the Antarctic Treaty. Given that voting does not take place at consultative meetings, the distinction between Consultative Parties and others is not as significant as is sometimes suggested. Any country which is interested in Antarctica may therefore, by the simple act of accession to the Antarctic Treaty, gain the right to participate in consultative meetings and see for themselves that the work of the Antarctic Treaty system does indeed serve mankind as a whole.

#### The Treaty machinery

86. The Treaty has no secretariat and no permanent headquarters or administrative machinery. The responsibility for the organization of meetings falls on the host country for a particular meeting and, at an appropriate time between meetings, this responsibility shifts to the host country for the next meeting. The venue is largely determined by rotation among the Consultative Parties.

87. The orderly management of consultative meetings is assisted by the convening of preparatory meetings well in advance, firstly, to finalize the agenda and, secondly, to provide an opportunity for preliminary discussions on the main issues.

88. Although the meetings are not open to the public, a report of each consultative meeting is published. No summary record of discussions is kept. The Treaty system is sometimes criticized as not being open enough. However, as indicated above, the consultative process is now open to any State that is prepared to accept the Antarctic Treaty.

### Recommendations under the Treaty

89. Decisions taken at consultative meetings are normally in the form of recommendations to member Governments which are adopted by consensus. Recommendations are subject to approval by member Governments before becoming legally binding.

90. The Consultative Parties have adopted over 130 recommendations since 1961. These have been concerned with a wide range of matters, including: exchange of information; interchange of scientists; preservation of historic sites; conservation of flora and fauna; man's impact on the Antarctic environment; adoption of specially protected areas and sites of special scientific interest; guidelines for tourists and private expeditions; logistics, marine and mineral resources; and pelagic sealing.

## VII. RESOURCES

91. The Antarctic Treaty does not deal with issues relating to the resources of Antarctica and its surrounding seas. The possible exploitation of Antarctic resources was in 1961 a very distant and uncertain prospect. There is, however, a reference to resources in article IX where "the preservation and conservation of the living resources in Antarctica" was among the subjects to be considered at future meetings.

### A régime for living resources

92. The Consultative Parties agreed at the Ninth Antarctic Treaty Consultative Meeting, held in London in 1977, that, in view of the imminent development of commercial fishing interests in Antarctic waters, measures were required for the protection of the living resources and the establishment of a sound conservation system to prevent over-fishing and protect the ecosystem.

93. The Convention on the Conservation of Antarctic Marine Living Resources was concluded at Canberra in 1980. It established a commission which is charged with adopting measures to conserve all species of living organisms in the region and requires that harvesting and related activities be conducted in accordance with the "principles of conservation" defined in article II.

94. The Convention provides an "ecosystem approach" and as such it is an important new development in the management of ocean resources. The Antarctic waters are a single ecosystem covering all marine living resources of the area: fish, molluscs, crustaceans and all other species of living organisms, including birds. Thus, in drawing up the conservation measures, the Commission must not only ensure appropriate protection for the resources being harvested, but also the conservation of the other creatures which are dependent on the harvested species.

95. The Convention applies to the Antarctic marine living resources of the area south of 60° S latitude and to the Antarctic marine living resources of the area between that latitude and the Antarctic Convergence, which is the point of

interface described in paragraph five above where the colder waters of the southern ocean and the warmer northern waters converge.

96. In reaching their decision to establish a conservation mechanism, the Consultative Parties deliberately decided that the Convention would not cover the economic aspects of fishing activities in Antarctica. Thus, the Convention does not confer any right on any country to fish anywhere in Antarctic waters nor does it purport to allocate fisheries resources as between any group of countries actively fishing there. It is not, therefore, in any sense an attempt by the Consultative Parties to appropriate for themselves the living resources of Antarctica.

97. Accession to the Convention is open to all States interested in research or harvesting activities in relation to the living resources of the region. The Convention was signed by the 14 Consultative Parties and the German Democratic Republic, Papua New Guinea, Spain, Sweden and the European Economic Community have since acceded to it.

98. The conservation of Antarctic living resources is of direct interest to New Zealand, as New Zealand's exclusive economic zone stretches almost to the edge of the Convention area and includes stocks of fish associated with stocks in the Antarctic region. The Convention provides that the Commission shall seek to co-operate with coastal States such as New Zealand, with a view to harmonizing the conservation measures adopted in respect of such stocks. New Zealand has, in its bilateral fisheries agreements regarding access to the New Zealand exclusive economic zone, made similar provision for co-operative arrangements to cover stocks of fish which are shared with the Antarctic region.

99. The conclusion of the Convention was a landmark in the history of international co-operation under the Antarctic Treaty and demonstrated that the Treaty parties were willing and able to continue to co-operate even when confronted with difficult issues such as resources.

### Minerals

100. Minerals have been known to exist on land in Antarctica since coal was first discovered there in 1907/1908. There is, however, no evidence of significant high value deposits. Moreover, the problems that would confront commercial operators in exploration and extraction (on land, sea ice or open sea) are formidable. All equipment and supplies would have to be shipped or airlifted. Climatic factors slow down normal operations, even in the season of permanent daylight, and winter conditions would require virtual shutdown for 6 to 10 months of the year. Most of the rock structure is inaccessible under a deep cover of ice. The area of ice-free land is very limited and much of this is in the high mountains, a considerable distance from the sea.

101. This is the background against which to assess the occurrences of a wide range of minerals which have been recorded. Copper and molybdenum, with lesser amounts of gold, silver, chromium, nickel and cobalt have, for example, been reported in the Antarctic Peninsula. Chromium, platinum, copper and nickel have been recorded

elsewhere in the Trans-Antarctic Mountains. To date, however, no mineral discovery has been made which is exploitable on an economic basis. Because of the factors listed above, the likelihood of any early exploitation of minerals on land is very slight.

102. Offshore, polymetallic nodules are present, but tend to be less enriched in desirable metals (nickel, cobalt, copper) than more abundant nodules elsewhere. Sea-floor mining is now, therefore, currently likely.

103. Contrary to popular mythology, there is at present no evidence that there is a hydrocarbon resource of economic value in the Antarctic, although it is true that the possibility of oil or gas in the offshore continental shelf is generally believed to be the most likely target for mineral exploration. It is clear that any oil field would have to be of very significant dimensions to sustain the massive investment that production would entail. There are severe environmental hazards in the form of sea ice, icebergs, deep water and storms that would need to be taken into account. It could be well into the next century before production might be considered a possibility, even if such a resource did exist.

104. In 1970, at the Sixth Antarctic Treaty Consultative Meeting, New Zealand raised the question of minerals and the dangers, both environmental and political, if unregulated commercial exploration activities were to commence.

105. At the Eighth Antarctic Treaty Consultative Meeting in 1975, the Consultative Parties invited SCAR to study the possible effects of mineral activity, were it to occur in Antarctica. In 1977, at the Ninth Antarctic Treaty Consultative Meeting, in recommendation IX-1, a policy of "voluntary restraint" pending the conclusion of minerals negotiations was instituted. That recommendation bound Consultative Parties to urge their nationals and other States to refrain from all exploration and exploitation of Antarctic mineral resources while making progress towards timely adoption of an agreed régime concerning Antarctic mineral resource activities.

106. Discussions at the ninth and tenth consultative meetings led the Consultative Parties to the conclusion that it is important to reach agreement on the regulation of commercial exploration activities prior to their commencement. The alternative leaves open the possibility, at some stage, of an unregulated scramble for resources which could have seriously damaging consequences for the environment. In the worst case, the result could be disputes and even the loss of the Treaty and the stability of the disarmament régime which it contains. The real origins and continuing essential purpose of the negotiations on minerals are therefore political rather than economic. They lie in the recognition that only the development of a minerals régime based on the Antarctic Treaty would offer a sound basis for ensuring that mineral resource activities never became a source of international discord.

107. At the Eleventh Antarctic Treaty Consultative Meeting in 1981, it was decided in recommendation XI-1 that a régime on Antarctic mineral resources should be concluded as a matter of urgency. Recommendation XI-1 established the framework for the negotiation of a mineral régime and it embodies several important commitments:

- (1) The Antarctic Treaty must be maintained in its entirety;
- (2) The protection of the unique Antarctic environment and of its ecosystems will be a basic consideration;
- (3) In dealing with the question of mineral resources in Antarctica, the Consultative Parties will not prejudice the interests of all mankind;
- (4) The régime should only apply to mineral resource activities taking place on the continent and its adjacent offshore areas i.e., it would not encroach on the deep sea-bed;
- (5) The régime must be accepted and without prejudice to the States which assert rights of sovereignty in Antarctica and also the States which do not recognize these rights.

108. For New Zealand the minerals negotiations raise issues of fundamental importance, issues which go to the very core of our intimate links with the Antarctic: first, the maintenance of the Antarctic Treaty and the system of regional security it has established; and secondly, New Zealand's determination to ensure the protection of the environment of the Ross Dependency and to play its part as a near neighbour in environmental protection questions relating to the continent as a whole. Exploration or prospecting for minerals and their extraction from the Ross Dependency or its adjacent continental shelf is only conceivable in circumstances under which New Zealand has a major and effective role in decision-making.

109. New Zealand stands by the commitment that the Consultative Parties, in dealing with the question of Antarctic mineral resources, should ensure that the interests of all mankind in Antarctica are not prejudiced. As to the second of the commitments set out above, the outer limits of the minerals régime in respect of the continental shelf of the Ross Dependency will not extend beyond the limits prescribed in article 76 of the 1982 United Nations Convention on the Law of the Sea. 3/

110. After five negotiating sessions, the minerals negotiations are now in mid-stream. The negotiating process has been opened to any State which accedes to the Antarctic Treaty. New Zealand is confident that the progress to date will stand the scrutiny of this wider participation and demonstrate that the Consultative Parties have not been engaged in an effort to appropriate resources to themselves as a group, but rather to put in place appropriately balanced institutions that will ensure, should it ever be necessary, that decisions on mineral resources will: be sound from an environmental point of view; give appropriate weight to the interests of mankind as a whole; adequately reflect the unique balance of legal and political interests in Antarctica.



31. NIGERIA

[Original: English]

[8 October 1984]

1. The Government of the Federal Republic of Nigeria, in conformity with General Assembly resolution 38/77 of 15 December 1983 and in response to the Secretary-General's request for the views of all Member States in preparing a comprehensive, factual and objective study on all aspects of Antarctica, taking into account the Antarctic Treaty system states the following.

2. Firstly, the Government of Nigeria welcomes the prohibition by the Antarctic Treaty of any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres and testing of any type of weapons in the area. It further notes with satisfaction that Antarctica shall continue for ever to be used exclusively for peaceful purposes. The Nigerian Government, therefore, believes that in this spirit and given the political will, the Antarctic Treaty Consultative Parties and other members of the international community can and should work out an acceptable arrangement which could transform the Treaty into a genuine and lasting instrument for the preservation of peace and security in the uninhabited continent, as well as the reinforcement of international co-operation.

3. Secondly, against that background, the Nigerian Government regrets that though the Antarctic Treaty acknowledges that it is in the interest of all mankind that Antarctica shall continue for ever to be used exclusively for peaceful purposes, it fails to acknowledge the status of Antarctica as a common heritage of mankind. In this connection, the potential economic resources of Antarctica underlines the inherent stake and shared common interest of the international community in the developments in the area.

4. Thirdly, in pursuance of the desire that the continent be effectively prevented from becoming a centre of future international discord, and thus a potential source of international tension and a threat to world peace and security, the Government of Nigeria, after a serious and careful examination of the Antarctic Treaty has come to the conclusion that the non-recognition by the Treaty of the continent as a common heritage of mankind is a serious omission and its rectification should be considered an important factor in the re-examination of the Treaty which may be conducted within the framework of the United Nations system.

5. In arriving at this conclusion, the Government of Nigeria has noted that:

(a) The Antarctic Treaty was drawn up in 1959 by 12 countries which claim a history of active involvement in the continent and constitute the Antarctic Treaty Consultative Parties. In this regard, the Nigerian Government notes with concern that admission to the Antarctic Treaty Consultative Party meetings is open only to any party to the Treaty that demonstrates its interest in Antarctica by conducting substantial scientific research activities in the continent. Consequently, membership of the Antarctic Treaty Consultative Parties has been, without doubt, extremely restrictive to the extent that for almost a quarter of a century many

interested States could not qualify for membership on the basis of the criterion determined by the 12 original members of the Consultative Parties to the Treaty. Others were, therefore, discouraged because of that constraint from joining the Treaty itself.

(b) The territorial claims of 7 out of the 12 original Antarctic Treaty Consultative Party countries over some portions of Antarctica undermines the community of interest of mankind in the region. In this context, it is observed that, although the Treaty freezes new territorial claims for a period of 30 years, it also recognizes the territorial claims made prior to its enforcement.

(c) While noting the pronouncements by some Antarctic Treaty Consultative Party countries of non-recognition of these territorial claims, the Nigerian Government firmly believes that the issue of territorial claims should deserve the serious attention of the international community and that these claims further strengthen the need for a re-examination of the Treaty.

6. In the light of the foregoing, the Government of Nigeria proposes that the Antarctic Treaty Consultative Party countries and other nations should, in the spirit of understanding and international co-operation, take constructive steps to remove any restrictions which may hinder the full participation of any interested parties. It, therefore, urges all Members of the United Nations to ensure that all States can, if they so wish, become parties to the Antarctic Treaty.

## 32. NORWAY

[Original: English]

[20 June 1984]

### I. INTRODUCTION

1. The information provided by Norwegian authorities should be of particular relevance in the preparation of the study. Since the end of the nineteenth century, Norwegians have explored the continent and contributed to the scientific efforts which have brought results useful to all mankind.
2. Together with six other countries, Norway claims sovereignty rights over territory in Antarctica. This claim must be considered against the background of a long tradition of scientific and commercial involvement, and it constitutes a legal and administrative fact of emotional and historical importance to the Norwegian people.
3. Against this background Norway negotiated, together with 11 other countries, the Antarctic Treaty which came into force in 1961. For nearly 25 years the Treaty has constituted a firm and highly successful basis for the management of Antarctica. The Treaty has as its first declared aim to guarantee that Antarctica shall continue to be used exclusively for peaceful purposes and that it shall not be the scene or object of international discord. In protecting Antarctica as a zone of peace, the Treaty is promoting the purposes and principles of the Charter of the United Nations. Since its conclusion, the Treaty has been dealing in a most successful way with the strong national interests and territorial claims that are involved.
4. It is the firm opinion of the Government of Norway that the Antarctic Treaty constitutes an excellent basis for peaceful co-operation among all Parties, claimants as well as non-claimants. The Treaty has prevented any conflict related to sovereignty from materializing. It has protected and supported free scientific research on the continent. As the Norwegian Government sees it, the only way to ensure an orderly development with regard to exploration and development of the continent, including the difficult question of exploration and development of resources, is to rely also in the future on the effectiveness of the Treaty and the régimes worked out within its framework.
5. In this context, it is important to remember that the Antarctic Treaty is open to all States Members of the United Nations. Any country may join the Treaty by depositing its ratification document. To this date, 31 countries have decided to do so. Of these, 16 have acquired consultative status according to article IX of the Treaty, by engaging in substantial scientific activity in Antarctica. Other signatories have acquired non-consultative status, which entitles them to take part in meetings under the auspices of the Treaty, to present their views and to receive information on Antarctic issues. The signing of the Treaty does not involve any financial obligations or other requirements on the part of the signatory State.
6. The Antarctic Treaty system itself has therefore the flexibility necessary to adjust to changing circumstances, including greater international interest in

Antarctica. The Norwegian Government cannot accept that there is any reason today to alter or abolish the Treaty. On the contrary, every effort must now be made by all States Members of the United Nations to preserve and maintain this unique Treaty system. There is no effective alternative to it.

7. The Norwegian Government is ready to lend to the Secretary-General any assistance he might need in preparing the study on Antarctica. The following exposition is a first and preliminary reaction to his letter dated 8 February 1984.

8. Should the Secretary-General require further information, the Norwegian Government will naturally be ready to co-operate. In this connection, attention is drawn to the many Norwegian scientific institutions working on Antarctic issues and, in particular, to the Norwegian Polar Research Institute whose experience in these matters is internationally recognized. The present paper encloses a substantial bibliography on Norwegian research in Antarctica, 4/ and the Institute will be able to furnish the Secretary-General with additional material.

## II. NORWEGIAN ACTIVITIES IN ANTARCTICA

9. Norway's involvement in the Antarctic is historically connected with traditions in the exploration of the Antarctic continent and with the extensive participation in whaling in the Antarctic Ocean.

10. Norwegians were among the leading pioneers who opened the huge and then unclaimed continent for exploration.

11. Norwegian scientists, explorers as well as whalers, played a crucial role in the investigation and mapping of Antarctica. The first landing on the continent was made by Norwegians as early as 1895. The Norwegian, Carsten Borchgrevink, was the leader of the Southern Cross Expedition, the first expedition that wintered in Antarctica during 1898-1899. The Norwegian Polar explorer Roald Amundsen and his party were the first to reach the South Pole. The Norwegian expeditions in the 1920s and 1930s were partly of an industrial, partly of a purely research nature and were the first to use aircraft in research activity.

12. By the 1930s, much of the continent had been claimed by other countries, and Norway itself had claimed sovereignty over Peter I's Island (63°50' S latitude and 90°35' W longitude) in 1931, following its rediscovery by the second Norwegian expedition in 1928.

13. The Norwegian Government, on 14 January 1939, annexed the part of the Antarctic continent situated between 20° W and 45° E longitudes, named Dronning Maud Land. It borders the British Antarctic Territory in the west and the Australian Antarctic Territory in the east. Its limits to the north and to the

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4/ The annexes may be consulted, in their original form, upon request addressed to the Office of the Under-Secretary-General for Political and Security Council Affairs of the Secretariat.

south are not defined. The annexation was established by royal decree of 14 January 1939 and all countries with which Norway maintained diplomatic relations were immediately notified. Later, the annexation was incorporated into the Act of 27 February 1930 relating to the Bouvet Island, Peter I's Island and Queen Maud Land. The first paragraph of this law declares that Dronning Maud Land, Peter I's Island (and Bouvetøya, situated outside the Antarctic Treaty area) are placed under Norwegian sovereignty as dependencies.

14. The law also lays down that Norwegian civil and penal law and Norwegian legislation relating to the administration of justice shall apply to these areas. The text of the said Act is enclosed. 4/

15. In the post-war period, Norwegian whaling in Antarctic waters gradually declined. The diminishing stocks had led to serious concern. On an initiative taken mainly by Norwegians, an appeal was made to the League of Nations to arrange for regulating of the catch. An international convention for the regulating of whaling, which in most details was based on the Norwegian Whaling Act of 1929, entered into force in 1935. In 1949, the International Whaling Commission was established, following the agreement in 1946 on a new international convention on the regulation of whaling.

16. Norwegian scientific activities in the Antarctic area, however, were rapidly expanding. Following the Second World War, the Norwegian Polar Research Institute undertook the main responsibility and the main expenditures for the successful Norwegian-British-Swedish Maudheim Expeditions that wintered in Dronning Maud Land in 1950 and 1951. The expedition engaged in meteorological, glaciological and seismic investigations. It continued the mapping started by the Norwegian expeditions some 20 years earlier. The Maudheim Expedition is considered a pioneer expedition both in research and as a forerunner for international co-operation in the Antarctic.

### III. THE ANTARCTIC TREATY

17. In 1957-1958, the Third Polar Year, or the International Geophysical Year (IGY) as it was renamed to demonstrate its broadened scope, took place under the administration of the International Council of Scientific Unions (ICSU). During the two earlier "polar years", scientific interests had been focused on the Arctic. That year priority was to be given to Antarctica; 50 scientific stations maintained by 12 countries were established on the continent: Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Union of Soviet Socialist Republics, the United Kingdom and the United States of America.

18. Despite the effects of the cold war and the East-West tensions of the 1950s, this co-operation was an unparalleled success. The research activities brought significant contributions to the scientific knowledge of mankind and led to the establishment of a scientific co-operative organization, SCAR (Scientific Committee on Antarctic Research) in 1958. The organization consists of a number of specialist groups, with representation from each of the present member countries,

as well as a number of scientific international organizations. In an annual national report to SCAR, the member countries give information about their research activities and plans. The different specialist groups regularly arrange meetings at which information is freely exchanged.

19. Membership in SCAR is open to all States Members of the United Nations conducting active research in Antarctica. National committees on Antarctic research are established in each member State, acting as a link between SCAR and the national authorities. The 12 States which maintained scientific stations in Antarctica during the IGY were the founding members of SCAR. Today 15 countries have joined the organization.

20. The positive experiences from the IGY were important as a background to the conclusion of the Antarctic Treaty. Norway was among the 12 countries participating in the negotiations leading to the signing of the Antarctic Treaty in 1959. The other countries were Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, South Africa, the Union of Soviet Socialist Republics, the United Kingdom and the United States of America. Norway thus became one of the original 12 signatory States which have the status of Consultative Parties under the Treaty.

21. Norway ratified the Treaty in 1960. The Treaty entered into force in 1961.

22. The Treaty applies to the area south of 60° S latitude, but without prejudice to the high sea rights of any State under international law. It remains in force indefinitely. There are, however, provisions for a conference of all the Contracting Parties to be convened to review the operation of the Treaty. Such a conference may be requested by one of the parties after the expiration of 30 years from the entry into force of the Treaty, i.e., after 1991.

23. Any State Member of the United Nations can join the Treaty. So far, 31 countries from all parts of the world, with widely divergent economic and social interests, have chosen to do so. A State that in addition establishes a substantial scientific programme in Antarctica, such as the construction of a scientific station or the dispatch of scientific expeditions, may apply for consultative status. To this date, 16 countries have acquired this status, the latest being India and Brazil.

24. The Antarctic Treaty has as its first declared aim to guarantee that Antarctica shall continue to be used exclusively for peaceful purposes and that it shall not be the scene or object of international discord. All military activities are excluded. All nuclear explosions as well as the storage of nuclear waste is forbidden.

25. The Treaty guarantees freedom of scientific research throughout Antarctica and promotes the exchange of information on scientific programmes and results.

26. A system of inspection by observers is established to ensure the observance of the Treaty.

27. Of the original 12 signatories, 7 hold sovereignty claims in Antarctica. These are Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom. The claims of Argentina, Chile, and the United Kingdom are partly overlapping each other. The Treaty, however, removes the potential for sovereignty disputes by ensuring that the legal position with respect to sovereignty of Treaty parties is not prejudiced by any acts or activities taking place while the Treaty is in force. No new claim, or enlargement of an existing claim to sovereignty may be asserted during this time.

28. The Antarctic Treaty does not establish a permanent secretariat. The Consultative Parties meet regularly every two years to discuss matters of common concern pertaining to Antarctica.

29. The latest regular Antarctic Treaty Consultative Meeting (twelfth) was held at Canberra in 1983. The non-consultative parties, i.e., parties to the Treaty without consultative status, were then invited to attend the meeting as observers. During the Special Consultative Meeting, held at Tokyo in May 1984, where the Antarctic mineral resources régime was discussed, the non-consultative parties were invited as observers to the next meeting on the said subject scheduled to take place at Rio de Janeiro in 1985.

30. A total of more than 130 recommendations concerning a wide range of scientific, environmental and operational matters have been adopted by the 12 consultative meetings held since 1961.

31. Within the framework of the consultative process, the Antarctic Treaty Consultative Party countries as early as 1964 initiated the so-called Agreed Measures for the Conservation of Antarctic Fauna and Flora. This is a set of overall guidelines for the protection of indigenous animal and bird populations. The Agreed Measures are constantly subjected to revision, renewal and expansion.

32. In 1972, a Convention for the Conservation of Antarctic Seals was concluded. The Convention, which entered into force in 1973, provides for the total protection of three species of Antarctic seals and sets catch limits for a further three.

33. In 1980, the Consultative Parties concluded the Negotiations on a Convention on the Conservation of Antarctic Marine Living Resources. This Convention, which came into force in 1982, is a broadly based conservation régime which, like the Antarctic Treaty itself, is open to all States Members of the United Nations. This convention has been widely hailed as a milestone in the evolution of conservation régimes, adopting an ecosystem approach which treats all marine living resources south of the Antarctic Convergence as one single system. This assures the protection of the krill and other important resources in the Antarctic food-chain, while at the same time allowing a rational to the harvesting of these resources.

34. The Convention established a commission with its headquarters in Hobart, Australia, thus forming the first permanent secretariat within the Antarctic Treaty system. A close working relationship between the commission and international agencies, such as SCAR and the Food and Agriculture Organization of the United Nations (FAO), is provided for in the Convention.

35. Norway ratified the Convention in December 1983.

36. At the Ninth Antarctic Treaty Consultative Meeting, the parties agreed on a resolution to refrain from all exploration and exploitation of Antarctic mineral resources while making progress towards the timely adoption of an agreed régime concerning Antarctic mineral resource activities. The Consultative Parties are currently negotiating such a régime.

37. Estimates of Antarctic mineral and hydrocarbon resources are highly speculative. Deposits have been found of minerals such as coal and iron ore, but the low quality of the deposits and their inaccessibility have made them of no commercial interest. As for hydrocarbons, offshore research has established that such are present on the continental shelf, but it is far too early to predict whether petroleum is present in potentially commercial quantities. Whether it will ever be possible to develop petroleum resources is a technical problem still left to be solved. There is every reason to stress the fact that any commercial development of possible Antarctic mineral resources will probably not be initiated until well into the next century, if ever.

38. The Consultative Parties, however, have found it necessary to establish regulations for possible future exploration and development of mineral resources before they occur. The Antarctic environment is extremely delicate. Comprehensive and strict rules for environmental protection are therefore imperative.

39. It should also be kept in mind that the question of mineral activity in the Antarctica is closely connected to the issue of sovereignty. It is only within the Antarctic Treaty system that this difficult question might successfully be solved with due consideration to the interests of all States.

#### IV. NORWEGIAN ACTIVITY WITHIN THE ANTARCTIC TREATY SYSTEM

40. Owing to its historic traditions in the Antarctic and to the responsibilities it assumed in claiming sovereignty over a part of the continent, Norway has always taken a strong interest in the management of Antarctica.

41. During the IGY, Norway maintained a scientific station in Antarctica, the Norway Station, in Dronning Maud Land. This was permanently manned till 1960. Throughout the 1960s and 1970s, Norwegian scientists participated in the international research in Antarctica, sharing the work with scientists from many nations. The Norwegian Polar Research Institute has engaged in the geological mapping of Dronning Maud Land for several seasons. Scientists from the Institute participated in the American weasel expedition which took several years, criss-crossing through some of the least explored sections of the Norwegian claim territory.

42. In 1976/1977 and 1978/1979 independent Norwegian expeditions again set out for the Antarctic under the auspices of the Norwegian Polar Research Institute. More than 50 researchers and engineers from a number of Norwegian research institutions participated. The expedition carried out investigations on and around Bouvetøya, operating a manned station there.



43. The next Norwegian scientific expedition will take place in the austral summer of 1984/1985. The intention of the Norwegian Government is to follow up this expedition with new ones at regular intervals in the future.

44. Norway has been an active participant in the scientific collaboration under the auspices of SCAR. The director of the Norwegian Polar Research Institute, Dr. Tore Gjelsvik, was the president of SCAR from 1974 to 1978.

45. Norway is geographically situated far away from Antarctica, but Norwegian scientists are in a unique position to participate in polar research both in the north and the south. Many of the results are easily transferable in a way that makes the extensive Norwegian scientific efforts in the Arctic beneficial also to the Antarctic research. An extensive bibliography of scientific material on Antarctica published by Norwegian scientists is enclosed 4/ and will be made available at the discretion of the Secretary-General. The bibliography contains select references on the following subjects: general information, biological sciences, cartography and maps, expeditions, geological sciences, ice and snow, medical sciences, meteorology, oceanography, atmospheric physics, terrestrial physics and political geography.

#### V. THE ANTARCTIC TREATY SYSTEM AND THE FUTURE

46. The Antarctic Treaty has now been in force for more than 20 years. These have been years of varying temperature in the international climate and of varying tensions between the East and West. Throughout this period, the Treaty has constituted a firm and highly successful basis for the administration of Antarctica. The political and scientific co-operation between the parties, claimants and non-claimants, super-Powers and developing countries, has been peaceful and constructive.

47. Owing to strong national interests and partly conflicting territorial claims, Antarctica could easily become an area of serious conflict. Speculations that this ice-covered continent and its adjacent waters may conceal important deposits of mineral resources could add to this risk.

48. Such dangers of discord have, however, not materialized. In a world of conflict, Antarctica has remained a zone of peaceful collaboration between nations of all parts of the world, among them the five permanent members of the United Nations Security Council. In this it has fulfilled the aim set out in the preamble of the Antarctic Treaty, that Antarctica shall continue for ever to be used exclusively for peaceful purposes. In pursuing this aim, the Treaty parties have succeeded in promoting the purposes and principles of the Charter of the United Nations.

49. Throughout the duration of the Treaty, the parties have seen it as one of their main challenges to protect and preserve the unique Antarctic environment. This must continue to be a major task, both in the regular consultative process among the parties, and, not least in the discussions towards the conclusion of a minerals régime for Antarctica. The advanced research carried out by scientists on expeditions or in permanent stations will continue to be indispensable in this process.

50. Norway has a history of active involvement in Antarctica and the Norwegian Government\* has on several occasions stated its political and legal position on Antarctic issues. Antarctica is not a no-man's land. Since the beginning of the century, extensive scientific and economic activities have taken place, both on the continent itself and in the Antarctic Ocean. Seven countries, among them Norway, claim sovereignty over territory in Antarctica. In these countries, historical and emotional connotations provide a political background for their legal positions. While these claims have not received universal and explicit recognition, only a limited number of States have specifically raised any objection to them. They constitute administrative and legal realities in the claimant countries, which many States have taken note of. Furthermore, the existing situation between claimants and non-claimants form a delicate balance.

51. Any alteration of the existing claims will invariably disturb this balance and risk putting the collaboration in jeopardy. Article IV of the Antarctic Treaty provides a vehicle for avoiding conflict over the issue; therefore, it is vital to the continued successful operation of this clause that the question relating to territorial claims remains stable and unchanged.

52. The responsibility Norway took upon itself by claiming sovereignty over a part of Antarctica constitutes one pillar of Norwegian Antarctic policy and will remain unchanged. The principles of the Antarctic Treaty constitutes the other pillar. In the view of the Norwegian Government, the co-operation within the framework of the Treaty has proved an unparalleled international experience in successful promotion of peace and common interests. It would be impossible in today's international situation to create a new order in Antarctica which, in the same successful way, could attend to the administration of the continent.

53. The Treaty itself has shown flexibility and ability to deal with changing circumstances. The broader international interests in Antarctica is a new challenge. The Treaty system, however, is open - any States Member of the United Nations can join. It is therefore able to adjust itself to a new situation where countries with little or no polar experience may want to take part in the collaboration. The Norwegian Government will welcome a development towards broader participation in a successful co-operation across traditional East/West and North/South borders.

54. Any consideration or adaptation of the administration of Antarctica must, however, take fully into account the achievements of the Antarctic Treaty. There is no effective alternative to it. Any disturbance of the established system may lead to a serious risk of international conflict. It is to be hoped that the United Nations in dealing with this issue will reach a profound understanding of the operation of the Antarctic Treaty and its role in international relations.

55. The Norwegian Government wishes to convey to the Secretary-General its hopes that the total sum of information on Antarctica supplied by the Member States, may provide the Secretary-General with sufficient information to prepare a study on Antarctica which will be helpful in the future administration of the continent. This study must, in the Norwegian Government's view, take into account the existing successful co-operation in Antarctica regulated by the Antarctic Treaty. This

co-operation is the result of efforts made by countries with historic traditions of involvement in Antarctica and extensive experience on Antarctic issues. The existing basis of an open system with the possibilities of adjustment and growth is the best foundation for accommodating a new and broader international interest in Antarctica.

### 33. PAKISTAN

[Original: English]

[15 June 1984]

1. The continent of Antarctica, which covers one tenth of the world's land surface, is without any indigenous inhabitants or permanent settlers. During the colonial era, claims of sovereignty were made by several countries over parts of Antarctica, but these claims were never made effective even by the criteria then accepted as giving title to the claimant, nor were they recognized by the international community. In the present-day world, when the process of decolonization has almost been completed, the colonial premise on which these claims were based has been rejected.

2. In 1959, the seven nations claiming sovereignty over portions of the Antarctic continent entered into an agreement with seven other nations, which did not recognize these claims, to administer this vast territory among themselves. This agreement, known as the Antarctic Treaty, set up an exclusive system in which a few countries would control the use of this entire continent and the management of its resources.

3. The question of Antarctica, however, is not only of interest to the States which are parties to the Antarctic Treaty, but to the entire international community. The Government of Pakistan, therefore, attaches great importance to the establishment of a just and equitable international régime for Antarctica, based on the principles of the Charter of the United Nations, which would enable all States to carry out peaceful activities on the continent, to get a fair share of its resources and preserve its delicate ecosystem.

4. It was for this reason that Pakistan has welcomed the inscription of the question of Antarctica on the agenda of the General Assembly at its thirty-eighth session. During discussions in the First Committee, 5/ the Pakistan delegate supported the proposal to prepare a study on Antarctica and expressed the hope that, when available, the study would help the world community in arriving at appropriate decisions and adopting necessary measures for establishing a suitable régime for the continent. Pakistan also sponsored resolution 38/77 adopted by the General Assembly on 15 December 1983, which requested the Secretary-General to prepare a comprehensive, factual and objective study on all aspects of Antarctica.

5. Despite differences of opinion which came to light during the General Assembly debate on this question, the Government of Pakistan was struck by the general agreement in a number of significant areas concerning Antarctica. These points of convergence, which provide the basis for further discussion of the question, included the following:

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5/ Official Records of the General Assembly, Thirty-eighth Session, First Committee, 42nd to 46th meetings.

(a) Antarctica is of importance to every member of the international community and should, therefore, be under a global régime commanding universal respect;

(b) Antarctica should be used for peaceful purposes only and remain a demilitarized and denuclearized zone insulated from international strife and conflict;

(c) There should be freedom of scientific research and investigation in Antarctica and the results of these activities should be used for the benefit of all;

(d) All activities in Antarctica and, in particular, the exploitation of its resources, should take place under such conditions and in such a manner that there is no threat to its fragile environment and ecosystem;

(e) Every State should have a fair share of the living and mineral resources of Antarctica.

6. With the exception of the States claiming sovereignty over parts of Antarctica, the general consensus was that the continent falls outside the limits of national jurisdiction of States and is not subject to appropriation by any country or group of countries.

7. The United Nations debate also demonstrated clearly that the system established by the Antarctic Treaty does not enjoy the support of a large number of countries, especially those from the Third World, and, therefore, could not be regarded as constituting a régime for the international community as a whole. This situation is clearly unsatisfactory and fraught with the potential for discord and conflict. The Government of Pakistan, therefore, feels that there is an imperative need to negotiate a global régime for Antarctica based on the principles of the Charter of the United Nations in order to preserve Antarctica's character as a zone of peace and preserve international co-operation.

8. During the United Nations debate, some supporters of the Antarctic Treaty system, most of which have the status of "Consultative Parties", argued against the revision or replacement of the Treaty. They maintained that it had been successful in ensuring the use of Antarctica for peaceful purposes, in facilitating scientific co-operation and in protecting the natural environment. Consequently, it was said, it would be unrealistic to think that in the present state of world affairs, a new or better legal régime than the Antarctic Treaty system could be agreed upon.

9. The Government of Pakistan does not wish to deny the positive features and achievements of the Antarctic Treaty. At the same time, the Government is of the considered opinion that in view of the Treaty's shortcomings, as spelt out in the following paragraph, it should be replaced by a new international instrument establishing a just and equitable international régime based on the principles of the Charter of the United Nations and reflecting the realities of the present-day world, in particular, the aspirations and needs of the developing countries, which today form the bulk of the membership of the United Nations and demand an equal voice in decision-making on behalf of the international community. The Government

wishes to emphasize, however, that in seeking to lay the foundations of a new régime for Antarctica, it is its desire to build on the positive features of the present Treaty system and to strengthen them.

10. The specific shortcomings and lacunae of the Antarctic Treaty system, both legal and practical which the new régime must seek to overcome, are the following:

(a) The Antarctic Treaty was concluded between seven States having no claims of sovereignty or ownership over Antarctica and seven other States with such claims over different parts of the continent which are denied by the other seven signatories, as well as by the international community in general. Any agreement between such parties regarding the continent of Antarctica, which does not belong to any State, cannot be the basis of a legal régime binding the international community as a whole.

(b) The Antarctic Treaty, far from establishing an international régime for the continent, contains many lacunae which must be removed through the conclusion of a new international instrument on Antarctica. For instance, the Treaty leaves open the question of sovereignty over Antarctica and makes no adequate provision to govern the ownership and exploitation of its resources or for the exercise of jurisdiction in the area. Recommendations and conventions adopted by the Antarctic Treaty Consultative Parties on some of these subjects can have no application for other States.

(c) Article VI of the Antarctic Treaty, under which the Treaty is to apply to the area south of 60° S latitude, which is an area outside the national jurisdiction of any State, may be in conflict with the provisions of the United Nations Convention on the Law of the Sea, 3/ conferring jurisdiction on the International Sea-Bed Authority.

(d) The self-appointed system established by the Antarctic Treaty for administering the continent is unjust and undemocratic. It establishes two classes of States parties: the Consultative Parties and the non-consultative Contracting Parties. The right of participation in decision-making is denied to the latter.

(e) The racist minority régime of South Africa, which has been debarred from the activities of a large number of international organizations, continues to participate fully in decision-making on Antarctica as a Consultative Party.

(f) The criteria laid down in the Treaty are such that most developing countries, whose interest in Antarctica is as well-founded and substantial as that of any other country, cannot acquire the status of Consultative Parties.

11. The Government of Pakistan is, therefore, of the considered view that the Antarctic Treaty should be replaced by an international régime freely negotiated between the members of the international community under the auspices of the United Nations. This régime should be established by an international treaty of a universal character and should, inter alia, provide for the development and management of Antarctica and for an equitable sharing by States of its resources and in the benefits derived from its use, taking into particular consideration the

needs and interests of the developing countries. Such a régime must also establish a democratic international machinery for giving effect to the provisions of the treaty.

12. The treaty should be negotiated in a United Nations conference on Antarctica. Preparations for the conference may be entrusted to an ad hoc committee established by the General Assembly.

13. The conference could have as its guidelines the principles of the Charter of the United Nations and those embodied in three other international instruments relating to areas beyond the limits of national jurisdiction, namely: the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (see General Assembly resolution 2222 (XXI)); the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (see General Assembly resolution 34/68); and the United Nations Convention on the Law of the Sea. 3/ Among these guidelines should be the following:

(a) Antarctica and its resources are the common heritage of mankind;

(b) Antarctica is not subject to appropriation by any means by States or persons, and no State can claim or exercise sovereignty or sovereign rights over any part of it on the basis of discovery, occupation, geographical continuity or contiguity, administrative acts or on any other basis;

(c) No State or person, natural or juridical, can claim, exercise or acquire rights with respect to Antarctica or its resources incompatible with the international régime to be established;

(d) Antarctica should be reserved exclusively for peaceful purposes and all measures of a military nature should be prohibited;

(e) Antarctica should be open to use by all States, without discrimination, in accordance with the international régime to be established;

(f) The exploration of Antarctica and the exploitation of its resources should be carried out for the benefit of mankind as a whole, taking into particular consideration the interests and needs of the developing countries. All such activities should be governed by the international régime to be established;

(g) There should be freedom of scientific investigation in Antarctica and States should co-operate in scientific research exclusively for peaceful purposes;

(h) In conformity with the international régime to be established, States should take appropriate measures and co-operate in the adoption and implementation of international measures for the protection of the Antarctic environment and its ecosystem, for the protection and conservation of its natural resources and for the prevention of damage to its flora and fauna.

14. Until a global régime based on the above principles has been established, a moratorium may be imposed on the exploration and exploitation of the mineral resources of Antarctica.

15. As regards the contents of the study on Antarctica to be undertaken by the Secretary-General in pursuance of General Assembly resolution 38/77, the Government of Pakistan feels that, among other things, the study should: (a) include an examination of the position and status of Antarctica under international law and the extent to which this position and status can and has been modified by the Antarctic Treaty; and (b) suggest the elements of an international régime for Antarctica as well as the modalities for negotiating such a régime.



34. PERU

[Original: Spanish]

[7 July 1984]

1. The entire international community is naturally interested in what happens to Antarctica. The General Assembly's decision to undertake a study of this question, at the initiative of the Non-Aligned Movement, is an affirmation of this interest, and Peru supports that initiative.
2. Peru has a direct and particular interest in the fate of Antarctica, as a result of the special ties which bind it to the region geographically, ecologically and historically. In its desire to participate in the deliberations on the future of Antarctica, Peru acceded in 1981 to the Antarctic Treaty, the only international forum at that time in which problems related to the Antarctic could be discussed. Since then, Peru has attended the meetings of the Consultative Parties, to which it was invited as an observer, and has participated in them in so far as the statutory provisions of the Treaty allow.
3. As an acceding party to the Antarctic Treaty, it fully shares the objectives of the Treaty, believing that the purity of the Antarctic environment should be preserved, that the encroachment of the arms race should be prevented and that scientific research should be promoted through co-operation. These objectives are embodied in the Treaty. We therefore believe that these objectives should be accepted and promoted by the international community.
4. For these reasons, Peru feels that the discussion of the Antarctic problem in the General Assembly is a positive step which deserves the support of all States, because it is designed to universalize those principles which have hitherto been binding only on the parties to the Antarctic Treaty. Peru therefore supports the forthcoming debate in the General Assembly and hopes that the deliberations will lead to a universally acceptable régime.
5. In Peru's view, the study which the General Assembly has entrusted to the Secretary-General should serve as a point of departure for the examination of the question of Antarctica. The majority of the Member countries of the United Nations should know more about actual conditions in the Antarctic continent and the activities being carried out there. The Secretary-General's study offers an auspicious opportunity to disseminate information about such conditions.
6. Under the terms of reference set out in General Assembly resolution 38/77, it is clear that in the study entrusted to him the Secretary-General cannot express a judgement or formulate an opinion either about the current legal system in Antarctica or about what it should be in future. These are matters for other bodies to decide. However, it would be extremely useful for the Secretary-General to expound, factually and objectively, in an orderly and systematic manner, the various ideas which have been put forward on the subject, including, of course, those concerning the applicability of the Antarctic Treaty and those relating to a universal system based on the "common heritage" concept.

7. In the light of a broader consideration of the problem than was possible at the thirty-eighth session of the General Assembly, 5/ the Secretary-General's study might undertake to find the best approach to the preparation of a universally valid Antarctic system which would combine the principles described above.

### 35. PHILIPPINES

[Original: English]

[7 June 1984]

#### I. INTRODUCTION

1. The General Assembly adopted, without a vote, resolution 38/77 on 15 December 1983, entitled "Question of Antarctica". The resolution requests the Secretary-General to prepare a comprehensive, factual and objective study on all aspects of Antarctica, taking fully into account the Antarctic Treaty system and other relevant factors. States Members of the United Nations are likewise requested by the resolution to help the Secretary-General in the preparation of the study, and to submit their views no later than 1 June 1984.
2. The inscription of the agenda item on Antarctica during the thirty-eighth session of the General Assembly was a Malaysian initiative which was supported by most members of the Non-Aligned Movement. Other countries such as the Philippines that are not members of this Movement supported the Malaysian initiative.
3. At the Seventh Conference of Heads of State or Government of Non-Aligned Countries held at New Delhi from 7 to 12 March 1983, an Economic Declaration was adopted, containing the following salient points in regard to Antarctica: 6/ first, Antarctica, which has considerable environmental, climatic, scientific and potential economic significance to the world, should in the interest and benefit of all mankind be accessible to all nations and be used exclusively for peaceful purposes consistent with the continent's environmental protection; second, Antarctica should be studied comprehensively by the United Nations to widen international co-operation in the area; and third, following the agreement reached on the law of the sea, a meeting must be convened by the United Nations to define the problem of uninhabited lands, whether claimed or unclaimed, and to determine the rights of all nations to these lands, so that a new international agreement may be concluded which will not recognize territorial claims that are substantiated by mere historical episodes.
4. The Antarctic Treaty Consultative Parties decided on 23 September 1983, during its Twelfth Consultative Meeting at Canberra, to oppose attempts by third world countries to place Antarctica within United Nations supervision. In that meeting, the following Treaty achievements were underscored: first, the prohibition on nuclear explosions and dumping of nuclear waste and its forbidding of military measures in Antarctica, all verifiable through a mutual system of inspection, have arguably made Antarctica the most effective zone of peace; second, the Treaty guarantees freedom of scientific investigation, and the results thereof made freely available; third, the Treaty has removed the potential for disputes relating the exercise of sovereignty through a formula which does not prejudice the position of

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6/ A/38/132-S/15675 and Corr.1 and 2, annex, sect. III, paras. 122 and 123.

any party to the Treaty; fourth, the Treaty provides a framework for preserving and protecting the sensitive Antarctic environment; and fifth, the region is one of hitherto unparalleled international co-operation (where instability could be introduced by any attempt to negotiate a new international agreement on the continent).

5. The Antarctic Treaty is open for accession to any interested country. It is due to expire in 1991, or 30 years after having entered into force in 1961. The original 12 Contracting Parties which signed the Treaty in Washington on 1 December 1959 are Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America. Sixteen countries subsequently acceded to the Treaty: Brazil, Bulgaria, China, Czechoslovakia, Denmark, German Democratic Republic, Germany, Federal Republic of, India, Italy, Netherlands, Papua New Guinea, Peru, Poland, Romania, Spain and Uruguay. The Antarctic Treaty Consultative Parties to date are the 12 original signatories and four acceding States engaged in substantial scientific research in Antarctica (the four States that currently qualify are: Brazil, India, Germany, Federal Republic of, and Poland).

## II. ANTARCTIC PHYSIOGRAPHY

6. The Scott Polar Research Institute of the University of Cambridge in England reports, in its Antarctica: Geophysical and Glaciological Folio of 1983, that Antarctica constitutes one of the world's major land masses with an area of 13,918 million square kilometres. Eleven per cent of this area is currently formed of floating ice shelves and only 2.4 per cent ice-free confined to isolated coastal localities or major mountain chains which break the ice surface as either continuous rock massifs or isolated nunataks.

7. The Scott Polar Research Institute also reports that Antarctica contains  $30.11 \pm 2.5$  million cubic kilometres of ice, or 90 per cent of the world's current volume of ice. About 86.5 per cent of this ice is located in east Antarctica while west Antarctica, including the Antarctic Peninsula, contain 11.5 per cent. The major ice shelves in the frozen marine caps of the Ross and Weddell seas account for the remaining 2 per cent. The average thickness of ice in Antarctica is 2.16 kilometres; the thickest ice yet measured is 4,776 kilometres thick at  $69^{\circ}54' \text{ S}$  and  $135^{\circ}12' \text{ E}$  in east Antarctica.

8. Antarctica, which is almost twice the area of Australia and the United States of America, is reported in a document in the Australian Foreign Affairs Record to be the remotest continent, the coldest, the highest (with an average elevation of around 2.5 kilometres), the driest (with an average precipitation of 10 cm), and the windiest continent (winds, even more than terrain and cold, are the major limiting factor for human activity in Antarctica).

9. The International Geographic Encyclopedia and Atlas reports that Antarctica is the fifth largest continent, consisting of west Antarctica (a mountainous region including the Antarctic Peninsula) and east Antarctica, a geological continental

shield. Both regions are joined into a continent by giant masses of ice which often break off floating away as icebergs. The two major coastal indentations are the Ross Sea facing the Pacific Ocean, and the Weddell Sea facing the Atlantic Ocean. Great ice shelves cover these seas at an average thickness of from .183 to 1.22 kilometres. Antarctica is surrounded by the world's stormiest seas. A belt of pack-ice surrounds the continent.

10. The Antarctic regions are defined by Encyclopedia Britannica to refer to all areas - oceanic, island, and continental - lying in the cold Antarctic climatic zone south of the Antarctic Convergence, an important and seasonably little variable oceanic boundary where warm subtropical waters meet and mix with cold polar waters. For legal purposes of the Antarctic Treaty, the arbitrary boundary of 60° S latitude is used. The continent was ice-free during most of its geologic history and there is no reason to believe it will not become so again in the probably distant future. When it does, there will loom a continent (east Antarctica) and an archipelago (west Antarctica) of about the size of Australia and Indonesia. Effects of the melting ice will be worldwide, for sea-level will rise possibly as much as 200 feet and global oceanic and atmospheric circulation patterns will change dramatically.

### III. POLITICAL STATUS

11. In a paper circulated by the Malaysian Government entitled "Antarctica - the Need for a U.N. Debate", it says, among other things, that seven of the Antarctic Treaty Consultative Parties (Australia, New Zealand, Argentina, Chile, France, Norway and the United Kingdom) claim portions of the continent based on discovery, occupation, geographical continuity or administrative acts. However, the other members (Brazil, Germany, Federal Republic of, India, Japan, Poland, South Africa, the Union of Soviet Socialist Republics and the United States of America) do not recognize these territorial claims because some of them also have a basis for claim as good as those of the claimants. However, under the present terms of the Antarctic Treaty, territorial claims have been held in abeyance, and Antarctica will be primarily used as a scientific laboratory.

12. The International Geographic Encyclopedia and Atlas reports that early explorations of the continent were nationalistic, leading to territorial claims. During the early eighteenth century, expeditions were sent to the area to catch seals; in 1890, after half a century of neglect, a period of extensive exploration began mostly for scientific purposes and this continued in the period following the First World War, in which scientific and technological advances were applied. The 1930s were a period of international rivalry, and the Antarctic map was cut into wedge-like territorial claims (see annex A) that often overlapped. Interest in Antarctica intensified after the war, and several Governments established permanent agencies to direct Antarctic affairs. After the Second World War, most expeditions were again government-financed. In a co-operative programme during the International Geophysical Year (IGY) - held from 1 July 1957 to 31 December 1958 - 12 nations maintained 65 stations and operational facilities in Antarctica, and the success of the IGY led to the signing of the Antarctic Treaty by the 12 countries.

13. The Antarctic Treaty, as documented in the Australian Foreign Affairs Record of February 1984, was signed by 12 nations which maintained stations in Antarctica during the IGY, and entered into force in 1961. It reportedly evolved directly from the spirit of co-operation which marked the IGY activity in Antarctica, but its roots go back into East-West tensions of the late 1940s and 1950s, along with the evidence of tensions resulting from overlapping Antarctic claims in the late 1940s. The Treaty is the main international instrument regulating the activities of States in Antarctica. Australia claims that the effectivity of the Treaty is indefinite, despite the 30-year life of the Treaty provided under article XII, paragraph 2 (a), of that Treaty, because of a related Treaty provision for a conference to be convened to review its operations upon request by one of the Consultative Parties, upon the Treaty's expiry in 1991.

14. The position of the United States on Antarctica is that, while it does not recognize claims to territorial sovereignty in Antarctica, it is concerned that any efforts to eliminate claims, such as the Malaysian initiative, will only intensify commitment to them and lead to conflict. The Treaty has provided a remarkable opportunity for the United States and the Union of Soviet Socialist Republics to maintain a co-operative relationship; a weakening of the Treaty could destroy the basis for such co-operation.

15. While all the Consultative Parties to the Treaty maintain the need to respect the Treaty because of the positive results of international co-operation, the security issue is raised by New Zealand and Chile which are most proximate to the continent. Each considers a modification of the Treaty as an opportunity for the emergence of a threat from its backyard.

#### IV. RESOURCES OF ANTARCTICA

16. The Antarctic Project, a non-governmental body based in Washington, D.C., made the following scientific estimates of the Antarctic resources for 1982 on the basis of inputs from the American Geographic Society (Antarctic Map Folio), the reports of the International Whaling Commission and other leading researchers:

(a) Krill. This three-inch, shrimp-like crustacean is the critical link in the Antarctic food chain. No one knows how many krill live in the Antarctic, but they congregate in giant "swarms", which are all essential to the feeding efficiency of many marine animals. In 1982, the total krill harvest was about 1 million tons.

(b) Whales. There are from 250,000 to 400,000 minke whales that spend winter in Antarctic waters; 43,000 sperm whales; 37,000 sei whales; 80,000 to 100,000 fin whales. Three types of whales are nearing extinction because of previous over-fishing: blue whales: 3,000 to 11,000 (from original population of 200,000); southern right whales: 3,000 (from 100,000) and humpback whales: 3,000 (from 150,000). There is no known estimate for the killer whale and the others. Whales feed on krills in the Antarctic, and one blue whale can consume four tons of krill per day.

(c) Seals. Crabeater seals which feed on krill have a population of about 15,000,000 to 30,000,000; Weddell seals: 730,000-750,000; southern fur seals: 600,000-900,000; leopard seals: 200,000-300,000; Ross seals: 100,000-220,000; and elephant seals (no estimate).

(d) Penguins. Penguins account for 90 per cent of avian biomass in the Antarctic. With the exception of the emperor, which breeds on fast-ice, all penguins breed on land, in ice-free areas along the Antarctic coastline and Antarctic islands. The present population of Adelie penguins is 27,000,000 to 50,000,000; rockhooper penguins: 10,000,000-22,000,000; king penguins: 5,000,000-5,500,000; chinstrap penguins: 2,500,000-6,800,000; and emperor penguins: 240,000-570,000.

(e) Fin fish. Only about 100 species of fin fish have been recorded. In some areas, high concentrations have been found. The annual catch is about half a million tons a year.

17. The Antarctic Treaty Consultative Parties claim that estimates of mineral and hydrocarbon resources are speculative and although deposits of coal and carbon have been found, the Consultative Parties advance that mining in the near future is ruled out owing to inaccessibility and low quality. Offshore hydrocarbon exploitation has greater potential as confirmed by the presence of large sedimentary basins particularly in the Ross and Weddell Seas. Shallow drilling has revealed the presence of hydrocarbons of the Ross Sea continental shelf.

18. In the above-mentioned Malaysian paper (see para. 11), it states that the Antarctic Treaty Consultative Parties have begun negotiations for a new treaty to govern the exploration and exploitation of mineral resources of Antarctica, strongly believed to have large oil reserves, usually in the order of tens of billions of barrels of oil lying under the Antarctic continental shelf, and that some Governments are anxious to open the region to serious prospecting as soon as possible.

19. The Australian Foreign Affairs Record cited earlier admits that the Antarctic Treaty does not deal with resource exploitation, which was not an issue in 1959. In 1972, the Antarctic Treaty Consultative Parties concluded the Treaty for the Conservation of Antarctic Seals. The Parties also concluded another treaty in May 1980, entitled Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), which came into force in 1982. This Convention was negotiated as a result of the position of claimant States which maintained that their sovereignty accorded them the same offshore rights that a coastal State has elsewhere, but which the non-claimant States, not recognizing the validity of the claim, did not recognize the validity of offshore jurisdiction either.

20. The Washington-based Antarctic and Southern Ocean Coalition, an umbrella organization of several non-governmental organizations which are monitoring the meetings of the Antarctic Treaty Consultative Parties and activities, and which is concerned over the protection of the environment of Antarctica, made the following observations in its report on 6 February 1984 on the Antarctic minerals meeting held in Washington, D.C., from 18 to 27 January 1984:

(a) The Fourth Antarctic Treaty Consultative Meeting is a continuation of negotiations for an Antarctic minerals régime, and the fifth meeting of the Consultative Parties and 12 other Treaty-acceding Governments will resume at Tokyo in May 1984. The Governments completed a "second reading" of the draft minerals treaty prepared last year by Chris Beeby, head of the New Zealand delegation.

(b) Sixteen non-governmental environmental organizations monitored the meeting, which was held, as usual, behind closed doors. Non-governmental organizations had to use "information" methods of learning what was happening in the meeting.

(c) At the first formal negotiating session in 1982, the United States made the most substantial proposal to divide Antarctica and its continental shelf into four quadrants for minerals decision-making. It was dropped during the second session in 1983 when Beeby tabled a "personal report", which subsequently was the topic in meetings at Bonn and Washington.

(d) Talks on minerals have been going on in the meetings of the Antarctic Treaty Consultative Parties for about 10 years. In 1975, New Zealand proposed that an Antarctic world park should replace the Antarctic minerals activities. The United States and other Treaty powers opposed the world park proposal and also opposed the Chilean proposal for a long-term moratorium on all minerals activities. The New Zealand and Chilean proposals may be construed as an attempt to ensure their security.

(e) There are still many areas of disagreement that the negotiations of the Antarctic Treaty Consultative Parties on a minerals régime have to face, such as: forum of the régime, decision by consensus or majority, adequacy of information for decision-making, regulation of prospecting, requirement for environmental impact assessment, creation of closed and protected areas, system for periodic environmental review, and how to provide for the interests of wider international community (both in decision-making and the sharing of economic and technological benefits).

21. The other economic potentials of the continent are numerous: as a giant grains preserver, tourist destination, source of fresh water for arid lands like the Middle East, and as a natural laboratory for meteorological, climatological and glaciological research and development.

## V. CONFLICTS

22. Notwithstanding the claim of the Antarctic Treaty Consultative Parties unparalleled harmony and co-operation, that claim seems more apparent than real because of the voluntarily suppressed assertion of individual national interests by some of the Consultative Parties. Treaty member-countries near the continent, such as Australia, Chile and New Zealand appear to be more concerned over the security and environmental implications to the extent of agreeing to defer the assertion of their territorial claims. Japan and the Soviet Union are key proponents for expanded marine fishery exploitation, while the United States and other Treaty



powers are more concerned about hydrocarbon exploitation. The Soviet Union, which does not have the technological capability to undertake mineral exploration, has been observed to be keen on deferring mineral exploitation activities in the area.

23. Another major area of concern is the conflicting views of the members of the Non-Aligned Movement for a new international agreement to govern Antarctica, and of the State parties to the Antarctic Treaty for the retention of the Antarctic Treaty. The strength of non-aligned countries was demonstrated during the thirty-eighth session of the General Assembly, resulting with the adoption without a vote of a resolution (38/77) requesting a comprehensive United Nations study on Antarctica.

24. Non-governmental organizations are playing a more active role in advancing the environmental protection of Antarctica. To date, there are 16 active non-governmental organizations based mostly in the West, and their activities range from lobbying, monitoring, demonstrating, and publishing technical and scientific publications. Non-governmental organizations are vehemently against the exploitation of Antarctic mineral resources.

25. One form of conflict that threatens to emerge is legal and it impinges on international law. The abrogation of the Antarctic Treaty by a new international agreement could have wide-ranging effects. To date, the Antarctic Treaty Consultative Parties are already sounding off on the possibility of not recognizing treaties that form the basis for the legal claims of many countries over their territorial jurisdiction, should these countries join in the concert to revise the existing Antarctic Treaty. In the case of the Philippines, the Treaty of Paris and the Treaty of Washington could be the subject of scrutiny by the Consultative Parties if the Philippines pursues its positions on Antarctica with Malaysia.

26. The political dimension is another area of conflict where there could be changes in political interrelationships in which countries could trade their positions on Antarctica in favour of more urgent national and regional concerns.

## VI. CONCLUSIONS

27. All countries are expected to notify the United Nations, when the United Nations Convention on the Law of the Sea 3/ takes effect, of the outer limits of their territorial shelves, and since there is no agreement as yet on jurisdiction over Antarctica including its maritime régimes, the International Sea-Bed Authority (an agency created pursuant to the provisions of the United Nations Convention on the Law of the Sea) could have jurisdiction over areas below 60° S latitude, that is, the Antarctic continent. In the event that the Antarctic Treaty Consultative Parties would claim collective jurisdiction as a response to this issue, then there would be a need for negotiations on a global scale under United Nations auspices. The Philippines has ratified the United Nations Convention on the Law of the Sea.

28. The Philippines views the comprehensive study on Antarctica being undertaken by the Secretary-General as a positive step to strengthen, rather than weaken, the purposes enunciated in the Antarctic Treaty. The environmental aspect of Antarctica

is of primordial concern to the Philippines, and any activity thereon should be subordinated to environmental protection or to environmental assessment in particular.

29. The current negotiations on a minerals régime in Antarctica, being carried out by the Consultative Parties and other selected States that have acceded to the Antarctic Treaty, should be open to the larger community of nations. Since the Antarctic Treaty does not have any specific provision on mineral exploitation, then the current minerals régime negotiations on Antarctica by the Consultative Parties should allow the participation of the other Members of the United Nations, based on the principle of universality of access to mankind's common heritage.

30. There are other factors requiring the internationalization of Antarctica. As a tourist destination, a system of consular services could be collectively formulated by Members of the United Nations; as a source of fresh water and food from marine resources, a universal system of resource management is needed. A collective study by the United Nations on the effect of nuclear war which could melt the Antarctic ice and raise the world-wide sea level is an urgent undertaking.

36. POLAND

[Original: English]

[26 June 1984]

1. The Government of the Polish People's Republic hereby presents its position concerning matters connected with the Antarctic Treaty and other relevant factors.
2. The legal status of the Antarctic until 1958 was not regulated. Territorial claims to four fifths of the total area of the continent had been raised by seven States: the United Kingdom of Great Britain and Northern Ireland, Argentina, Chile, France, Australia, New Zealand and Norway. The matters of the Antarctic's legal status and jurisdiction in force on its territory acquired particular topicality in connection with the plan of establishing scientific-research stations during the International Geophysical Year, 1957/1958. A comprehensive programme on the continent's research was prepared, which, inter alia, included international co-operation, exchange of information, exchange of research staff, etc. The international programme on Antarctic research within the IGY provided for freedom to conduct scientific research by scientists from different countries on the entire territory of the Antarctic, irrespective of territorial jurisdiction, provided that such research would in no way pre-determine the territorial claims and positions of the States concerned as to the questions of jurisdiction. The experience gathered during the IGY has given a stimulus towards undertaking international negotiations on the preparation of an appropriate international agreement to regulate the legal status of the Antarctic territory.
3. On 1 December 1959, at Washington, a Treaty on the Antarctic was signed. In the first stage, instruments of ratification were deposited by 12 States. Poland acceded to the Treaty on 8 June 1961.
4. The major provisions of the Treaty are:
  - (a) The Antarctic staff shall be used for peaceful purposes only. Specifically, it is prohibited to commence thereon any undertaking of a military nature, such as the establishment of bases and fortifications and the carrying out of military manoeuvres and tests of any type of weapons. Nuclear explosions have been prohibited expressis verbis;
  - (b) The freedom of scientific research, obliging States to exchange information on scientific research planning and to exchange scientific staff and scientific findings, as well as to co-operate in that area with the United Nations and other international organizations;
  - (c) The Treaty presents no grounds for submitting, up-keeping or negating, any claims to territorial sovereignty in the Antarctic and provides no right to sovereignty on this continent. No new claims to sovereignty in the Antarctic should be submitted throughout the validity of the Treaty;
  - (d) It is planned to establish a system of control in the Antarctic and the right on the part of any party to nominate observers for exercising inspection concerning matters specified in the Treaty;

(e) All disputes among States should be solved only by peaceful means of their own choice;

(f) The Treaty is an open agreement and any acceding State can become a member upon the deposit of its instrument of accession. Thirty States are already parties to the Treaty.

5. At present, 16 States are consultative members of the Antarctic Treaty.

6. In 1977, Poland had been granted a consultative status with the Treaty, owing to its scientific and research accomplishments conducted in the "Arctowski" and "Dobrowolski" polar stations. Polish Antarctic studies have been well known on the international plane. Detailed reports have been prepared and distributed each year to all States that are Consultative Parties to the Treaty, in accordance with the Treaty's provisions.

7. Operating within the framework of the Antarctic Treaty, the Commission for the Conservation of Antarctic Marine Living Resources, was established in pursuance of the Convention on the Conservation of Antarctic Marine Living Resources of 1980. Poland ratified the Convention in 1983. At present, work is under way on the elaboration of legal principles governing the activity of States in the future exploitation of the mineral resources of the Antarctic. Poland is taking an active part in the informal working group, composed of 16 States that are Consultative Parties, established to draft an appropriate legal instrument. So far, the group has held four meetings at Wellington, Bonn, Washington and Tokyo. At every successive meeting, Poland took the position that there is a need to guarantee equitable access on the part of all States to future exploitation of the Antarctic mineral resources. We oppose the participation of the monopolies bent to derive their maximum income on future exploitation. Furthermore, Poland favours adopting the principle of full responsibility of States for the future exploitation of mineral resources with regard to both physical and legal persons.

8. So far, 12 meetings were held within the framework of the Consultative Parties to the Treaty. The next one is scheduled to take place at Belgium, in 1985.

9. Certain States have manifested initiatives designed to revise the existing Antarctic Treaty. Poland has consistently declared itself in favour of keeping the Treaty unchanged. The following arguments are in support of this position:

(a) By concluding the Treaty on the Antarctic in 1959, the international community managed to "freeze" territorial claims advanced by certain States concerning some 90 per cent of the continent's area;

(b) The Treaty is open to all Members of the United Nations without exception. The number of its States parties steadily increases. Recently, the Treaty has been signed by Sweden and Finland. This fact alone refutes assertions of alleged "possession" of the Antarctic by a few States;

(c) Meetings of Consultative Parties are designed to intensify international co-operation, the co-ordination, exchange of experience and preparation of

subsequent accords having as their sole objective the protection of the flora and fauna and the preservation of the natural Antarctic environment in an unchanged shape. This question is of major importance for all mankind;

(d) Raw material capacities of the Antarctic, although not yet fully explored, may form a valuable mineral reserve for the future. This is why further exploration of mineral resources has become very important today. Legislative efforts, as already mentioned, are being conducted at the same time. All rights to the present and future exploitation of Antarctic resources are guaranteed by States participation in the Treaty;

(e) Although all nuclear powers are parties to the Treaty, owing to its provisions the Antarctic is the only part of the world free from the military and nuclear presence of States. Abrogation or revision of the Treaty in the current international situation offers hardly a chance for a conclusion of any better, international agreement;

(f) Recent examples of Poland, Brazil, India and the Federal Republic of Germany which obtained consultative status between 1977-1983 are the best evidence that the Treaty's provisions, making it an open Treaty, do find their practical manifestation in the reality of international relations.

10. Poland conducts extensive scientific research in Antarctica. Below several documents are listed, which are enclosed; 4/ they contain scientific and technical information that could be of use in the preparation by the Secretary-General of the study, as requested by the General Assembly:

- (1) Information on Polish Antarctic activities: material for the Secretary-General for his report on the question of Antarctica.
- (2) Polish polar research.
- (3) Investigations by the Sea Fisheries Institute of the living resources of the southern ocean and the possibilities for their commercial utilization.
- (4) Several articles concerning Polish activities in Antarctica, prepared by the Sea Fisheries Institute in Gdynia.

37. ROMANIA

[Original: French]

[28 May 1984]

1. The Socialist Republic of Romania attaches great importance to respect for the demilitarized status of Antarctica established by the Antarctic Treaty, which was signed at Washington on 1 December 1959 and entered into force on 23 June 1961. Romania ratified the Antarctic Treaty on 15 September 1971, in line with the steadfast policy of the Romanian Government advocating the establishment of nuclear-weapon-free and demilitarized zones in different regions of the world.

2. In the opinion of the Government of Romania, even though the Antarctic Treaty envisages the internationalization of Antarctica, the provisions of article XIII whereby it (the Treaty) "shall be open for accession by any State which is a Member of the United Nations, or by any other State which may be invited to accede to the Treaty with the consent of all the Contracting Parties" do not fully reflect the principle of universality of multilateral treaties of general interest. Indeed, at the time of its accession, Romania made a statement reaffirming its position of principle, in particular that all States have the right to participate in treaties of this type. The problem of the universality of the Treaty is more relevant than ever in view of the prospect of the creation of conditions for the exploration and exploitation of the natural resources of the continent.

3. The Socialist Republic of Romania welcomed the Australian Government's invitation to participate in the Twelfth Antarctic Treaty Consultative Meeting (Canberra, 13 to 17 September 1983), despite the observer status assigned to it. At that meeting, the Romanian Government's point of view was restated, i.e., that, in accordance with the law of international treaties, all States parties to this instrument and other States so wishing and displaying interest in the problems relating to international co-operation in the region should be invited to participate in future meetings of representatives of the Contracting Parties (such as, the meeting of the advisory group to prepare rules and procedures governing the future exploration and exploitation of natural resources in the region to be held at Tokyo, from 21 to 31 May 1984, and the Thirteenth Antarctic Treaty Consultative Meeting, to be held at Belgium in 1985, etc.). Furthermore, the "statement of acceding parties" adopted at Canberra last September specifically states that the participation of non-consultative parties in the different activities of the Antarctic Treaty system is important because it strengthens that system and because of their contribution to that effort.

4. The Romanian Government believes that a greater openness on the part of the Consultative Parties in the formulation of future policy regarding the exploration and exploitation of the continent's natural resources would help to reduce speculation about the future use of the region, stimulate the non-consultative parties' interest (if they were assured of a specific role), and create conditions more likely to enable other States to accede to the Antarctic Treaty.

5. Romania can be considered one of the pioneers of scientific research in Antarctica by virtue of the participation of the great Romanian explorer and biologist, Emil Racoviță (1868-1947), in the Antarctic expedition of the vessel Belgica during the years 1897-1899. The rich scientific material collected by the scholar Racoviță and the many works which he wrote after the expedition are fundamental contributions to the understanding of Antarctic marine fauna.

6. The current development of research in Antarctica has been made possible by a considerable technological effort to devise precision instruments for specific tasks of scientific investigation and appropriate accessories (habitable surfaces, means of transport, telecommunications, etc.). Because of the complexity, high calibre and utility of the tools and equipment required, substantive research in Antarctica has been carried out by relatively few countries. It has nevertheless been possible, through bilateral and multilateral scientific co-operation agreements for scientists from countries that do not have research stations in Antarctica to participate in these activities.

7. Given the priorities set in its long-term national economic and social development plan and the financial resources at its disposal, Romania does not foresee sending an expedition to Antarctica or carrying out its own scientific research there. Nevertheless, given that Romania has significant scientific research potential and well-equipped technical facilities with suitably qualified personnel, Romanian scientific institutions would be interested in:

(a) Working with specialists in scientific activities conducted in Antarctica by other States, within the framework of bilateral and multilateral co-operation agreements;

(b) Participating in the development of technologies for scientific research, and for exploration and exploitation of natural resources, within the framework of co-operation with countries having a long history of Antarctic research;

(c) Acquiring scientific information and data on the results obtained in research and exploration of Antarctic resources.

8. As a socialist developing country, Romania advocates freedom to carry out scientific research in Antarctica and the declaration of this territory to be the common heritage of all mankind, since, as the Romanian economy grows and its scientific and technological potential expands, the conditions will be created enabling it to participate directly in Antarctic activities, particularly those involving the region's natural resources.

38. SENEGAL

[Original: French]

[19 April 1984]

1. It was the Heads of State or Government of Non-Aligned Countries who, at the Seventh Conference, held at New Delhi in March 1983, 6/ recognized the need for the international community to pay greater attention to Antarctica by endorsing the idea of having the United Nations prepare a comprehensive study of this huge, icy continent. The initiative taken by Antigua and Barbuda and Malaysia to have this question included in the agenda of the thirty-eighth session of the General Assembly thus reflected a consensus that the community of nations should concern itself seriously with this long-neglected continent.

2. As for Senegal, its major concern is still to guarantee the establishment of broader international co-operation and the participation of all nations in the monitoring and exploitation of the region's resources for the common good.

3. More specifically, the following objectives should be pursued:

(a) Exploitation and use of the resources of Antarctica for the benefit of all mankind;

(b) Protection of the particularly vulnerable ecology and environment of the region;

(c) International co-operation and co-ordination, within a universal framework, to conduct scientific research and other activities useful to man;

(d) Use of Antarctica exclusively for peaceful purposes.

4. In short, it is not a matter of calling into question the existing Antarctic Treaty, but rather of expanding and strengthening it by filling in its gaps and remedying its inadequacies.

5. Among these gaps, of course, is the status of South Africa. The universal framework which the study should try to define so as to promote broader international co-operation in Antarctica is inconceivable, at least for the Non-Aligned Movement in general and the African countries in particular, without questioning South Africa's membership in the Antarctic Treaty system. That is a problem to which the study will have to devote all due attention.



39. SINGAPORE

[Original: English]

[14 June 1984]

1. The Antarctic Treaty of 1959 has five principal achievements. First, the Treaty has prevented the territorial claims to Antarctica from escalating into open conflicts or disputes. Secondly, the Treaty has succeeded in demilitarizing Antarctica. All military activities are prohibited in Antarctica. The demilitarization of the continent is subject to an on-site inspection régime. Thirdly, the Treaty prohibits all nuclear testing as well as the dumping of radio-active wastes in Antarctica. Fourthly, the Treaty has succeeded in promoting international co-operation in research in Antarctica. There is not only an exchange of scientific data between the researching States, but there is also an exchange of scientific personnel. Fifthly, up to the present, the Treaty has succeeded in protecting the unique environment of Antarctica.

2. Although the Antarctic Treaty system has many achievements to its credit, there are also certain areas in which it is deficient. For instance, there is a need for better communication between the Antarctic Treaty Consultative Parties and the rest of the international community, which is largely ignorant of the activities being conducted in Antarctica. Secondly, the question of the role of the acceding parties to the Treaty and the relationship between the acceding parties and the Consultative Parties should be reviewed. Thirdly, the current negotiations among the Consultative Parties for a legal régime to govern the exploration and exploitation of the mineral wealth of Antarctica raise many complex questions of law, international equity and the likely impact of such exploration and exploitation on the environment. Fourthly, the harvesting of krill in the southern ocean must be carefully monitored in order not to jeopardize the survival of the whales, the seals, the birds and other animals which depend on the krill for their existence. The above are some of the questions and issues which the Secretary-General should look into in the preparation of the study on Antarctica.

#### 40. SOUTH AFRICA

[Original: English]

[30 May 1984]

##### I. INTRODUCTION

1. On 15 December 1983, a resolution (38/77) entitled "Question of Antarctica" was adopted by the General Assembly. The resolution requests the Secretary-General to prepare a comprehensive, factual and objective study on all aspects of Antarctica, taking fully into account the Antarctic Treaty system and other relevant factors. It requests those States conducting scientific research in the region, among others, to lend the Secretary-General whatever assistance he may request for the purpose of carrying out the study.
2. As a founding member of the Antarctic Treaty and as one of the countries conducting scientific research in Antarctica referred to in the above-mentioned resolution, South Africa is able to contribute substantially and significantly to the Secretary-General's study.
3. This initial response takes the form of an introductory report of a general nature on South Africa's perception of Antarctica and the Antarctic Treaty system. It includes reference to the historical background in general, and specifically, South African interest in Antarctica, the development of the Antarctic Treaty system, the functioning of the system, scientific research and the benefits of the Antarctic Treaty.
4. A more comprehensive report, which is at present being prepared, will be submitted to the Secretary-General at a later date. 2/ It will contain scientific and technical information relevant to South African involvement in Antarctica.

##### II. BACKGROUND

5. The Antarctic continent covers an area of + 14 million square kilometres and is approximately 12 times the size of the Republic of South Africa. The continent lies almost completely within the Antarctic circle (66°33' S), and 98 per cent of its surface is covered by a thick layer of ice, averaging 2,000 metres and at times exceeding 4,000 metres. Antarctica is the highest, coldest, driest and windiest continent of the world. These factors combine to limit human activity there.
6. Scientific research is the predominant human activity in Antarctica. The scientific and exploratory efforts of the first half of the twentieth century culminated in the International Geophysical Year (IGY), held in 1957/1958, which focused world attention on scientific research on the frozen continent. The IGY marked the beginning of South African scientific research in Antarctica. South African meteorologist, J. J. la Grange, participated in the Commonwealth Trans-Antarctic Expedition led by Sir Vivian Fuchs, which formed part of the IGY. South African meteorologists working on some of the sub-Antarctic islands also

contributed to the IGY. La Grange was the first South African to reach the South Pole. The IGY was promoted, planned and co-ordinated by the International Council of Scientific Unions (ICSU) which, after the IGY, created the Scientific Committee on Antarctic Research (SCAR).

### III. THE ANTARCTIC TREATY

7. After the Second World War, the United States of America took the lead in attempts to determine the legal status of Antarctica as scientific interest in the continent grew and, in view of the increasing strain in East/West relations and of the conflicting territorial claims of the United Kingdom of Great Britain and Northern Ireland, Chile and Argentina. The United States worked on the premise of international control of Antarctica, rather than individual national sovereignty. Their initiatives in 1948 did not find a positive response among all the interested nations because the claimant States refused to relinquish their sovereignty. Furthermore, in 1950, the Union of Soviet Socialist Republics indicated that no decisions on Antarctica could be taken without its participation.

8. The increased activity caused by the IGY clearly demonstrated the need for some form of international control in Antarctica. The position of the claimant countries required clarification as did the relationship between non-claimant and claimant States.

9. In May 1958, the United States delivered a note to the Governments of Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union and the United Kingdom, in which it suggested a treaty to solve the problems of Antarctica. Apart from describing the situation as "characterized by diverse legal, political and administrative concepts, which render friendly co-operation difficult in the absence of an understanding among the countries involved", the note emphasized the need for co-ordinated scientific research in Antarctica. The note was addressed to countries which had participated in Antarctic activities during the IGY.

10. The United States initiative led to a series of meetings between June 1958 and October 1959, and on 1 December 1959 the Antarctic Treaty was signed in Washington by the 12 countries mentioned above. The Treaty entered into force on 23 June 1961 after all the signatory States had ratified it. It was hailed as a unique triumph; for the first time, the two super-Powers had worked together to declare an area of the world as a zone of peace.

11. The preamble to the Antarctic Treaty emphasizes its main objective by recognizing that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord. Based on the conviction that the establishment of a firm foundation for the continuation and development of co-operation on the basis of freedom of scientific investigation accords with the interest of science and the progress of mankind, the Treaty establishes the following principles:

(a) Antarctica may be used for peaceful purposes only and all military activities, including weapons testing, are prohibited. Military equipment and personnel may, however, be used in support of scientific activities. Furthermore, nuclear explosions and the disposal of nuclear waste are forbidden in the Treaty area;

(b) Freedom of scientific research and co-operation is assured and scientific programme plans, personnel and results shall be freely exchanged;

(c) The Treaty does not recognize, dispute or establish territorial claims and no new claims or enlargement of existing claims shall be asserted while the Treaty remains in force;

(d) Observers from Treaty States may freely inspect all stations, installations and equipment in Antarctica, and advance notice must be given of all activities and the introduction of military personnel. All observers and personnel fall under the jurisdiction of their own Governments;

(e) Representatives of Treaty States shall meet periodically to exchange information and to adopt recommendations in furtherance of the principles and objectives of the Treaty. These objectives include the preservation and conservation of living resources;

(f) Any State that is a Member of the United Nations or is invited by all the other Treaty States may accede to the Antarctic Treaty. The meetings of the Antarctic Treaty are open to Consultative Parties, i.e., those States conducting substantial scientific research in Antarctica;

(g) Thirty years after the entry into force of the Treaty, any Consultative Party may request a conference to review the operation of the Treaty.

12. Probably the most significant feature of the Treaty is the fact that Antarctica is reserved as an international zone of peace. The demilitarization of the area by the prohibition of any activities of a military nature has succeeded and there is no evidence to suggest that these provisions of the Treaty have in any way been ignored. The system of inspection provides a satisfactory guarantee that military activity will not pass unnoticed.

13. Not only does the Treaty effectively demilitarize and denuclearize Antarctica, but it has also frozen the whole sovereignty claims issue and the inter-State friction arising therefrom, a major and significant achievement which has served to replace the sovereignty problems which threatened to erupt in the years after the Second World War with a peaceful political régime which has existed for 23 years. It has created a framework for international co-operation which has not been achieved in many other areas.

14. The foregoing demonstrates the uniqueness of the Antarctic Treaty and provides a key to understanding the achievements and success of the Treaty and its system which has evolved since its inception in 1959. South Africa recognizes this success and shares the view that the Treaty provides a model of international co-operation which has not been paralleled.

15. South Africa is an active Consultative Party and fills its role in the Antarctic Treaty system with a commitment and enthusiasm welcomed by the other Consultative Parties.

16. As one of the littoral States, South Africa appreciates the political stability in Antarctica effected by the Treaty. The conservation of the Antarctic environment and its ecosystems is of cardinal importance to South Africa whose own ecosystems are influenced by the Antarctic environment. Scientific research conducted in Antarctica is of benefit to South Africa as it is to the other littoral States of the southern hemisphere and indeed to the entire world.

17. Results of these investigations are analysed and utilized by scientists internationally, and the relationships of Antarctica's physical character, life and phenomena in relation to the rest of the world are providing a continuous source of significant information for the understanding of the natural sciences of our planet. Meteorological information is fed daily into the meteorological data networks of the world and contributes to the understanding of global weather patterns. The Treaty has succeeded in its aim of conducting scientific research in Antarctica for the benefit of all mankind.

18. The Antarctic Treaty provides for accession by all States. Apart from the original 12 signatories, 13 countries have acceded to the Treaty, namely: Czechoslovakia, Denmark, German Democratic Republic, Netherlands, Romania, Bulgaria, Italy, Peru, Uruguay, Papua New Guinea, Spain, People's Republic of China and Sweden. Since 1961, four other countries have acquired consultative status by undertaking substantial scientific research in Antarctica. They are Poland (1977), Germany, Federal Republic of (1981), Brazil (1983) and India (1983). There are indications that a number of other countries are considering accession to the Treaty and that certain Contracting Parties are intensifying their research activities in order to qualify for consultative status.

19. Since it has been argued that only limited information is available on the Treaty and the activities of the Consultative Parties, that the proceedings at consultative meetings are confidential and that the non-consultative contracting parties have no role to play in the Treaty, the Consultative Parties have decided to open the doors for more meaningful participation by the Contracting Parties.

20. The latter are now invited to attend consultative meetings of the Antarctic Treaty and, although (in accordance with the provisions of the Treaty) they do not take part in the final decision-making, they have the right of full participation up to that stage, i.e., to speak, to submit documents and discussion papers and to attend working group meetings. It would also appear that a decision on participation by the Contracting Parties in special consultative meetings (e.g., the present special meeting on Antarctic minerals) will be taken in the near future. As participants in the consultative meetings, Contracting Parties have not only gained access to further information on the activities of the Consultative Parties, but are also in a position to contribute to these activities and to further the aims and objectives of the Treaty.

21. These developments show that the Treaty is a dynamic political instrument which can be adapted to changing circumstances as well as accommodate the interests

of others and the world community in general. The Consultative Parties have also agreed to wide-ranging distribution of information on the Antarctic Treaty, such as scientific investigation results and measures adopted by the Consultative Parties in furthering the aims of the Treaty. This includes, for example, a report to be submitted to the United Nations on all future consultative meetings. Treaty parties are in all respects willing to share their knowledge and experience on Antarctica with the outside world.

22. The South African Government is of the opinion that the Treaty should remain in force indefinitely and that it provides a means of accommodating the interest of those concerned with the conservation of Antarctica as a zone of peace and an area of international co-operation. Other States should feel encouraged to join so that they too may share in its success by contributing to the achievement of its aims and objectives. Recent accessions to the Treaty have proved that many countries share these objectives and aims and are willing to recognize the validity and relevance of the Treaty.

#### IV. THE ANTARCTIC TREATY SYSTEM

23. Antarctica has never had a permanent population. It is only since the IGY, when the necessary equipment and technology became available, that scientists have faced the extremely bad weather and darkness of the Antarctic winter on a regular basis. At present, there are 39 bases occupied at all times, with between 400 and 600 persons on the continent during the winters.

24. With the coming into force of the Treaty, a form of management for Antarctica, i.e., by meetings of representatives of Consultative Parties, was for the first time brought into being. The meetings are held biennially in the capitals of Consultative Parties. All matters falling within the ambit of the Antarctic Treaty are discussed and recommendations are adopted for reference to and acceptance by Governments. All recommendations and other decisions of consultative meetings are adopted by consensus.

25. The Treaty provides that recommendations only become legally binding once they have been approved by all member Governments. The consensus procedure effectively gives every Consultative Party the right of veto and this has led to a sense of tolerance and compromise which makes the accommodation of all viewpoints and continued co-operation a reality. By meeting regularly to discuss and adopt recommendations, the Consultative Parties keep the Treaty under review.

26. The Treaty does not provide for a permanent secretariat, and it is the task of the host country of the preceding and following consultative meetings to provide guidance and secretarial services between meetings.

27. Since its inception, the Antarctic Treaty system has developed a distinct conservationist character. Although the Treaty itself refers only briefly thereto, the Consultative Parties at an early stage realized the importance of the protection of the fragile and unique Antarctic environment and a host of recommendations have been adopted on, for example, conservation of flora and fauna,

man's impact on the environment, specially protected areas, sites of special scientific interest, guidelines for tourists and private expeditions, the disposal of radioactive waste, etc. In 1972 a Convention for the Conservation of Antarctic Seals was adopted. This Convention was established in advance of possible renewed seal exploitation. It came into force in 1978 and, apart from prohibiting the taking of Ross, southern elephant and southern fur seals and setting quotas for crabeater, leopard and Weddell seals, it provides for an inspection system if and when commercial sealing should be resumed.

28. Special consultative meetings have taken place since 1978 to give attention to specific matters. The conservation of marine living resources was dealt with by a special meeting and resulted in the establishment of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) in 1981. A series of meetings is being held at present where Antarctic mineral resources are the topic of discussion.

29. The Consultative Parties concluded the Agreed Measures for the Conservation of Antarctic Fauna and Flora in 1964. These measures include, inter alia, the prohibition of the killing of any native mammal or bird, alleviation of pollution, establishment of specially protected areas and the prohibition of the introduction of non-indigenous species in Antarctica.

30. Although both the above-mentioned two conventions exist in their own right, the Antarctic Treaty, its recommendations, the two conventions and the Agreed Measures are informally referred to as the Antarctic Treaty system.

31. In the light of developments since the adoption of the Antarctic Treaty in 1959, as well as the interrelated provisions of the Treaty, CCAMLR, the convention on seals and the Agreed Measures adopted under the Treaty, any attempt to renegotiate the Treaty or to extend or limit its provisions, would be an impossible task.

#### V. OTHER RELATED SCIENTIFIC BODIES

32. Consultative meetings are not concerned with purely scientific matters. They rely to a large extent for scientific advice on the Scientific Committee on Antarctic Research (SCAR). SCAR was created in 1958 (after the IGY) by ICSU, in order to co-ordinate scientific research and activity in Antarctica and the sub-Antarctic islands and sea areas. SCAR is the only formally constituted international body concerned with the promotion of collaborative scientific research in the region. Its advice has formed the basis for the effective and extensive measures for the conservation and protection of the Antarctic environment adopted by the Treaty Governments.

33. SCAR has permanent working groups in various disciplines, i.e., biology, geodesy and cartography, geology, glaciology, human biology and medicine, logistics, meteorology, oceanography, solid earth geophysics and upper atmosphere physics.

34. Contact between SCAR member countries is maintained by national committees, which, in the case of South Africa, is the South African Scientific Committee for

Antarctic Research (SASCAR) of the Council of Scientific and Industrial Research (CSIR). SASCAR is chaired by a deputy-president of the CSIR and includes representatives of departments and institutions with an active interest in Antarctic research and activities. South Africa is represented on eight of the SCAR working groups and on certain of the groups of specialists and sub-groups. A South African scientist, J. P. de Wit, of the CSIR, is at present one of the two vice-presidents of SCAR.

35. Other scientific organizations and committees which have an interest in Antarctica are the Scientific Committee for Oceanic Research (SCOR), the International Whaling Commission, the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization and the Fisheries Department of the Food and Agriculture Organization of the United Nations.

## VI. MARINE LIVING RESOURCES

36. When the Antarctic Treaty was drafted, it concentrated primarily on peace in the area and on scientific co-operation. The Consultative Parties soon realized, however, that the seas of the Treaty area contained significant marine resources and that urgent attention was needed for the protection and conservation of these resources. It was feared that the unregulated fishing of krill, which occupies a key position in the Antarctic food chain might endanger the entire marine ecosystem.

37. The importance of the conservation of marine living resources was formally recognized at the 1975 Antarctic Treaty Consultative Meeting, at Oslo, and the parties began negotiations in this regard in the form of a special consultative meeting. This special meeting ended at Canberra in 1981 when the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) was signed. The Convention applies to all species of living organisms in the area to the south of the Antarctic Convergence (including the South African sub-Antarctic islands Marion and Prince Edward). It requires that harvesting and exploitation be conducted in accordance with the "principles of conservation". It strongly favours the ecosystem approach which represents a new trend in fish stocks management, as other fisheries agreements have concentrated on single fish species.

38. The Convention entered into force in May 1982 and provided for a commission which is based in Hobart, Australia. The function of the Commission for the Conservation of Antarctic Marine Living Resources is primarily to co-ordinate scientific research and to collect data needed to ensure the scientifically sound and reliable management and exploitation of Antarctic marine living resources. The protection of krill, in spite of its abundance, is seen as the primary goal of the CCAMLR member States. While South Africa does not exploit krill at the present time, it does conduct research on the economic application of the resource. Research on krill is a major component of the investigations by SCAR's Biological Investigation of Marine Antarctic Systems and Stocks (BIOMASS) programme, in which South Africa plays an important part.

39. Accession is open to any State interested in research or harvesting activities in relation to the marine living resources to which CCAMLR applies.



## VII. MINERAL RESOURCES

40. In 1973, at the Seventh Antarctic Treaty Consultative Meeting held at Wellington, New Zealand, the Consultative Parties adopted a recommendation in which the question of mineral exploitation and the effect thereof on the Antarctic environment was recognized as a subject which required the attention of the Consultative Parties. Against the background of the increased interest in the mineral resources of Antarctica, especially after the advent of the oil crises, the Consultative Parties turned their attention to the question of Antarctic minerals as soon as the negotiations for CCAMLR were concluded. The objective was to formulate a set of rules and regulations to determine whether mineral resource activities will be acceptable from an environmental point of view and, if found acceptable, to regulate and control such activities. Such a set of rules would therefore need to ensure the protection of the Antarctic Treaty and be acceptable to both claimant and non-claimant States.

41. In 1981 the Consultative Parties adopted a recommendation at the Eleventh Antarctic Treaty Consultative Meeting, held at Buenos Aires, which paved the way for a special meeting to be convened in order to address the issue and to elaborate a régime for the regulation of mineral exploitation in Antarctica. The recommendation recorded the agreement of Consultative Parties that the Antarctic Treaty be maintained in its entirety, that the protection of the unique Antarctic environment and of its dependent ecosystems should be a basic consideration, and that the régime should allow for environmental impact assessment and the determination of whether mineral resources exploitation activities will be acceptable. Other important provisions of the recommendation include the fact that all activities, i.e., exploration, development and production should be covered, and the important aspect of negotiating a satisfactory régime acceptable to both the claimant and non-claimants should be achieved.

42. Another important aspect of the recommendation was that a régime should be open in the sense that it should include provisions for adherence by States other than the Consultative Parties, providing that they are bound by the provisions of the Antarctic Treaty. In dealing with the question of mineral resources, the Consultative Parties should not prejudice the interests of all mankind in Antarctica.

43. It is clear, therefore, that the Consultative Parties, while accepting the fact that the exploitation of minerals in Antarctica might become a reality in the future, are very much concerned that any such exploitation should take place in an orderly and regulated way and that the protection of the environment should be one of the basic considerations in the elaboration of a régime. That the Consultative Parties are aware and appreciate the interest of the rest of the world in the issue is illustrated clearly by the inclusion of a reference to the non-prejudice of the interests of all mankind and the provision for adherence by States other than Consultative Parties.

44. The Special Consultative Meeting (on mineral resources) met for the first time at Wellington, New Zealand, in June 1982, and subsequently at Wellington (January 1983), Bonn (June 1983), Washington (January 1984), and further meetings

are scheduled at Tokyo and Rio de Janeiro. It is clear that the Consultative Parties do not have an easy task, but with the protection of the environment as the basic consideration, progress is being made and there is much hope that the negotiations will come to a timely and satisfactory conclusion in an instrument which will satisfy the interests of the Consultative Parties, the rest of the world and above all those of the Antarctic continent. South Africa is firmly committed to the achievement of this goal, is taking an active part in the negotiations and will continue to do so in the spirit of co-operation which has so far existed.

45. It is common cause that mineral resources exist in Antarctica and its continental shelf. Scientific research has indicated the possible existence of deposits of hydrocarbons, iron ore, coal, copper, nickel, chrome, gold cobalt, silver, zinc, platinum, tin, uranium, etc. Whether the exploitation of these resources will ever be economically viable and practically possible has yet to be proved, but this underlines the need and urgency for a régime to regulate such activities to be concluded before any such exploitation takes place. The Consultative Parties, in the mean time, follow a policy of voluntary restraint and only geoscientific research of a strictly scientific nature is allowed at this stage.

46. Antarctica contains approximately 90 per cent of the world's fresh water in the form of ice. This has become a topic of discussion at consultative meetings and a number of feasibility studies have been undertaken to investigate it as a source of freshwater supplies for arid regions.

#### VIII. SCIENTIFIC RESEARCH

47. Scientific research in Antarctica intensified greatly after the IGY and is conducted chiefly in the 10 main fields of science, as co-ordinated by the previously-mentioned SCAR working groups. As Antarctica is relatively untouched by human activity, it can be described as a natural laboratory. The exploratory work of earlier years has been largely concluded and more attention is now paid to continued international programmes for the study of natural phenomena which are easier to study in Antarctica than elsewhere. The results are freely exchanged.

48. Research is conducted at established bases, as well as from research vessels, and is organized by national programmes or on an international co-operative basis. Scientists are exchanged for participation in national expeditions and results are analysed collectively and published in scientific publications or at international conferences and symposia. Aspects of Antarctica such as the nature of the continent and the adjacent oceans, its high latitude and the fact that it formed part of the earlier Gondwana super-continent, its remoteness and its ecosystems have global relevance which cannot be studied elsewhere.

## IX. SOUTH AFRICA'S ROLE IN ANTARCTICA

### A. General

49. When the Commonwealth countries of the southern hemisphere were encouraged by the United Kingdom to claim areas in Antarctica, South Africa, as opposed to New Zealand and Australia, declined to do so. As claims of the southern hemisphere States are based on the sector principle and geographic proximity, South Africa could have applied this principle, but has not claimed a part of the continent.

50. South African Antarctic research began in earnest during the IGY of 1957/1958 with the already mentioned participation by South African scientists. When Norway advised in 1959 that it would be vacating its station in Queen Maud Land (Norway Station) established for the IGY at the end of that year, the South African Weather Bureau requested that it be taken over by South Africa. This was done and the first South African Antarctic expedition came into being in 1960. Initially, meteorological observations were the main South African activity in Antarctica. With the passage of time, however, other disciplines began to play a greater role and the base developed from a weather station into a scientific research station of wider scope. The original base (Norway Station) was in due course replaced by a South African built base named SANAE (from South African National Antarctic Expedition). The present SANAE Base, built in 1978/1979, is the third station, replacement having taken place approximately every eight years. All these bases, including Norway Station, have been situated on the Fimbul Ice Shelf off Queen Maud Land. The present base is situated at position 70°18' S and 02°24' W.

51. Scientific research is co-ordinated by SASCAR and takes place at SANAE and at a geological field base (in summer) at Grunehogna, inland from SANAE, on the supply and research vessel SA Agulhas, and at Gough Island (British) and Marion Island.

52. The Department of Transport is responsible for the administrative control and logistic support of South Africa's Antarctic activities. Administration of the scientific programme is handled by the CSIR, while the Department of Foreign Affairs is concerned with Treaty matters. Responsibility for CCAMLR lies jointly with the Department of Environment Affairs (Marine Development Branch) and the Department of Foreign Affairs, while the Department of Mineral and Energy Affairs is involved with the negotiations on a mineral resource régime. Support is also given by the Department of Community Development (the provision and building of bases) and the South African Air Force (helicopter crews).

53. As a Consultative Party, South Africa maintains active and continued participation in Treaty affairs; the achievements of South African scientists in Antarctica are recognized internationally. South African scientists undertake research equal in scientific merit to that of any country involved in the Antarctic and are involved in the management and planning of the global Antarctic effort. South Africans have in many cases played leading roles.

## B. South Africa's scientific research in Antarctica

54. The present-day South African Antarctic Research Programme encompasses not only the activities at SANAE, but also those at the Prince Edward Islands (where the base is situated on Marion Island, the larger of the two-island group) and Gough Island. South African activities at these islands in fact predate those at SANAE, with stations having been established on Marion Island in 1948 and on Gough Island in 1956. The current research programme comprises studies in four broad groups of disciplines - atmospheric sciences, biological sciences, earth sciences and, as from 1982, ocean sciences.

### 1. Atmospheric sciences

55. Originally, atmospheric sciences comprised only meteorological observations at SANAE, Marion and Gough. This continues today, using modern equipment to gather data and to transmit them regularly each day to the South African Weather Bureau, where the data are used to assist with forecasting of the type television viewers are familiar with. They also have a wider and more specialized application, for example, special forecasts are provided for shipping, aviation, agricultural and industrial purposes. Of the three stations under consideration here, Gough is the most important followed by Marion and SANAE in order of priority with respect to the forecasting service.

56. Great use is today being made of satellite-tracked drifting weather buoys. The concept was pioneered during the last 10 years, with the CSIR and the Weather Bureau taking the lead in 1974 with the first full-scale feasibility study. Today buoys are regularly deployed in the south Atlantic Ocean, southwest of Gough, and use is also made of an automatic weather station deployed on Tristan da Cunha (British). These transmit data which are received by the Weather Bureau. The network of automatic weather stations and drifting buoys is likely to become a permanent feature of the future, enabling provision of the increasingly more accurate forecasts being demanded in South Africa and the southern African sub-continent. These more sophisticated services required locally and in the global context are critically dependent on an adequate distribution of data points worldwide. Until these initiatives were taken, the area to the south of the African continent was notoriously empty of such data points.

57. Soon after the establishment of SANAE, a small group of physicists in South Africa, with interests in upper atmospheric and geomagnetic phenomena related to solar activity, began to use this base as an observatory. Today this programme of solar terrestrial physics research has developed into a scientifically and technologically sophisticated research programme of international repute. The effort now comprises ionospheric, magnetospheric, cosmic ray, geomagnetic, airglow and auroral investigations. Many leader contributions to the global understanding of how the Earth's atmosphere and magnetic field are influenced by solar radiation have been made by the scientists involved.

58. Since the early 1970s, studies were extended from SANAE to now include similar but less intensive investigations conducted at Marion Island and also from aboard

the SA Agulhas. Interest includes a strong focus on the south Atlantic anomaly region, lying approximately between 30-50° S and 0-50° W, where the magnetic field of the Earth is weaker than anywhere else. A special multinational research cruise by the SA Agulhas into this area, which included research groups in the Republic of South Africa, United States of America, France, Brazil, the Federal Republic of Germany and Argentina took place in June/July 1983.

59. Since Antarctica exerts strong influences on weather in the southern hemisphere, work on the relationships between upper and lower atmosphere in and over Antarctica is as appropriate to southern Africa as similar work conducted from the sub-continent itself.

## 2. Biological sciences

60. The biological sciences component is and has been focused largely on Marion and Prince Edward Islands. It developed from a series of biological/geological expeditions to these islands in 1965/1966, 1971 and 1972.

61. These islands are South African possessions, which lie in the sub-Antarctic region and have voluntarily been included by South Africa in the area of concern to SCAR. They are listed in the SCAR Manual under the heading "SCAR area of interest", which includes the Treaty area plus certain sub-Antarctic islands outside this area. As already mentioned, they have also been included in the area of CCAMLR.

62. The biological research conducted at these islands has two main goals: to obtain an understanding of the terrestrial and local oceanic ecosystems and the interrelationships between them; and to obtain knowledge which will enable rational biological conservation and management of these territories in the spirit of the Antarctic Treaty and the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR). Since approximately 1978, about half the research effort has been directed to tie in with the international BIOMASS research programme, in the sense that the populations of seals and sea-birds that use these islands as breeding platforms in the summer months and then move off to live pelagically and feed in the southern ocean during the winter months (non-breeding season) can be monitored only when they are gathered at the islands in summer. If ecological changes in the southern ocean are brought about by the activities of man (e.g., krill fishing pollution, etc.), it is expected that such changes will be reflected by the trends of these "indicator" populations and these can be used to monitor the state of biological health of the southern ocean. South Africa has played and continues to play an important role in this BIOMASS programme.

63. At present, very little is known about the ocean surrounding the Prince Edward Island, but a new research effort known as MOES (Marion Offshore Ecological Study) of the region was planned to commence in 1983/1984. From this research effort, information on the nature and abundance of living resources within about 200 kilometres of the islands should start becoming available over the next few years.

### 3. Earth sciences

64. The history of South African earth science research in Antarctica has been both illustrious and intermittent. The first phase of the research programme commenced in 1960 and ended in 1975. Initially (1960-1969), the geologists and surveyors wintered-over at SANAE and proceeded inland to the mountains when the coming of spring made fieldwork possible. Because of the great distances involved and the unpredictable weather to contend with during these first nine years, an average of only 15-20 man-days annually were spent on productive fieldwork each summer. In 1969, a small field base known as Borga Base was established in the Borgmassivet range, some 300 kilometres south of SANAE. In 1971 a second field base at Grunehogna, 200 kilometres south of SANAE, was established. With these bases available, earth scientists were able to winter-over in the field and therefore start their fieldwork earlier the following spring. The amount of time spent conducting useful fieldwork increased to a maximum of 45 days per annum.

65. By 1975, virtually all the exposed rock reasonably accessible from SANAE, Grunehogna and Borga bases by over-snow transport had been geologically studied and mapped. It was therefore decided by SASCAR to halt further work until air support became available. In the mean time, the knowledge gained during this phase was synthesized and has been published.

66. Air support, in the form of two long-range helicopters, became available in 1980 and therefore the second phase of the earth sciences programme was initiated. Far less time was needed now to travel over-snow to the target areas and it therefore became possible for geologists and surveyors to complete much more fieldwork than was previously possible and in much less time. The scientists can now spend the summer season in Antarctica very effectively without the need to winter-over there. In addition to the more efficient use of time, it is also possible for senior geologists, who normally could not consider spending a whole year in the Antarctic, to work there. The new field base at Grunehogna, constructed in the 1982/1983 summer season, has further improved the efficiency with which time in Antarctica can be utilized for fieldwork.

67. The current research programme comprises activities in three main fields: geology (including geochemistry and geochronology), geodesy/cartography and marine geoscience. There are three diverse geological domains found in western Queen Maud Land and these in general provide opportunities for the study of a wide spectrum of phenomena that have relevance to the broader problems of Antarctic and global geology.

68. Geological activities are aimed primarily at the Ahlmannryggen-Borgmassivet-Kirwanveggen-Jutulstraumen regions in western Queen Maud Land south of SANAE. The purpose of current work is in the main part related to the better understanding of the Africa-Antarctica break-up, as that part of Antarctica (western Queen Maud Land), in which South African earth science research is concentrated, is postulated to have lain adjacent to the east coast of southern Africa prior to the break-up of Gondwanaland. In addition, attention is being focused on the flat-lying platform sediments found in this region, where some of the sequences are thought to be time-equivalents of the Waterberg Group in the Transvaal.

69. Geological investigations at Marion Island have also recently been resumed, with the focus on the island's past and present vulcanology. New lava flows in 1980 have provided unique opportunities to examine the evolution of the island, as well as the activity of the fracture zone upon which Marion and Prince Edward Islands are situated.

70. The geodesy/cartography activity is primarily a support effort, designed to provide accurate base maps for the earth scientists working in western Queen Maud Land and on Marion Island, as well as for navigational purposes.

71. The marine geoscience activity, which is conducted off the SA Agulhas, is aimed at studying the evolution of the lithosphere in the oceanic regions south of southern Africa and at understanding the manner in which the Africa and Antarctica plates are being rifted apart with the accretion of new sea floor. It is, therefore, closely related to the land-based geology effort focused on western Queen Maud Land and at Marion Island, both efforts complementing each other in terms of the reconstruction of Gondwanaland.

72. South African Antarctic land and marine earth scientists have made and continue to make major contributions to the global understanding of sea-floor spreading, the break-up of Gondwanaland and the present relationship between Antarctica and Africa.

#### 4. Ocean science

73. South African oceanographers have been working in the southern ocean for many years, but due to various factors the work was largely based on "ships-of-opportunity".

74. It was only during the latter half of the 1970s that the increasing awareness of the unexploited living resources of the region (mainly krill) led to a concerted South African effort within the framework of the internationally developed BIOMASS programme.

75. South African scientists have been actively involved in the development of this programme and their participation in it has so far led to the successful completion of the two preparatory BIOMASS research cruises and two operational cruises into the southern ocean.

76. During the preparatory cruises in February/April 1978 with the SAS Protea and in February/March 1980 with the SA Agulhas, the application of the acoustic techniques used for fish detection was pioneered for use to detect krill. These two cruises, in which scientists from a number of countries participated, were largely instrumental in these techniques being accepted as the major emphasis of the First International BIOMASS Experiment (FIBEX).

77. During FIBEX in March-April 1981, scientists from the Republic of South Africa and United States of America aboard the SA Agulhas participated in a multinational effort, comprising ships and scientists from the Republic of South Africa, France,

Japan and Australia, focusing on the Indian Ocean sector of the southern ocean. Another multinational group of ships and scientists were focusing on the Atlantic sector at the same time, making FIBEX the largest multi-ship (11 ships from 10 nations) experiment in biological oceanography ever undertaken and the largest collaborative undertaking in the Antarctic since the IGY. The primary object of this cruise was to study the distribution and abundance of krill in sectors of the southern ocean using hydro-acoustic and other techniques. In April 1983, the SA Agulhas again participated in a BIOMASS exercise in the southern Indian Ocean (SIBEX I).

78. The subprogramme does not, however, comprise biological oceanography alone - physical and chemical oceanography are also included. Routine relief voyages as well as special research cruises by the SA Agulhas, such as FIBEX and SIBEX, are used by physical and chemical oceanographers to investigate the physical nature (temperature profiles, currents, tidal patterns) and chemistry (salinity, trace elements, chlorophyll concentrations), both vertically and horizontally, of the southern ocean south of southern Africa.

79. There is also an overlap with weather and climate research, in the sense that the oceanic frontal systems south and south-west of South Africa lie in the path of and influence incoming weather systems generated in Antarctica and over the southern ocean.

### C. Administration of research

80. The research programmes are funded by the Department of Transport on the advice of the South African Scientific Committee for Antarctic Research (SASCAR) of the CSIR. The CSIR, through SASCAR, represents the South African National Antarctic Programme on SCAR. SASCAR has a number of sub-committees which advise it on the allocation of funds to research projects and on the scientific progress being made by ongoing projects. Participation in the research programmes is now confined to particular research groups only. Individuals or groups of scientists at any research organization in South Africa are free to submit appropriate project proposals.

81. Proposals for new and ongoing research projects, along with motivations and budgets, are submitted in June each year to the Foundation for Research Development group of the CSIR. Proposals for new projects are sent out for review by appropriate experts. All proposals received in June are then placed before meetings of the relevant SASCAR sub-committees, which consider whether or not the proposals should be supported. These recommendations are submitted to SASCAR where final decisions are taken. Successful applicants are then notified about the funds they have been awarded for the next financial year. Projects are funded for fixed periods - usually three to four years - provided satisfactory progress is maintained.

82. There are currently 35 projects in South Africa's Antarctic Research Programme and these are conducted from 19 home base centres. Of these, 14 are carried out mainly at or from SANAE, 13 mainly at Marion Island and 8 from the SA Agulhas.



Five of the 35 have an interest in Gough Island and one is focused on the French possessions of Kerguelen and Amsterdam Islands as well as the Prince Edward Islands. The cost of these in the 1982/1983 financial year was R 1,123,000 (or approximately R 24,000 per project).

D. Logistic support

83. The Department of Transport is responsible for administrative control and logistic support for the Antarctic and sub-Antarctic research expeditions. This includes budgeting for clothing, food supplies, communication equipment, ships-time for relief voyages, financial support of research institutes, etc. Logistic support also includes matters, such as the operation of the research vessel SA Agulhas and the design, construction and maintenance of all building and power supply requirements of the three bases. Provision is also made for the operation and maintenance of helicopters, over-snow transport facilities and budgeting for salaries of expedition members.

41. SPAIN

[Original: Spanish]

[13 June 1984]

1. On 31 March 1982, Spain acceded, as a country with non-consultative status, to the Antarctic Treaty, signed in Washington on 1 December 1959; in so doing, it accepted the philosophy and terms of that Treaty and assumed the obligations and responsibilities deriving from it.
2. Although as yet Spain has conducted only one unofficial research expedition, it is particularly interested in carrying out more extensive future exploratory and scientific activities in the Antarctic. Once these future activities have been completed, Spain would like to become a Consultative Party to the Treaty.
3. Spain believes that the system established by the Antarctic Treaty has proven to be a positive force in maintaining the Antarctic free of discord and open to international research and co-operation; it does not, therefore, consider it advisable at this time to change a Treaty which, in principle, is to remain in force until at least 1991.
4. However, Spain would consider it beneficial for the States which are especially concerned, and which so desire, to become parties to the legal system provided for in the Treaty by acceding to it.

42. SRI LANKA

[Original: English]

[19 June 1984]

1. At the Seventh Conference of Non-Aligned Countries held at New Delhi in March 1983, 6/ the Heads of State or Government noted the considerable environmental, climatic, scientific and economic significance of the continent of Antarctica and expressed their conviction that, in the interests of all mankind, Antarctica should continue forever to be used exclusively for peaceful purposes and to be accessible to all nations, with the exploration of the area and the exploitation of its resources being carried out for the benefit of all mankind and in a manner consistent with the protection of the environment of the Antarctic.
2. While the Antarctic Treaty of 1959 does offer a noteworthy framework for some international scientific co-operation and has thus far appeared to have maintained the Antarctic as a demilitarized zone, it is a Treaty inherently heir to several limiting factors, not the least of which are its exclusivity and its unaccountability to the international community at large. The absence of major conflict thus far should not be grounds for complacency that the Treaty is perfect and valid for all time. Antarctica is beyond the limits of recognized national jurisdiction and conflicting sovereignty claims have only been temporarily "frozen".
3. Sri Lanka supports the call made by the Seventh Conference of Non-Aligned Countries and subsequently by the United Nations General Assembly for a comprehensive study on Antarctica, including the operation of the Antarctic Treaty, with a view to widening international co-operation on the continent. Sri Lanka's support of such a study in no way implies a rejection of the Antarctic Treaty, but is based rather on the conviction that an authoritative and wide-ranging examination of all aspects of the Antarctic system will be not only of immense economic and scientific benefit to mankind, but also of help in identifying the best means of protecting the environment of Antarctica and preserving it as a continent of peace and international co-operation.
4. Despite the inhospitable and forbidding characteristics of the Antarctic (it is the coldest, driest, most turbulent and impenetrable continent), its political, economic, scientific, geo-physical, ecological and meteorological significance has become clear to the international community, and the continuation of an exclusive régime, based on factors such as geographic proximity and technical capacity, to govern its management and exploitation is hardly justifiable. The approach underlining the United Nations Convention on the Law of the Sea, 3/, the Treaty on Outer Space and the Treaty on Principles governing the Activities of the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (see General Assembly resolution 2222 (XXI)), must become applicable to the continent of Antarctica as well, if only to prevent international discord and a dangerous clash of competing rival interests in that continent in the future.
5. In the view of the Government of Sri Lanka, the proposed study of Antarctica should take into account the views of all States, all organs of the United Nations

and other institutions, experts on the subject, as well as responsible non-governmental organizations, and should carefully examine and report, inter alia, on the following:

(a) The functioning of the Antarctic Treaty system, including current negotiations among Consultative Parties for a minerals régime, and an analysis of those aspects of the present Antarctic Treaty which may inhibit broader and equitable international co-operation and universal participation;

(b) The economic and mineral potential of Antarctica and a realistic assessment of how best the resources of the continent could be safely, rationally and equitably developed for the benefit of all nations;

(c) Legal and other measures essential to ensure that Antarctica would be free of the clash of international conflict and be used exclusively for non-military purposes;

(d) Measures necessary for the preservation of the near pristine environment and delicate ecosystem of the continent and conservation of its flora and fauna, as well as for the prevention of adverse repercussions on the stability of global climatic patterns;

(e) An identification of measures for the promotion of open, peaceful international co-operation in scientific research and exploration, particularly in the fields of telecommunications, ecology, meteorology and climatology;

(f) Issues, such as the relevance and applicability of the United Nations Convention on the Law of the Sea to Antarctica, particularly in respect of questions of national jurisdiction; the implications of other international understandings/agreements, such as the Declaration of the Indian Ocean as a Zone of Peace (see General Assembly resolution 2832 (XXVI)) and the moratorium on commercial whaling, as well as initiatives in other regional fora, including a proposal before the Asian African Legal Consultative Committee for a study on the peaceful uses of the resources of the Indian Ocean;

(g) Principles and measures for the progressive involvement of the international community, particularly through the United Nations system in decision-making affecting the efficient, rational and safe administration and development of Antarctica and its preservation as a continent of peace emphasizing the truly universal character of any régime for the continent;

(h) The fostering of public interest, awareness and knowledge in respect of different aspects of Antarctica.

6. The Government of Sri Lanka does not in any way underestimate the complexity and magnitude of a comprehensive study on Antarctica and the formidable task faced by the Secretary-General in reporting to the General Assembly at its thirty-ninth session in implementation of Assembly resolution 38/77.

7. Given the limited time available and the inevitable pressures of other commitments during the General Assembly, the full purpose of this international

endeavour would be best served by establishing an appropriate ad hoc or special committee on Antarctica, consisting of interested States including parties to the Antarctic Treaty. The body could be entrusted with a defined mandate to examine carefully all aspects of the question of Antarctica, with a view to reporting to a subsequent session of the General Assembly. If acceptable, this body could eventually serve as the nucleus for a forum of consultation and co-operation in respect of all matters concerning the Antarctic.

43. SURINAME

[Original: English]

[28 June 1984]

1. As one of the States Members of the United Nations that has participated in the adoption without a vote of General Assembly resolution 38/77, the Republic of Suriname, in view of the increasing interest in the continent, fully endorses the request addressed to the Secretary-General to prepare a comprehensive, factual and objective study on all aspects of Antarctica.
2. The Government of Suriname holds the view that the system of governance established by "the Antarctic Treaty" does not take into account the views and interests of the majority of the world community. The distinction made by the Treaty between Antarctic Treaty Consultative Parties with decision-making rights and non-consultative contracting parties without rights to participate in meetings under the Antarctic Treaty is, to say the least, doubtful.
3. Another matter is the ownership of the mineral resources in Antarctica: the Government of the Republic of Suriname is of the opinion that, in the light of the conclusion of the United Nations Convention on the Law of the Sea, 3/ the mineral resources of Antarctica should be considered the common heritage of mankind, in conformity with the principle recognized by the greater part of the world community.

44. SWEDEN

[Original: English]

[14 June 1984]

1. As stated by the Swedish representative on 30 November 1983 when the issue was debated in the First Committee of the General Assembly, 7/ Sweden finds it appropriate that a comprehensive factual study of all aspects of the Antarctic issue is undertaken within the framework of the United Nations. The study should aim at compiling and making available the basic knowledge that exists with regard to Antarctica. There are reasons for many States to take an active interest in Antarctica, in view of its considerable scientific, environmental, climatic and geophysical significance stretching far beyond the limits of the Antarctic region.

2. International co-operation has been an important factor in Antarctic exploration and research for many years. An important event in this respect was the conclusion in 1959, in the wake of the International Geophysical Year, of the Antarctic Treaty, in which the countries most heavily engaged in Antarctic research agreed that, in the interest of all mankind, Antarctica should for ever be used for peaceful purposes only and should not become the scene and object of international discord. Antarctica was, furthermore, established by the Antarctic Treaty as the largest demilitarized and denuclearized zone in the world, an achievement which must also be safeguarded in the future.

3. In the Swedish view, the achievements obtained through the international co-operation established within the framework of the Antarctic Treaty constitute a basic element in any serious study of Antarctica. It is of paramount importance that the international co-operation already achieved in the area should not be jeopardized by bringing up anew old rivalries. The study should focus on how this unique experience of international co-operation can be drawn upon and further developed.

4. In recent years new expectations attached to resource potentials of Antarctica and its surrounding sea areas, as well as the environmental implications of any exploitation of the natural resources, has put the area into fresh focus. This renewed interest pertains to the industrialized States, as well as to the States belonging to the Group of 77, and it goes beyond the circle of States which have acceded to the Antarctic Treaty. Independent interest groups and individuals have also taken an active interest in safeguarding the environment of the Antarctic continent. The forthcoming study should take into consideration the views of these various groups.

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7/ Official Records of the General Assembly, Thirty-eighth Session,  
First Committee, 45th meeting.

5. It would be of particular value if the study were to put the existing possibilities of exploiting the resources of the continent and the surrounding continental shelf in a realistic perspective. All available information indicates that economic development of the Antarctic continent is something that belongs to the distant future. However, the concern expressed by various groups over the eventual effects on the fragile environment of the continent if exploration or exploitation of any kind were to start without effective control must also be given due consideration. The deliberations now going on between the Consulting Parties pertaining to "the mineral resources régime" bears witness of foresight as they address these important issues well in advance of their emergence in practice. However, it is important that these deliberations should be carried out in such a way as to give also to other States the opportunity to obtain continuous information about discussions of such importance for the future of the continent.

6. Also, new trends in international law, relating foremost to the law of the sea have contributed to increased public interest in the political and legal issues pertaining to Antarctica and its surrounding areas.

7. A study entitled "The evolution of the law of the sea: a study of resources and strategy with special regard to the polar areas", by Dr. Bo Johnson Theutenberg, the legal adviser of the Ministry of Foreign Affairs of Sweden, was recently published. This work has been transmitted earlier to the competent department in the United Nations Secretariat. 2/

8. The scientific community in Sweden has manifested a long-standing interest in the polar regions. Swedish research efforts have traditionally been directed mainly towards the Arctic region, the Scandinavian peninsula being adjacent to the Arctic region. Its topography and natural landscape has been shaped mainly during a period when arctic conditions prevailed. Swedish scientists have thus long been able to acquire a wide knowledge and experience in various fields of polar science, such as the importance of the polar regions to maritime and atmospheric conditions, the effects of pollution on arctic systems, the effects of the exploitation of sea resources and the control of such exploitation, paleo-oceanography and the development of techniques for the utilization of economic resources in the polar regions. Since comparative Arctic/Antarctic research is of great significance, there has been a considerable Swedish interest also in Antarctic research. The joint Norwegian-British-Swedish scientific expedition to Antarctica in 1949-1952 should be mentioned in this context.

9. The Polar Research Committee of the Royal Swedish Academy of Sciences has recently carried out a survey of what constitutes present tasks and competence of Swedish polar research. A special body, the Polar Research Secretariat has recently been set up with the task of initiating and co-ordinating Swedish polar research in all fields, including Antarctic research. However, sufficient resources for an independent Swedish research effort in Antarctica have not been at hand. International scientific co-operation in Antarctica is therefore of utmost importance in the view of the Swedish authorities and efforts to stimulate such co-operation have always had the full support of the Swedish authorities as well as of the scientific community. It was actually at a meeting in Stockholm in 1957 that the decision was taken to set up a permanent scientific agency for the co-ordination of Antarctic research, the Scientific Committee on Antarctic Research (SCAR).



10. In view of the increased international as well as Swedish interest in all matters pertaining to Antarctica, Sweden has recently, on 24 April 1984, acceded to the Antarctic Treaty and on 6 June 1984 to the Convention on the Conservation of Antarctic Marine Living Resources of 1980, thus availing itself of the provision in the Treaty and the Convention respectively, that they are open to access for any interested States Members of the United Nations. Decisive considerations leading to this step were the Swedish Government's strong support of the basic principles of the Antarctic Treaty and the Convention, in particular the demilitarization and denuclearization of the area, and its positive attitude to international co-operation for the purpose of scientific research and for environmental protection.

11. The conditions for the exploitation of natural resources are, as indicated earlier, not explicitly covered by the Antarctic Treaty but have, so far, been addressed with regard to the marine living resources in an inventive way in the Convention on the Conservation of Antarctic Marine Living Resources. An eventual solution to other resource issues will be a great challenge for the future development of international co-operation in the area, necessitating strict safeguards aiming at protection of the sensitive Antarctic environment. In view of the great importance of Antarctica to global climate and oceanic conditions in general, it is clear that disturbances in the Antarctic environment can have consequences that are both unpredictable and hazardous. These important problems have to be confronted with great seriousness and full openness.

12. The forthcoming United Nations study could make a valuable contribution to our deeper knowledge of the complex Antarctic issues. As stated during the debate in the First Committee, Sweden is willing to the best of its ability to contribute to the work of this study.

45. SYRIAN ARAB REPUBLIC

[Original: Arabic]

[30 July 1984]

The Government of the Syrian Arab Republic supports the preparation of a study by the Secretary-General of the United Nations on the question of Antarctica, in accordance with General Assembly resolution 38/77 of 15 December 1983. It considers that the content of this resolution and of the debates which took place during the thirty-eighth session of the General Assembly on the question of Antarctica 5/ constitutes a good preliminary basis for such a study. The study should not, however, be restricted solely to the historical background of this question and the views of Member States transmitted to the Secretary-General, but should deal analytically with those elements and with other elements discussed in the debates of the Assembly, with a view to finding common denominators between the different points of view concerning the international régime to be applied in Antarctica, and then arriving at a firm basis for international co-operation in Antarctica that is acceptable to and in the interest of the international community, with the exception of the racist régimes in the world, such as Israel and South Africa. The Government of the Syrian Arab Republic considers that the study should take into account the following elements:

(a) The significance of Antarctica to the international community, with particular regard to matters relating to international peace and security, the international economic order, especially the economic problems and difficulties of the developing countries, whether in the area of natural resources such as minerals and petroleum or in the areas of industrialization and the transfer of technology to those countries, and also the environmental and climatic aspects, wireless communications and scientific investigation;

(b) The context of the objectives of the Antarctic Treaty of 1959 relating to the questions of perpetuating the peaceful use of Antarctica, not turning it into a military or nuclear zone, protecting its environment, keeping the arms race remote from it and promoting scientific investigation there for the benefit of the international community;

(c) The statements contained in the Economic Declaration adopted by the Seventh Conference of Heads of State or Government of the Non-Aligned Countries, held at New Delhi in March 1983, concerning Antarctica, 6/ which stress its considerable environmental, climatic, economic and scientific significance to the world and the necessity of ensuring that it be used exclusively for peaceful purposes and for the benefit of the international community through the widening of international co-operation in the area;

(d) The exclusion of the régimes of Israel and South Africa from any participation in international co-operation relating to Antarctica, from the utilization of its resources and from any kind of relationship with the international régime for Antarctica which is to be established, since those two régimes are regarded as in violation of international law because of their racist

and Zionist policies, which have been condemned in many resolutions adopted by the United Nations and the various specialized agencies and by international conferences and symposia, and also because of their disregard of and failure to comply with or implement those resolutions.

46. THAILAND

[Original: English]

[21 June 1984]

1. Antarctica should continue to be used exclusively for peaceful purposes. It should not become the scene or subject of international discord and it should be accessible to all nations.
2. The "Question of Antarctica" should be considered in its legal and technical aspects. The continent of Antarctica has considerable environmental, climatic, scientific and economic significance for the world. The exploration of the area and the exploitation of its resources should be carried out for the benefit of all humankind and in a manner consistent with the protection of the environment of Antarctica.
3. During the 1957-1958 International Geophysical Year, the Meteorological Department of Thailand participated in the meteorological survey of Antarctica conducted by the World Meteorological Organization. It was clear that the vastness of the continent and the extreme coldness of its temperature and other conditions would have far-reaching and world-wide influence on the human environment in general. Nor was there any doubt that in this frozen continent lie mysteries that have yet to be discovered and understood by science. Antarctica represents an enormous scientific challenge to humankind. In this light, Antarctica should be a frontier that belongs to all and a place where international co-operation is not only desirable but, indeed, a necessity. Never should it be an area of contention and discord. Thailand will continue to follow closely the developments on the Antarctica issue both inside and outside the United Nations.
4. Thailand continues to share the views expressed by most of the developing countries that Antarctica is a common heritage of mankind and that it requires a régime that is truly universal in character and committed to the sharing of the benefits with the entire international community. This position, however, should in no way be misconstrued as an indication that Thailand wishes to undermine the existing Antarctic Treaty system or to oppose it.

47. TURKEY

[Original: English]

[29 June 1984]

1. Turkey, as one of the sponsors, has fully supported General Assembly resolution 38/77 which was adopted by consensus on 15 December 1983. The Turkish Government attaches utmost importance to the objectives and purposes of the Antarctic Treaty as stated in its preamble, that is, it is in the interest of all mankind that Antarctica shall continue for ever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord, and that contributions to scientific knowledge resulting from international co-operation in research would contribute to the above-mentioned objectives. In this context, the Government of Turkey also attaches equal importance to articles I and V of the Antarctic Treaty, which expressly set forth principles for the non-militarization and non-nuclearization of Antarctica through an effective system of verifications, representing a major contribution to safeguarding peace and stability.

2. Turkey is of the view that the unique natural environment of the continent should be protected and preserved. The Turkish Government is of the opinion that signatories of the Antarctic Treaty system should increase their efforts for international scientific co-operation in Antarctica and that the dissemination of its results should be used for the benefit of the international community as a whole.

3. The Turkish Government is of the view that the above-mentioned principles should constitute the basic criteria for determining the contents of a comprehensive, factual and objective study on all aspects of the question of Antarctica, as requested by the General Assembly.

48. UNION OF SOVIET SOCIALIST REPUBLICS

[Original: Russian]

[5 July 1984]

1. Antarctica is a vast region of the globe that extends from the South Pole to the 60th parallel of southern latitude. It comprises the continent of Antarctica proper, whose area - over 13 million square kilometres - exceeds that of Europe, and also the islands around that continent and the southern parts of the Atlantic, Pacific and Indian oceans. The Antarctic continent lies very far from other continents: 3,980 kilometres from Africa, 3,100 kilometres from Australia and 1,000 kilometres from America.
2. Most of the continent of Antarctica is an icy wasteland; 96 per cent of its area is covered by a permanent ice sheet, which in places is more than four kilometres thick. The Antarctic ice moves from the centre to the periphery and in some inlet glaciers it moves at a rate up to 2 kilometres a year. The Antarctic climate is exceptionally severe: the average annual temperature is -30° C. In July 1983, the lowest temperature on our planet, -83.2° C, was recorded at the Soviet inland station Vostok.
3. Because of its geographical location, Antarctica is of vital importance as a region for conducting meteorological, oceanographic, geological and other research by means of which knowledge of global processes that have taken place and are taking place on Earth can be broadened and enhanced.
4. Even in ancient times attempts were made to substantiate theoretically the existence of a southern continent. The ancient philosophers speculated about the existence of a continent attached to Africa that opposed and balanced the northern continents: anti-arctos ("opposite the bear", that is, the Arctic). In the eighteenth century, the great Russian scientist, M. V. Lomonosov, advanced the bold and, as it later turned out, basically valid hypothesis that islands and a vast area of "terra firma" might be found in the region of the South Pole covered with "abundant and perpetual snows". Navigators made repeated attempts to find the Antarctic continent but for a long time none of them succeeded in doing so. Hoping to discover a southern continent, the noted English navigator James Cook set out three times for the southern hemisphere. After completing his voyage in 1775, Cook wrote in his account: "I had now made the circuit of the southern ocean in a high latitude and traversed it in such a manner as to leave not the least room for the possibility of there being a continent, unless near the Pole, and out of reach of navigation".
5. Thus, Cook questioned the very possibility of there being an Antarctic continent. His conclusions hindered the further search for Antarctica: for almost 50 years after Cook's voyage no expeditions were sent to Antarctica.
6. It was Russian navigators who succeeded in discovering Antarctica and ushering in the era of scientific investigation and exploration of the new continent, thereby refuting Cook's erroneous assertions. The first Russian Antarctic expedition from 1819 to 1821, headed by the naval officers F. F. Bellingshausen and

M. P. Lazarev, has become part of the history of great geographic discoveries. The expedition lasted 751 days, during which the two vessels Vostok and Mirny covered 50,000 nautical miles, spent more than 100 days in the ice of the southern ocean and for the first time approached and circumnavigated the entire continent of Antarctica. During the expedition, the courageous Russian navigators, sailing under difficult polar conditions, discovered 29 lands and islands that were all plotted, with great accuracy for the period, on maps drawn up with the direct assistance of F. F. Bellingshausen. Bellingshausen's description of this remarkable voyage may be found in The Voyage of Captain Bellingshausen to the Antarctic Seas, 1819-1821, originally published in Russia in 1831 in two volumes with an atlas.

7. The significance of the scientific exploration conducted by the first Russian Antarctic expedition is indeed invaluable. In recognition of the services of the Russian navigators, one of the southern polar seas bears the name of Bellingshausen. Thus, priority in the discovery of the Antarctic continent - and this is an indisputable fact - belongs completely and exclusively to Russian explorers and sailors.

8. The Russian discoveries and first scientific investigations in Antarctica drew the attention of many countries, whose interests were by no means limited to science and the acquisition of knowledge, to the region.

9. At the beginning of the twentieth century, a number of States attempted to divide Antarctica. Thus the United Kingdom of Great Britain and Northern Ireland, and later Australia, New Zealand, France, Norway, Argentina and Chile, made territorial claims on vast portions of the continent that amounted in all to four fifths of its entire area. Moreover, the United Kingdom, Argentina and Chile claimed zones that were wedged in with and overlapped each other, which led to severe friction among those countries and even to shows of military force.

10. The Soviet Union never recognized the territorial claims of the above seven States, the more so as the priority in the discovery of Antarctica belongs to Russian sailors. The Soviet Union's position of principle on this issue has been reflected in diplomatic notes and in a number of other documents. Thus, in response to Norway's declaration that it was assuming sovereignty over Peter I Island, which had been discovered by the first Russian expedition, the Soviet Government in a note dated 27 January 1939 addressed to the Government of Norway stated that it did not recognize the Norwegian claims on that island and reserved its viewpoint concerning the State to which the territories discovered by the Russian navigators belonged.

11. After the Second World War, there was a new and increased interest in Antarctica. In the 1950s, a broad programme of scientific research was carried out in the region as part of the International Geophysical Year (IGY).

12. Twelve States - Union of Soviet Socialist Republics, Argentina, Australia, Belgium, France, Japan, New Zealand, Norway, the United Kingdom and the United States of America, as well as Chile and South Africa - participated in the programme of the IGY from July 1957 to December 1958. Most of those countries launched their own expeditions to Antarctica and began building permanent scientific stations there.

13. One of the greatest contributions to the study of Antarctica during this period was made by Soviet scientists. Of the 40 scientific stations built by the above countries for conducting scientific research, 6 belonged to the Soviet Union. Soviet experts conducted broad scientific research in barely accessible regions of the Antarctic continent, particularly in the regions of the geomagnetic pole and the pole of inaccessibility.

14. The principal base for Soviet research, Mirny, was built and put into operation on the shore of the Davis Sea at around 90° E. The base was named in honour of one of the ships of the first Russian Antarctic expedition. From the start of its operations, Mirny became a major scientific research observatory, with modern scientific instruments and equipment. Regular aerological and meteorological observations, including the launching of radiosondes, were begun there, and laboratories for studying geomagnetism and the ionosphere were put into operation. A seismological station was set up in a well drilled in rock, and registration of earthquakes in the Antarctic region was begun. An airfield was constructed near the scientific settlement. In April 1956, a tractor-drawn party of Soviet explorers set out for the first time for the south, into the hinterland. At a distance of 370 kilometres from the coast and 2,700 metres above sea level, they built the Pionerskaya station, the first Soviet inland station. In December 1957, 1,410 kilometres from Mirny and 3,500 metres above sea level, the Vostok station was opened and has been operating since that time in the most rigorous and least accessible place on our planet. Besides aerological and meteorological observations, geomagnetic and glaciological research, as well as observations of radio wave propagation and the aurora australis, are also carried out at the Vostok station. In the Antarctic spring of December 1958, Soviet explorers on tractors reached the centre of the Antarctic continent: the pole of inaccessibility. There they built a small hut with a commemorative bust of the founder of our State, V. I. Lenin. The hut, with the provisions, fuel and a radio station that were left there, later served as an intermediate base for inland expeditions of Soviet as well as American and Japanese explorers.

15. The IGY thus became one of the world's most important scientific events. Regular observations in Antarctica and in other parts of the world continued after the IGY and are still continuing today.

16. Subsequently, a number of Soviet scientific stations were closed down, but new ones have appeared in several places. To be specific, at the end of 1958, the Pionerskaya, Komsomolskaya, Oasis, and Sovetskaya stations were "mothballed". Later, new stations were founded: in 1959, Lazarevskaya on the Lazarev Ice Shelf (in 1961, it was moved to the Schirmacher Hills and is now called Novolazarevskaya); in 1968, the Bellingshausen station on Waterloo island; and in 1962, the Molodezhnaya Station, which was set up in the southern part of Enderby Land. This station has been the main base for Soviet Antarctic expeditions since 1971 and has been designated the Regional Antarctic Meteorological Centre.

17. The buildings of the former main base, Mirny, had by that time disappeared under the deep snow. After the reconstruction of Mirny in 1973-1974, three large two-storeyed houses were built on rocky ice-free hills. Mirny currently is used as a supply base for the Vostok Station in the interior of the continent and for research conducted on field trips into the hinterland.



18. The Vostok Station was also rebuilt, and in 1980 another station, named Russkaya, was established on Cape Burks.

19. The broad international co-operation in the study of Antarctica that developed in the 1950s in the context of the IGY helped to promote the conclusion of an agreement to govern the corresponding activities. The principles underlying the Soviet Union's approach to the elaboration of that agreement were reflected, inter alia, in the note dated 2 May 1958 addressed to the United States Department of State. In the opinion of the Soviet Union, the future agreement should be based on the principles of the exploration of Antarctica for peaceful purposes only and of freedom of scientific investigation throughout the area. The note drew attention to the distinguished contribution made by Russian scientists in the discovery of Antarctica and stressed that the Soviet Union retained for itself all the rights arising from the discoveries and research of Russian navigators and scientists, including the right to lay claim to the corresponding territory in Antarctica.

20. In 1958 and 1959, a draft text of the relevant international instrument was formulated at preparatory talks held in Washington, in which the Soviet Union played an active part. Agreement was reached on the final text at a conference held in Washington at the end of 1959. The Antarctic Treaty 1/ was signed on 1 December 1959 and entered into force on 23 June 1961.

21. The elaboration and conclusion of the Antarctic Treaty constituted a significant international event. In its message of welcome to members of Antarctic expeditions from countries that had taken part in the elaboration of the Treaty, the Soviet Government pointed out that the Treaty would promote the further development of international co-operation in the study of that area and could offer an example of the resolution of international questions for the benefit of world peace. The Treaty was also described as an important agreement on the peaceful use of Antarctica by the States Parties to the Warsaw Treaty at the 1960 meeting of the Political Consultative Committee.

22. The Antarctic Treaty is open for accession by any interested States. At present, more than 30 States, both large and small, from every continent in the world and representing a variety of economic and social systems have become parties to the Treaty. They include the Union of Soviet Socialist Republics, the German Democratic Republic, Poland, Romania, Czechoslovakia, the United States of America, the United Kingdom, Argentina, Brazil, Norway, Peru, Papua New Guinea, France, Germany, Federal Republic of, and Japan, among others. Recently, India, China, Hungary, Finland and Sweden have also acceded to the Treaty.

23. The Soviet Union continues, as it always has, to attach great importance to the Antarctic Treaty as one of the international instruments directed towards curbing the arms race. In accordance with the Treaty, the vast continent, its adjacent islands and surrounding waters are entirely removed from the sphere of military preparations of any kind, including nuclear testing. This was the first time in the history of international relations and international law that an area had been declared by means of a treaty to be a zone reserved for peaceful research and scientific co-operation between States.

24. The provisions of article I of the Treaty, which were drawn up with the active participation of the Soviet Union, stipulate that Antarctica shall be used for peaceful purposes only, and that there shall be prohibited any measures of a military nature, such as the establishment of military bases and fortifications and the carrying out of military manoeuvres, as well as the testing of any type of weapons.

25. In accordance with the Antarctic Treaty, its provisions shall apply to "the area south of 60° S latitude, including all ice shelves, but nothing in the present Treaty shall prejudice or in any way affect the rights, or the exercise of the rights of any State under international law with regard to the high seas within that area" (article VI).

26. In the present circumstances, the Treaty provisions that prohibit any nuclear explosions in Antarctica and the disposal there of radioactive waste material (article V) are of particular significance. Initially, proposals have been put forward that would have permitted nuclear explosions, subject to prior notification of and consultation with all the parties to the Treaty. The implementation of these proposals would in effect have legalized the testing of nuclear weapons. Moreover, nuclear testing in Antarctica would have caused irreparable damage to its unique environment and might have had unforeseen world-wide consequences.

27. As a result of the Soviet Union's persistent efforts, article V of the Treaty expressly prohibits any nuclear explosions - whether military or for peaceful purposes - and the disposal of radioactive waste material.

28. Taken as a whole, the provisions of articles I and V, which prohibit, inter alia, any measures of a military nature and any nuclear explosions, give Antarctica the status not only of a demilitarized zone but also of the first nuclear-weapon-free zone in history. Of course, this does not entirely preclude the possible use of nuclear energy as such in Antarctica, for example in nuclear power plants.

29. Thus the nuclear-free zone and zone of peace established by the Antarctic Treaty afford a good model for the conclusion of similar agreements for covering other parts of the world.

30. In the current international situation, the reduction of military presence and the establishment of nuclear-weapon-free zones and zones of peace in different parts of the world acquire special meaning and importance.

31. The Soviet Union, as a resolute opponent of the militarization of ocean space, supports the idea that a large part of the oceans and seas in the very near future can become a zone of peace. In particular, the Soviet Union supports the proposal for the establishment of such a zone in the vast geographical area adjacent to Antarctica that is especially important for world navigation, namely, the Indian Ocean. The creation of a zone of peace in the Indian Ocean responds to the desire of the majority of States of the region to reduce the level of military activity and to eliminate all foreign bases.

32. The principle of freedom of scientific investigation in Antarctica, which is embodied in article II of the Treaty, is of the utmost importance. On the basis of this principle, fruitful international co-operation has been successfully developed for more than 20 years in this nearly inaccessible and inhospitable part of the world. The Antarctic Treaty is rightly considered to be a unique example of international co-operation among States.

33. The scientific data and information resulting from the work of Antarctic expeditions and from the ongoing activities of the scientific stations are available to any interested State party to the Treaty. At the present time, these data are already of great practical value for the development of a wide variety of disciplines and for enhancing understanding of phenomena and processes taking place on Earth that are unquestionably of interest to all mankind.

34. The conclusion of the Antarctic Treaty was an important and effective means of preventing disputes, friction and conflict between States in connection with the territorial claims already asserted and those that might possibly be asserted in future in the area. The 1959 Treaty suspended the question of territorial claims (article IV).

35. The Treaty is also of considerable importance in preventing crisis situations spreading to Antarctica from areas that are in direct proximity to the sixth continent. This was confirmed by the situation that arose over the Falkland Islands (Malvinas) in 1982.

36. The opportunity to carry out inspections is provided for (article VII) in order to promote the objectives of the Treaty and ensure the observance of its provisions. Each State party to the Treaty may designate observers, who shall have complete freedom of access at any time to any or all areas of Antarctica, including all stations, installations and equipment within those areas. Ships and aircraft at points of discharging or embarking cargoes in Antarctica shall also be open to inspection.

37. Under established international practice, the implementation of the provisions of a particular international agreement, as well as the verification of their observance and the co-ordination of States' efforts to enforce them, is normally the responsibility of a specific organ or mechanism, whose establishment is provided for by those agreements. The mechanism for the Antarctic Treaty is the consultative meeting of the States parties to the Treaty.

38. Under article IX of the Treaty, original parties to the Treaty, as well as parties that conduct substantial scientific research activity in Antarctica by establishing scientific stations or dispatching scientific expeditions, shall be entitled to participate in the work of the consultative meetings. The latter parties shall be entitled to participate in the meetings during such time as they demonstrate their interest in studying Antarctica.

39. The Polish People's Republic has been a participant in the consultative meetings since the opening in 1977 of the permanent scientific station named Henryk Arctowski. The same right was acquired by the Federal Republic of Germany

when the Georg von Neumayer station began functioning in 1981. In September 1983, Brazil and India acquired consultative status after setting up their own scientific stations in Antarctica. Thus, more than half of the parties to the Treaty - 16 States - are at present Consultative Parties. Practice shows that the existing procedure provides real opportunities for any State that has acceded to the Antarctic Treaty to acquire consultative status.

40. The consultative meetings consider matters pertaining to the regulation of States' activities in Antarctica, including its use exclusively for peaceful purposes, the obligations to facilitate scientific research and international scientific co-operation in the study of that continent, the exercise of the rights of inspection there, the protection and conservation of living resources, etc.

41. As a result of their discussions, the parties adopt recommendations. The recommendations of the consultative meetings are subject to the approval of all States having taken part in their formulation. They then become normative provisions that elaborate and supplement the articles of the Antarctic Treaty.

42. One of the fundamental provisions of the rules of procedure of the consultative meetings is the rule that the unanimous approval of all States that participated in the work of the meeting is necessary for the adoption of recommendations.

43. The principle of consensus as a method of formulating and adopting decisions has been a practical and effective one. It is of great importance for all the Consultative Parties and reflects the specific requirements for resolving the problems of Antarctica in accordance with international law. The use of consensus in the work of the consultative meetings means, in essence, that no decision may be taken to the detriment of the interests of any party. And this, in turn, not only creates a business-like atmosphere in the discussion of various matters, but also guarantees the formulation of balanced recommendations and decisions that reflect the views of all States taking part in the work of the consultative meetings and are consistent with their interests.

44. Great importance attaches to the additions to the rules of procedure adopted at the Twelfth Antarctic Treaty Consultative Meeting held at Canberra in September 1983. These provide that States parties to the Treaty that do not have consultative status may participate as observers in the consultative meetings.

45. The admission of observers to meetings called within the framework of the Treaty illustrates the open nature of such meetings, the good will of the Consultative Parties and their desire to demonstrate to the international community the positive role of the recommendations drawn up for the benefit of the whole of mankind.

46. Since the entry into force of the Treaty, 12 consultative meetings have taken place and a total of more than 100 different recommendations have been adopted. The recommendations relate to the varied activities of man in Antarctica. Specifically, they regulate questions of radio and telecommunications, tourism and non-governmental expeditions, exchange of information, the use of radioisotopes,

the establishment of specially protected areas, the use of scientific research rockets, the importation of animals and plants for laboratory study, co-operation in transport, man's impact on the Antarctic environment, and many others.

47. Considering the unique nature of the Antarctic environment and the greater susceptibility and defencelessness of its flora and fauna, the Third Antarctic Treaty Consultative Meeting (Brussels, 1964) adopted the Agreed Measures for the Conservation of Antarctic Fauna and Flora (recommendation III-VIII).

48. Under article VI of the Agreed Measures, the killing, wounding or molesting of any native mammal or native bird within the Antarctic Treaty area, except in accordance with a permit, is prohibited.

49. Appropriate measures shall be taken to minimize harmful interference with the normal living conditions of mammals or birds. The following shall be considered as "harmful interference": allowing dogs to run free; flying helicopters or other aircraft in a manner that might unnecessarily disturb seal and bird concentrations; the use of explosives; discharge of firearms, etc. (article VII). The Agreed Measures also contain obligations concerning steps towards the alleviation of pollution of the waters adjacent to the coast and ice shelves, and they regulate questions of the importation and keeping of animals and plants, and precautions to prevent the accidental introduction of parasites and diseases into Antarctica.

50. Taking into consideration that in recent years there has been an increase in the number of non-governmental expeditions to the Antarctic Treaty area, and hence in the number of accidents, the consultative meetings have discussed the effects of tourism and made appropriate recommendations. Here, the greatest importance attaches to the prior exchange of information about planned activities.

51. It is a traditional principle in Antarctica to render expeditions in Antarctica all assistance feasible in emergencies. The region has unoccupied huts and shelters that may be used in case of distress by any expedition. However, in such cases the authorities who maintain a particular hut or shelter should be informed how these buildings were used.

52. Guidelines for tourists visiting Antarctica have been drawn up with special attention to measures for the preservation of the region's unique environment.

53. The consultative meetings adopted a format for annual exchanges of information, which should be carried out no later than 30 November each year. In accordance with that format, information is exchanged about dates and itineraries of expeditions, types and armament of ships, aircraft and other vehicles. The names and locations of bases and subsidiary stations are indicated, together with the names of the officers in charge of these bases, the number, occupations, and specializations of personnel, and facilities for rendering assistance (medical and transport services and shelter available in emergencies). Reports are also furnished on the intended use of radiosondes, scientific research rockets (including geographical co-ordinates of the place of launching, the direction of the launching, the planned maximum altitude, the purpose and research programme) and many other data, specifications and items of information. Practice has shown

that all the recommendations adopted at the consultative meetings play a substantial role in further regulating the activities of States in Antarctica and promote the establishment, development and deepening of all-round mutually beneficial co-operation in this almost inaccessible, inhospitable and yet very vulnerable part of the world.

54. At the Antarctic Treaty Consultative Meeting in 1978 the Convention for the Conservation of Antarctic Seals, which ensures the protection under international law of this important Antarctic fauna species, formerly almost completely exterminated, was drawn up.

55. Further efforts by the Consultative Parties led to a qualitatively new step - the development and adoption in 1980 of the Convention on the Conservation of Antarctic Marine Living Resources. Its main objective is the conservation and rational use of marine living organisms south of the line known as the Antarctic Convergence. This line, sometimes still termed the Antarctic Polar Front, constitutes the complex geophysical boundary of Antarctica where a confluence occurs between the warm northern and cold southern currents, which accounts for their high biological productivity.

56. The Convention is open for accession by all States. At present the parties to it comprise more than 10 States, including the Union of Soviet Socialist Republics.

57. In accordance with the Convention, its major working organs have been set up - the Commission for the Conservation of Antarctic Marine Living Resources, the Scientific Committee and the secretariat. The headquarters of the Commission are located in the town of Hobart on the Australian island of Tasmania.

58. The Commission and Scientific Committee held their first and second sessions respectively in 1982 and 1983. At these meetings, provisions concerning the staffing of the Commission secretariat, financial rules, and rules of procedure were drawn up, as well as the headquarters agreement and a number of other instruments.

59. It should be noted that, in accordance with article XII of the Convention, decisions of the Commission on matters of substance, like the recommendations of the consultative meetings, shall be taken by consensus. By this means, the Commission has already approved a provisional agreement between the Government of Australia and the Commission concerning its privileges and immunities, a budget, the terms of appointment of the Executive Secretary and the financial rules.

60. Despite the fact that the Convention entered into force only recently (in 1982), it has already proved to be an effective instrument of co-operation among the States concerned for the conservation, rational use and study of Antarctic marine living resources.

61. The structure established on the basis of the Antarctic Treaty for international co-operation in the study and rational utilization of the region's marine living resources serves the interests of mankind as a whole, and is demonstrating in practice its effectiveness and reliability as a basis for the future development of such co-operation.

62. In accordance with the recommendations of the Eleventh Antarctic Treaty Consultative Meeting, a review has now begun of issues relating to the régime for Antarctic mineral resources.

63. Although there is as yet no question of starting to exploit them industrially (in the opinion of scientists and practitioners, this is a prospect for the long term), the applicable international legal régime not only can, but should, be developed now, before individual States initiate the extraction of minerals here. What is needed is to establish a reliable barrier against any uncontrolled activity in the region, and to ensure the conservation of the unique Antarctic environment and its dependent ecosystems for present and future generations.

64. In so doing, the international legal régime must not contradict the Antarctic Treaty, but must be fully based on its provisions, developing them logically and giving them new content, so that it can serve to strengthen this important international instrument.

65. Modern science and technology, drawing on a range of geophysical, geological and geochemical methods and powerful drilling equipment, can study geological structures and also carry out survey and prospecting work for practically all types of minerals. However, the extent to which the Antarctic has so far been studied does not as yet permit a clearly based assessment of its mineral raw material potential. The report of the Group of Ecological, Technological and other Related Experts on Mineral Exploration and Exploitation in Antarctica, held at Washington in 1979, reached the conclusion that there was little likelihood of the commercial exploitation of Antarctic mineral resources other than offshore hydrocarbons in the foreseeable future.

66. Moreover, in the view of the scientists and experts who participated in a workshop at Bellagio, Italy, in the same year, it would be very difficult, because of the high sensitivity of the Antarctic ecosystem, to assess the consequences of unregulated industrial activity for mineral resource exploitation there. Obviously, any form of exploitation of the sixth continent's natural wealth is possible only on a strictly scientific basis within the framework of a clear-cut international legal régime from which it is forbidden to deviate.

67. The question of Antarctica's mineral resources was discussed for the first time at the Sixth Antarctic Treaty Consultative Meeting, held at Oslo in 1970. Subsequently, a number of recommendations were adopted. For example, the Ninth Antarctic Treaty Consultative Meeting took a decision concerning a moratorium on any activity connected with the exploitation of Antarctic mineral resources until an appropriate international legal régime had been worked out that would regulate such activities in a clear-cut manner and lay down appropriate standards for the protection of the unique Antarctic environment and its dependent ecosystems.

68. Particularly significant were the decisions of the Eleventh Antarctic Treaty Consultative Meeting, held at Buenos Aires in the summer of 1981. It adopted recommendation XI-1, in which the elaboration and conclusion of an international legal régime for Antarctic mineral resources is seen as an essential measure for the expansion and strengthening of the Antarctic Treaty system.



69. The Buenos Aires meeting also acknowledged the need to convene a special consultative meeting that should as a matter of urgency elaborate the relevant régime, determine its form, including the question as to whether an international instrument is necessary, and establish a schedule for further negotiations.

70. A number of sessions of the Special Consultative Meeting have already been held. They discussed questions of defining the scope of the régime, the concept of the resources subject to regulation by it, the differentiation of future activity in respect of mineral resources into appropriate stages, etc.

71. Most delegations are of the view that the régime must be based on the principles and objectives of the Antarctic Treaty and take the form of an international agreement; they consider that in order to ensure its successful operation organizational and co-ordinating machinery should be set up along the lines of the bodies established under the Convention on the Conservation of Antarctic Marine Living Resources.

72. The Soviet Union, which is participating actively in the development of the international legal régime for possible future exploitation of Antarctic mineral resources, is seeking the establishment in this area of a firm international legal order that will exclude any type of arbitrary action detrimental to the interests of other countries and peoples of the world. The Soviet Union is in favour of this régime being embodied in a special agreement fully based on the principles of the Antarctic Treaty that guarantee the utilization of Antarctica exclusively for peaceful purposes. The elaboration and conclusion of such an agreement would considerably strengthen the Antarctic Treaty system, which serves the interests of the whole of mankind. It should be emphasized here that no activity connected with the industrial exploitation of Antarctic mineral resources can be conducted, according to the decisions of the consultative meetings, until an adequate international legal régime that regulates such activity in clear terms has been worked out.

73. Over the period of almost a quarter of a century for which the Antarctic Treaty has been in force, a truly giant leap forward has been taken, through joint efforts, in the scientific study of Antarctica. A vast amount of information has been obtained and processed in the fields of meteorology, oceanography, atmospheric physics, etc., and this has made it possible in particular to arrive at a better understanding of the essence of global climate processes and to forecast them more successfully. The fundamental discoveries that have been made in biology, glaciology, geography, geology and other natural sciences are of great importance not only for the elucidation of the patterns of nature in Antarctica, but also for an understanding of the overall evolution of our planet.

74. Every year, many States send to the sixth continent research expeditions armed with modern technology and the latest types of equipment.

75. Co-operation among the fraternal socialist countries in research in Antarctica is developing and growing stronger. Over the past 25 years, approximately 100 scientists from the countries members of the Council for Mutual Economic Assistance have taken part in the winter work of Soviet Antarctic expeditions. At



the seven permanently operating Soviet stations a broad spectrum of scientific research is being conducted, including meteorological, ozonometric and radar observation of the atmosphere and clouds and of anomalous phenomena in outer space and their impact on the environment. At the Mirny observatory, radiosondes are used to study cosmic radiation in the stratosphere. At the Molodezhnaya, Vostok and Novolazarevskaya stations, the position of radio waves in the ionosphere is measured continuously by recording the intensity of cosmic radio-frequency radiation. Seismic vibrations are also continuously recorded: at the Vostok station, heat-drilling equipment is being used to bore a deep hole through the ice.

76. Soviet Antarctic expeditions have made extensive use of surface transport for scientific research. Trains of tractor-drawn sledges have traversed approximately 100,000 kilometres of the snowy expanses of East Antarctica. Many routes passed through regions never before seen by man. As a result of the 70 excursions conducted, diverse information has been obtained about the nature of the inland regions of the continent, the thickness, structure and composition of the ice sheet and the altitudes above mean sea level of the ice plateau, as well as data about the earth's magnetic and gravitational fields.

77. These expeditions have made it possible to compile reliable maps of Antarctica showing over 1,000 new, previously unknown geographical features, which have been given Soviet names; among them are the inland Sovetskoe Plateau, the Gagarin Mountains and the Tereshkova Oasis.

78. By long-standing tradition, leaders of foreign expeditions have named geographical features after Russian and Soviet explorers to commemorate their services and show their respect for them. At the end of the 1950s, a Belgian plane crashed in the interior of the continent and four Belgian explorers faced death. Soviet aircraft under the command of pilot Perov found the explorers and brought them to the Belgian base. As a token of gratitude, the Belgians named one of the peaks of the Belgica Mountains Mount Perov. On maps of Alexander I Land, United Kingdom toponymists named a number of geographical features after Russian composers: Mussorgsky Peaks, Mount Borodin, Mount Tchaikovsky, the Shostakovich Peninsula. Upholding this tradition, which came about as a result of international co-operation in the exploration of Antarctica, the Soviet explorers, in charting the marginal seas of the southern ocean named two seas after Mawson and Riiser-Larsen, and named one sea the Sodruzhestvo Sea.

79. In the Soviet Union, extensive literature on diverse aspects of Antarctica has been and continues to be published. The collection Antarktika, prepared by the Joint Commission for the Study of Antarctica of the USSR Academy of Sciences, is published every year. The latest (twentieth) issue contains articles providing new information on geophysics, meteorology, geology, glaciology and biology. It also contains the results of cosmic ray studies. Much attention is given to glaciological research, particularly to the role of oxygen and deuterium in glaciological investigations of Antarctica. An analysis is given of experimental research on the deformation of the walls of boreholes drilled in the ice massif. There are also articles devoted to medical research. Previous collections have dealt with the periodization of the history of glaciation, and temperature conditions, and provided information on cosmic research, and meteorology and many other subjects.

80. In the field of research into Antarctic geology and geophysics alone, more than 300 scientific articles and six monographs, three of which have been translated into foreign languages, have been published in the Soviet Union. Many scientific works written jointly with foreign experts have been published outside the Soviet Union.

81. An Atlas of Antarctica, which has already gone through several editions, has been published in the Soviet Union. Moreover, a geological, a tectonic and a gravitational map, as well as a map of the metamorphic facies of Antarctica with explanatory notes in Russian and English, came out in separate editions between 1975 and 1979. In 1979, a geological map of Antarctica prepared by Soviet specialists appeared in the Geological World Atlas published by the United Nations Educational, Scientific and Cultural Organization.

82. At the end of 1982 and the beginning of 1983, a specialized sea expedition took place. Continuing the traditions of courageous Russian navigators, Soviet scientists on the ships Admiral Vladimírsky and Faddei Bellingsgauzen followed the route of the first Russian Antarctic expedition, undertaken more than 160 years ago by the sloops Vostok and Mirny, during which the continent of Antarctica was discovered and first explored.

83. On 10 January 1983, after sailing through a zone of drift ice, the Admiral Vladimírsky approached the Bellingshausen Glacier in the region where the continent of Antarctica was discovered by Russian sailors. The members of the expedition placed a commemorative marker in honour of the first discoverers of Antarctica, the sixtieth anniversary of the formation of the Union of Soviet Socialist Republics and the two-hundredth anniversary of the founding of the hero-city of Sebastopol. During its 147-day voyage, the expedition sailed 35,000 miles.

84. The scientific programme included comprehensive investigations of little-known regions of Antarctica and the collection of data needed to compile new maps, guides and handbooks and to correct existing ones; studies of the natural hydrological, meteorological and geophysical fields of regions bordering Antarctica and of the atmosphere above them; and evaluation of performance and operating characteristics of modern technical equipment for investigating oceans and seas. In addition, tests were conducted on the emergency radio-buoy of the international SARSAT system - a space system for locating ships in distress.

85. Hydrological research conducted in little-known regions bordering the coast of Antarctica has made it possible to determine the basic, large-scale features of the zonal and meridional circulation of Antarctic waters.

86. By means of research carried out on meridional profiles, it was possible to establish the position and structure of the principal frontal zones, to track large-scale cyclonic currents south of the Antarctica Circumpolar Current, and anticyclonic currents whose southern peripheries border the northern streams of the Antarctic Circumpolar Current.

87. During the voyage, the radar survey and fixing of points along the coast of the Antarctic continent were carried out. A survey of the bottom configuration showed that the waters of Antarctica abound in underwater mountains and

elevations: 178 underwater mountains and elevations up to 2,700 metres high were discovered to the south of Bouvet Island and in little-studied regions of the Amundsen and Bellingshausen seas.

88. Along the route of navigation, considerable discrepancies in the plotting of individual islands and coastal landmarks were discovered. Instructions to mariners giving the precise locations of Scott and Franklin islands have already been issued.

89. In addition to their purely scientific interest, the results of this expedition will find wide practical application and may be used in the interests of many countries conducting or intending to conduct research in Antarctica.

90. At present, the twenty-ninth Soviet Antarctic expedition, with a total of more than 600 participants, is in progress. Scientists and specialists from Australia, Cuba, and the German Democratic Republic are also taking part in the expedition. The tasks of the expedition include: ozonometric and radiolocation observations; research in medicine and physiology and in sanitation and hygiene; glaciological and geophysical research; deep seismic sounding; airborne gravimetric surveys; and geomorphological and hydrological research (more detailed information about the twenty-ninth Soviet Antarctic expedition is enclosed). 4/

91. The development of broad, mutually beneficial international co-operation in the Antarctic was made possible only by the Antarctic Treaty of 1959, the sole international legal document of its kind, whose effectiveness and practicality has been verified and proven by its history extending over almost a quarter of a century.

92. In recent times, the need for all-round strengthening of the Antarctic Treaty has become particularly acute and urgent because of the intentions of some States to revise this important international Treaty.

93. The Soviet Union is vigorously opposed to the attempts to revise the Antarctic Treaty, regardless of the pretexts under which they are put forward. Such attempts are fraught with serious negative consequences, not only for the countries in regions bordering Antarctica but also for mankind as a whole. First of all, they may be detrimental to the principle contained in the Treaty concerning the use of Antarctica exclusively for peaceful purposes, which would undoubtedly have a negative effect on the international situation. They may lead to Antarctica, which has been a zone of peace and fruitful co-operation among States with diverse social and economic systems, becoming a zone of friction and dangerous international conflicts. There may be a new and more intense struggle among States to assert their claims to Antarctic regions; at present, the question of claims has been shelved by the Treaty. It is not the undermining of the Antarctic Treaty system but the adherence to it by interested States that is a guarantee that, in the future too, this important region of the Earth will continue to be used for the benefit of all mankind.

94. Furthermore, the undermining of the Treaty will give free rein to monopolies seeking to gain control of the mineral resources of Antarctica without permission

and without any form of regulation, which will inevitably lead to the uncontrolled and rapacious exploitation of those resources to the detriment of the continent's unique natural world, its fauna and flora.

95. It is difficult to overestimate the significance of the Treaty, especially at a time when international tension is being whipped up by aggressive imperialist circles. The provisions of the Treaty that prohibit any measures of a military nature in Antarctica, including nuclear explosions, permit the erection of an effective barrier to the spread of the arms race to this region, and this is an important factor in the struggle for peace.

96. The Soviet Union supports the all-round strengthening of the Antarctic Treaty, one of the most important international legal documents of modern times aimed at the promotion of peace and security both in the southern hemisphere and on the whole planet.

49. UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

[Original: English]

[30 May 1984]

1. The Government of the United Kindgom has given careful consideration to the Secretary-General's request made pursuant to General Assembly resolution 38/77 of 15 December 1983, which was adopted by consensus. It is pleased to reiterate its willingness to lend its full co-operation to the Secretariat in the task laid upon it by resolution 38/77, as has already been conveyed to the Secretary-General by the Permanent Representative of Australia to the United Nations acting on behalf of the Consultative Parties to the Antarctic Treaty. 1/ The Government of the United Kingdom is conscious of the careful distinction made in the drafting of resolution 38/77 between its paragraph 2 and paragraph 3. It considers this distinction to be both politically and logically sound, and stands ready to respond in the same spirit of co-operation to any subsequent requests of a more specific or detailed character that the Secretary-General might wish to make in the light of progress in the preparation of the study.

I. THE STUDY

2. At the present preliminary stage, the criteria for determining the contents of a comprehensive, factual and objective study on all aspects of Antarctica, as requested by the General Assembly, are not yet established. The onus for deciding what material should be offered to be taken into account in the preparation of such a study therefore lies to a large extent with those States that have substantial quantities of primary factual information at their disposal. The magnitude of the burden increases in proportion to the length of time a State has been actively involved in Antarctica, and the nature and scope of the activities undertaken or regulated by it there.

3. The United Kingdom was the first State to become involved in Antarctica with the voyage of Captain Cook in 1772-1775. British expeditions were the first to circumnavigate the globe in high southern latitudes; they established that the Antarctic continent, if such existed, was a frozen waste and dispelled the then current myth of a temperate inhabited land. The United Kingdom shared with Russia the achievement of first discovering the Antarctic continent (1820), was the first to proclaim possession of Antarctic lands, was the first to undertake the regulation of Antarctic activity by means of the application of territorial sovereign rights, was the first to undertake large-scale scientific research in Antarctica and has carried on organized multidisciplinary research longer than any other State on a continuous basis (since 1925 with a four-year gap during the Second world War).

4. Thus the information available to the United Kingdom that is or could be germane to the proposed study is, indeed, massive, and the need for selection is all the more necessary. No one person or even a small group of people have at their fingertips all the knowledge and information that is required. The

preparation of the United Kingdom's response to the Secretariat necessitates the co-ordination of the efforts and expertise of a large number of people, some of whom are not in the government service. Against that background the first step of the United Kingdom authorities, in responding to the Secretary-General's letter of 8 February 1984 has been to develop an extended framework for the preparation of its contribution. The completed contribution will be made available to the Secretary-General at the earliest opportunity, but this is unlikely to be before 1 June. 4/ In the mean while, the United Kingdom is forwarding herewith the text of the extended framework for their detailed contribution mentioned above, in the hope that this will prove of some use to the Secretariat in providing pointers towards decisions that the Secretariat will have to take on the scope and contents of the study.

## II. PRELIMINARY VIEWS OF THE GOVERNMENT OF THE UNITED KINGDOM

5. The Government of the United Kingdom takes the view that, in principle, the part that should be played in a factual and objective study by the views of States arises out of their relationship to the objective facts provided. The United Kingdom would wish to review in due course the sum total of its factual contribution in response to the Secretary-General's request before determining its definitive views for the purposes of paragraph 2 of General Assembly resolution 38/77. It therefore reserves the right to revert to this matter at a later stage. It might nevertheless be helpful for the Secretary-General to have even at this preliminary stage an indication of the general approach of the United Kingdom to the question of Antarctica. These preliminary views should be read in conjunction with the United Kingdom statement delivered in the 44th meeting of the First Committee of the General Assembly on 29 November 1983, a copy of which is attached. 4/

6. In expressing these views the United Kingdom starts from certain indisputable facts:

(a) The United Kingdom, together with six other States, asserts rights of territorial sovereignty in Antarctica;

(b) The territorial claims of two of these six States overlap the area over which the United Kingdom asserts its sovereignty;

(c) Certain other States, including the United States of America and the United Soviet Socialist Republics, which became active in Antarctica on a continuing basis in preparation for the International Geophysical Year, contend that they have a basis of claim to territorial sovereignty in Antarctica, and/or do not recognize any other State's right of or claim or basis of claim to territorial sovereignty in Antarctica;

(d) The Antarctic Treaty was specifically designed to provide a framework within which these sources of potential international discord could be peacefully managed while still allowing the States concerned to engage in legitimate and peaceful uses of Antarctica.

7. In this context, and in the light of the debates on the "Question of Antarctica" at the thirty-eighth session of the General Assembly, 5/ the United Kingdom wishes to lay stress on certain essential factors related to the Antarctic Treaty system (that is to say, the Antarctic Treaty and the series of international agreements and decisions based on it which have been enacted since the Treaty's entry into force). These factors are as follows:

(a) All of the international instruments in question are based upon the fundamental object and purpose of the Antarctic Treaty, namely "that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord". The Antarctic Treaty itself, and the Antarctic Treaty system as a whole, consists primarily of obligations, which have been voluntarily assumed by the parties to the various instruments in order to achieve the fulfilment of this fundamental object and purpose;

(b) It is not the purpose of the Antarctic Treaty system to purport to confer rights on States parties. Such rights as the instruments in question do create are in principle limited to what is necessary to ensure that the objectives of the Antarctic Treaty are achieved and operate only as between the parties: a clear example is the unique rights of mutual inspection provided for in article VII of the Antarctic Treaty;

(c) The Antarctic Treaty system has had remarkable success in achieving the voluntary inclusion within its ranks of all States that sponsor or conduct substantial activities in Antarctica, with a consequent enhancement of the practical effectiveness of the system of management of Antarctic activities created under the Antarctic Treaty; evidence for this can readily be seen in the agreed results of discussions and negotiations within the Antarctic Treaty system, which are always made publicly available;

(d) There can be no certainty that the sources of international discord mentioned above would not be revived and reasserted if the effectiveness of the Antarctic Treaty were seen to be prejudiced.

8. In the circumstances it is understandable that the Government of the United Kingdom takes the view that the Antarctic Treaty system is in perfect harmony with the purposes and principles of the Charter of the United Nations. In fact, the Antarctic Treaty system constitutes a remarkably successful exercise in putting the ideals of the Charter into practical effect. Therefore, the United Kingdom neither sees any justification for suggestions that the Antarctic Treaty system needs to be replaced, nor would it consider itself under any obligation either under the Charter of the United Nations or under general international law to assent to any proposed replacement of the present Antarctic Treaty system.

50. UNITED STATES OF AMERICA

[Original: English]

[29 May 1984]

I. HISTORY OF UNITED STATES ACTIVITIES IN ANTARCTICA

1. New England sailors were prominent in the first big wave of exploration of Antarctica, when seal hunters flocked to Antarctic waters in the 1820s. Little is known of their no doubt extensive reconnaissance of the Antarctic Peninsula area, since the sealers guarded their cruise logs and landfalls as proprietary secrets. However, Nathaniel Palmer, in the sloop Hero, is known to have sighted the mainland of the Antarctic Peninsula in November 1820, and Captain John Davis of the ship Huron went ashore in the same area in February 1821, according to his log, which came to light 130 years later.
2. The first official United States expedition to explore Antarctica was led by Lieutenant Charles Wilkes in 1838-1842. While searching for the south magnetic pole, Wilkes sailed 1,500 miles along the coast of east Antarctica that now bears his name, thus proving for the first time that a continent-size land mass existed in the south polar region.
3. Americans did not participate in the "heroic age" of European exploration (1897-1914), when "iron men in wooden ships" first pushed ashore and reached the South Pole. However, under the leadership of Admiral Richard Byrd, the United States pioneered the "technological age" of Antarctic exploration. Using airplanes, radios and tracked vehicles, the Byrd expeditions of 1928-1929 and 1933-1935 discovered and surveyed vast areas of Antarctica, reported instantaneously by radio to an excited public and staked claim to large areas on behalf of the United States. Lincoln Ellsworth carried out similar exploits in a separate series of private expeditions. The popular success of Admiral Byrd prompted the Government to establish a United States Antarctic Service and to send an official expedition under Byrd's command in 1939-1941, which was however curtailed by the development of the Second World War.
4. Following the war, the United States Navy conducted the largest single expedition to Antarctica, which graphically illustrated the rapid evolution of technology and the growing strategic interest in polar areas. Operation Highjump in 1946-1947 deployed 4,700 men in 12 ships and 9 airplanes. The major accomplishment of the operation was the aerial exploration and photo-mapping of 400,000 square miles of Antarctica. In 1947-1948, the last privately financed American wintering-over expedition was led by Finn Ronne to explore the area at the base of the Antarctic Peninsula.
5. During the 1950s, the focus of interest in Antarctica shifted from exploration to scientific research. This change was brought about by the relative exhaustion of geographic goals for the explorer/adventurers, by the growing capability and curiosity of science, and by the organization of the International Geophysical Year (IGY) 1957-1958, in which United States scientists played a leading role. Science had always been an adjunct of Antarctic expeditions, but then it became the primary purpose of human activity in Antarctica.



6. The IGY established Antarctica as a place for international co-operation in the interest of scientific research and, ultimately, of world peace. United States scientists played a prominent role in the preparations for the IGY, including development of the understanding by which nations put aside their disagreements about the legal status of Antarctica and agreed to the principle of free access to all parts of Antarctica for the purpose of scientific inquiry. United States scientists also participated in a major way in the actual conduct of research and collection of data in Antarctica during the IGY. In so doing, they laid down the base for work in the earth sciences, oceanography and atmospheric sciences that continues today.

7. The massive scientific effort of the IGY, of course, had to be supported by an equally massive logistical effort. More than 50 wintering-over stations were established in Antarctica during the IGY, of which the United States contributed five coastal and two inland stations, including one at the geographic South Pole.

8. The major logistical innovation introduced by the United States at the time was the establishment and supply of inland stations almost entirely by air. Initially, the heavy components for the South Pole station were air-dropped from large Globemaster planes. However, with the introduction in 1960 of LC-130 ski-equipped cargo planes, the United States acquired the capability to supply inland stations regularly and to fly virtually anywhere in Antarctica, landing wherever the snow is flat. With such mobility, the United States Antarctic Research Programme has not had to multiply the number of permanent stations. Instead, from the base at McMurdo, which is the largest station in Antarctica, the United States has regularly established summer field camps in areas of scientific interest, flying in buildings, fuel, equipment and helicopters to support parties of 40 to 60 scientists for 6 to 8 weeks.

9. Since the IGY and the inception of the Antarctic Treaty, 1/ United States activities in Antarctica have largely been carried out by or with the support of the United States Antarctic Research Programme, described below. However, private expeditions are not precluded, and there have been some by United States nationals interested in mountaineering or other adventure. In addition, tourist cruises organized by companies based in the United States have become a regular annual feature.

## II. EMERGENCE OF UNITED STATES POLICY TOWARD ANTARCTICA

10. The basic United States policy towards Antarctica has remained constant for the past 60 years - the United States does not recognize any claims to territorial sovereignty in Antarctica and does not assert any claims of its own, although it reserves its basis of claim.

11. The first official statement of United States policy toward Antarctica was made in 1924, when the United States Government was asked to take a position on British claims to parts of Antarctica. Applying the traditional test of international law, Secretary of State Hughes stated that discovery of unoccupied lands could not confer sovereignty over those lands unless followed by "effective

occupation". On the assumption that "actual settlement would be impossible", he concluded that the establishment of sovereignty over any part of Antarctica was not possible.

12. This legal position dominated official attitudes in the United States, even as the definition of "effective occupation" in international law was apparently loosened by the Greenland case and others, and as Admiral Byrd and other Americans began zealously exploring Antarctica and peppering large areas with claim markers.

13. Following the Second World War, the United States took greater and more sustained official interest in the polar areas, as demonstrated dramatically by Operation Highjump in 1947-1948. The developing cold war introduced tensions between the United States and the Union of Soviet Socialist Republics as a factor in American policy considerations.

14. Growing domestic pressure in favour of an American claim in Antarctica, combined with concern to prevent conflict among rival claimants and a desire to have a settled régime for Antarctica, produced proposals in 1948 that the United States would lay claim to the unclaimed portion of Antarctica if the seven claimant States would join in a condominium, or United Nations trusteeship, to govern the continent jointly. Although there were counter-proposals and much discussion, agreement was not possible on these ideas then, or in subsequent years when they were revived in various forms.

15. The United States hesitated to stake a claim in Antarctica because (a) American explorations in Antarctica went beyond the unclaimed area of Marie Byrd Land; (b) reservations remained about the possibility of effective occupation and valid legal claims; and (c) the growing conviction that United States interests lay more in access to the whole continent than in exclusive control of a part of it.

16. The experience of planning for and carrying out the International Geophysical Year (IGY) demonstrated the potential for an international arrangement that would transcend the claim issues and promote peace and co-operation in Antarctica. In view of this experience, the United States took the initiative in May 1958 to propose a diplomatic conference to institutionalize the political achievements of the IGY in treaty form. The success of the Antarctic Treaty in the following years in keeping Antarctica from becoming "the scene or object of international discord" testifies to the wisdom of this policy approach.

17. At the same time, the Treaty protects, and the United States continues to maintain, the basis of claim that existed prior to the entry into force of the Treaty. Should the continued vitality of the Antarctic Treaty be called into question for any reason, this issue would be revived as an issue in United States Antarctic policy considerations.

### III. UNITED STATES ACTIVITIES IN ANTARCTICA

#### A. The United States Antarctic Programme

18. United States activities in Antarctica are managed by the United States National Science Foundation (NSF). The programme involves the operation of ships, aircraft, permanent stations and field camps. In managing the programme, NSF is able to draw upon the support personnel and resources of the United States Navy (through the Naval Support Force Antarctica) and of the United States Coast Guard (in the deployment of ice-breakers). Pursuant to President Reagan's directive of March 1982, the United States Antarctic Programme shall be maintained at a level providing an active and influential presence designed to support the range of United States Antarctic interests.

19. The facilities of the United States Antarctic Programme support a broad programme of research in the various disciplines of importance in Antarctica. Research projects are undertaken by investigators from universities and, to a lesser extent, from federal agencies and other organizations. Such projects are supported by the NSF. United States facilities are also employed to support inspections provided for under the Antarctic Treaty that the United States undertakes on a regular basis.

20. At the present time, the United States maintains four permanent year-round stations in Antarctica: McMurdo Station on Ross Island; Amundsen-Scott Station at the South Pole; Palmer Station on Anvers Island in the Antarctic Peninsula; and Siple Station in Ellsworth Land. The latter has been in operation for the past 15 years but is likely to be phased out, at least for year-round operation, after 1987. A description of these four stations follows:

(a) McMurdo (77°51' S 166°40' E). America's largest Antarctic station, McMurdo is built on the bare volcanic rock of Hut Point Peninsula on Ross Island, the farthest south solid ground that is accessible by ship. It is the logistics hub of the United States Antarctic Research Programme, with a harbour, landing strips on sea ice and shelf ice, and a helicopter pad. Its 130 buildings range in size from a small radio shack to large, three-storey structures. Science laboratories, repair facilities, dormitories, administrative buildings, a firehouse, power plant, water distillation plant, wharf, stores, clubs and warehouses are linked by above-ground water, sewer, telephone and power lines. The station was established in December 1955. Local features include Mount Erebus (an active volcano), McMurdo Sound (the station's namesake, named after Lieutenant Archibald McMurdo of James Clark Ross's 1841 expedition), the Ross Ice Shelf, and the ice-free (dry) valleys of southern Victoria Land. Recorded temperature extremes are -50° C (-58° F) and 8° C (46° F). Annual mean is -18° C (0° F); monthly mean temperatures range from -3° C (27° F) in January to -28° C (-18° F) in August. Drifting snow can accumulate about 1.5 metres (5 feet) per year, although the station becomes snow-free in summer. Average wind is about 5.1 metres per second (10 knots); a gust of 52 metres per second (101 knots) was recorded in July 1968. Research is performed at and near McMurdo in marine and terrestrial biology, biomedicine, geology and geophysics, glaciology and glacial geology, meteorology and upper atmosphere physics. Peak summer population can exceed 850;

winter population is about 92. The winterers are isolated from late February to late August and from then on to October. Transportation to New Zealand is frequent between October and February - the Antarctic summer;

(b) Amundsen-Scott South Pole (90° S). United States scientists and support personnel have occupied the geographic South Pole continuously since November 1956; the station was rebuilt in 1975 with an unheated geodesic dome 50 metres wide and 16 metres high that, with 14- by 24-metre (46 by 80 foot) steel archways, covers modular buildings, fuel bladders and equipment. Two detached buildings house instruments for monitoring the upper and lower atmosphere. There is an emergency camp. Some 17 scientists and support personnel winter at the station, and 50 or more people work there during the summer. Recorded temperature has varied between -13.6° C (7.5° F) and -82° C (-116° F). Annual mean is -49° C (-56° F); monthly means vary from -28° C (-18° F) in December to -60° C (-76° F) in July. Average wind is 6.1 metres per second (12 knots); peak gust recorded was 24 metres per second (47 knots). Precipitation is about 6-8 centimeters of snow (2-3 inches water equivalent) per year. The station stands at an elevation of 2,835 metres (9,300 feet) on interior Antarctica's nearly featureless ice sheet, about 2,850 metres thick at that location. The land surface at the South Pole is thus about 15 metres below sea level. Research at the station includes glaciology, geophysics, meteorology, upper atmosphere physics, astronomy and biomedical studies. The station's name honours Roald Amundsen and Robert F. Scott, who attained the South Pole in 1911 and 1912 respectively. The station is isolated between mid-February and early November;

(c) Palmer (64°46' S 64°03' W). Palmer Station, on a protected harbour on the south-western coast of Anvers Island, off the Antarctica Peninsula, is the only United States Antarctic station north of the Antarctic Circle. The temperature is mild, with monthly averages ranging from -10° C (14° F) in July and August to 2° C (36° F) in January and February. The annual mean is -3° C (27° F). The extreme range is -31° C (-24° F) to 9° C (48° F). There is precipitation every month at Palmer; in the year ended October 1981 Palmer received 25 centimetres (10 inches of rain equivalent) and 36 centimetres (14 inches water equivalent) of snowfall;

- (i) The station, built on solid ground, consists of two major buildings and three small ones, plus two large fuel tanks, a helicopter pad and a dock. Construction was completed in 1968, replacing a prefabricated wood structure ("Old Palmer", established in 1965) two kilometres away across Arthur Harbour. Old Palmer is still used in summer and is available for emergency occupation if necessary. Somewhat more than 40 people can occupy Palmer in the summer. Wintering population is about 10;
- (ii) Palmer Station is superbly located for biological studies of certain birds, seals and other components of the marine ecosystem. It has a large and extensively equipped biological laboratory and sea-water aquariums. Meteorology, upper-atmosphere physics, glaciology and geology also have been pursued at and around Palmer. The station operates in conjunction with Hero, a research trawler described below;

- (iii) Palmer Station is named after Nathaniel B. Palmer, a Connecticut sealer who, on 17 November 1820, during an exploratory voyage ranging southward from the South Shetland Islands, may have been the first person to see Antarctica (British and Russian ships were in the area at about the same time). Nathaniel Palmer's 14-metre sloop was named the Hero;

(d) Siple (75°55' S 83°55' W). Siple Station, in Ellsworth Land at the base of the Antarctic Peninsula, was established in 1969, enlarged and first occupied year-round in 1973. Because of high snow accumulation that distorted the original structure, it was built anew in 1979. Siple is now being phased out for year-round operation. The station consists of 24 connected prefabricated building modules, which are located under a steel arch measuring 13 by 80 metres (43 by 262 feet). By 1981 the annual snowfall of about 1.7 metres (5.6 feet), along with drifting, covered the 7-metre-high arch of the new station. The floor of the disused 1973 station was 17 metres (57 feet) below the snow surface in 1981. Temperature extremes at Siple are -52° C (-62° F) and 7° C (45° F). Annual mean is -24° C (-11° F); monthly averages range from about -35° C (-31° F) in August to -12° C (10° F) in January. Winds average 6.5 metres per second (13 knots); a wind of 33 metres per second (65 knots) was recorded in October 1980. The station elevation is 1,000 metres (3,300 feet); ice thickness is slightly less than that;

- (i) Upper-atmosphere physics has been pursued at Siple. The station features a horizontal antenna 21 kilometres (13 miles) long, a radio receiver and a transmitter for studies in the very-low-frequency range. The electrical characteristics of the 2,050 metres of ice between the station and the underlying Earth surface permit antenna performance as though it were suspended 2 kilometres in the air, a truly remarkable and unique reason for the station's location. Siple was placed where it is for study of signals transmitted along magnetic lines of force that extend from Siple as far as four Earth radii into space, returning to Earth at Siple's geomagnetic conjugate point in the northern hemisphere - the thunderstorm-rich region of south-eastern Quebec. During large projects in summer, Siple's population has reached 65. The wintering complement is normally eight, but has been as small as four;
- (ii) Siple station is named after Paul Siple, a polar expert who headed the first wintering party at the South Pole in 1957 and first went to Antarctica as a Boy Scout with Richard E. Byrd in 1928.

21. In addition to the permanent year-round stations, the United States Antarctic Programme establishes and operates summer camps in areas of particular scientific interest. These camps generally operate in the November-January period and support a population of 40 to 60 scientists and support personnel. Helicopters and motorized surface transportation are provided to enable intense, often interdisciplinary, programmes of field research to be accomplished during the summer operating season. Such camps have been established in recent years in northern Victoria Land (1981-1982); the Ellsworth Mountains (1979-1980); at Darwin Glacier in the Trans-Antarctic Mountains (1978-1979); and in the mountains of northern Marie Byrd Land (1977-1978). Another major summer research camp is planned for the Beardmore Glacier between McMurdo Station and the South Pole for the 1985-1986 season.

22. A camp at Dome C (74°30' S 123°10' E) in east Antarctica, where the east Antarctic ice sheet is over 4,000 metres thick, was established in the 1974-1975 season. It has been used on a regular basis for research projects - primarily in glaciology - since that time. An additional summer camp - Byrd Surface Camp - has been operated during summer seasons as a fuel stop and weather station for aircraft flying between McMurdo and Siple stations. Byrd Surface Camp is on the site of the summer Byrd Station (an under-snow research facility that was open year-round for 15 years until 1972).

23. Field parties supported by aircraft and surface transportation operate from both the permanent stations and summer camps. Field parties may construct huts or other temporary structures to provide storage, work areas and shelter in areas of continuing research interests. For example, huts have been constructed in recent years in the Taylor Valley (an ice-free, or dry valley, in southern Victoria Land) for the study of lake ecosystems; at Cape Crozier on Ross Island for population and behavioural studies of penguins; and near the summit of Mount Erebus on Ross Island for volcanology. Single-season field parties employ tent camps and are supported by helicopter or motor toboggan from the nearest station or summer camp.

24. The United States Antarctic Programme operates both aircraft and ships in support of the scientific activities and to maintain United States permanent stations, as well as summer and field camps. The aircraft component consists of LC-130 Hercules aircraft and UH-1N helicopters. The ship capability includes ice-breakers, supply vessels, a research trawler and research ships of opportunity. More detailed description of this capability follows:

(a) LC-130 Hercules. This four-engine turbo-prop transport airplane is the backbone of United States transportation within Antarctica, and it also provides much of the air service between McMurdo Station and New Zealand. The LC-130 is the polar version of the familiar C-130 cargo plane; its major unique feature is the ski-equipped landing gear, which enables operation on smooth snow or ice surfaces throughout Antarctica. The plane also has wheels for landings on prepared hard surfaces. It was introduced to the Antarctic programme in 1960; the fleet currently numbers seven. The plane has a cargo area 12 by 3 by 3 metres (41 by 9 by 9 feet). It can, as an example, carry 12,200 kilograms (27,000 pounds) from McMurdo to Siple (1,280 nautical miles), fly back empty to Byrd (484 miles) for fuel, then return to McMurdo. It cruises at 275 knots (500 kilometres per hour). Wingspan is 40 metres; length overall, 30 metres (132.6 by 97.8 feet). One of the planes is equipped for meteorological sensing, and can be equipped for radio-echo sounding of ice thickness, aerial photography and other scientific observations. Because of its unique range and capability, it has on several occasions been used for trans-Antarctic emergency rescue missions for other nations' Antarctic programme personnel;

(b) UH-1N Helicopter. Six or seven of these twin-turbine helicopters are operated out of McMurdo Station during the austral summer. With an operating weight of 3,200 kilograms (7,000 pounds), the UH-1N can carry a payload of 730 kilograms (1,600 pounds) or up to five passengers over an operating radius of 185 kilometres (100 nautical miles). Using an external cargo sling, it can carry 1,400 kilograms (3,000 pounds). Cruising air speed is 100 knots (185 kilometres per hour);

(c) Ice-breakers. Three classes of United States ice-breakers have operated in Antarctica (see table 1 below). The Polar-class is the United States' newest and most powerful ice-breaker. Either the Polar Star or the Polar Sea deploys to Antarctica each year to resupply Palmer Station, break a ship channel through McMurdo Sound and support research in and near the pack-ice. Glacier deploys in most years for ice-breaking, escort services and support of science projects;

Table 1

United States Coast Guard Ice-Breakers

	Polar-class (built 1976-1977)	Glacier (built 1955)	Wind-class (built 1944-1947)
Length (m)	122	94	82
Displacement (metric tonnes)	13 401	8 915	6 604
Maximum hp	60 000	21 000	10 000
Maximum speed (knots)	17	17	16
Cruising speed (knots)	13	12	10.5
Range (nautical miles)	28 000	25 000	38 000
Personnel	154	213	169
Helicopters (HH-52)	2	2	2
Cargo (measurement tons)	400	100	0
Scientists	20	23	12

(d) Supply ships. Each year an ice-strengthened tanker - either the USNS Maumee or the USNS Yukon - delivers diesel fuel, jet fuel and gasoline to McMurdo Station. Other cargo is delivered to McMurdo Station by ship such as the USNS Southern Cross;

(e) R/V Hero. Hero is a 38-metre-long wood-hulled diesel-powered research trawler equipped with sails. Launched in 1968, Hero operates in conjunction with Palmer Station to provide transportation, close support of science parties to the the Antarctic Peninsula area and experimentation, using an on-board biological laboratory. In winter Hero sometimes supports research along the southern coasts of South America. Hero normally carries 12 crew and 8 scientists. It cruises at about 9 knots and has a range of 9,300 kilometres. Hero carries open inflatable-rubber boats, powered by outboard motors, to support research activities. These are also used at Palmer Station;

(f) Research ships. As required and available, research ships of the United States academic fleet have worked in ice-free Antarctic waters. In recent years these have included R/V Melville, R/V Knorr, and R/V Alpha Helix. Programmes of research in physical oceanography, marine biology and marine geology and geophysics have been supported from these vessels. During the 1983-1984 season R/V Lee, a research vessel operated by the United States Geological Survey, undertook marine geological and geophysical research in the Ross Sea.



25. Co-ordinated scientific investigations in Antarctica, as noted above, began with the IGY in 1957-1958. Continuation of research by the United States and other nations active in Antarctica has, since that time, made major strides in the reconnaissance of the continent and its surrounding oceans. The United States Antarctic Programme has as its goal to promote research in Antarctica on world-wide and major problems of current scientific importance and to expand fundamental knowledge of the region.

26. The research projects supported by the United States Antarctic Programme are selected on the basis of their scientific merit, through a peer-review process, from proposals by scientists from universities and occasionally federal agencies or other organizations. Investigators may perform research and analysis individually, in small teams, or in large interdisciplinary groups.

27. Pursuant to a system of international co-operation established by the Antarctic Treaty, the United States Antarctic Programme has supported collaborative projects involving scientists from other countries. Over the past two decades, projects supported by the United States Programme have included 950 scientists from 30 countries. Opportunities for such collaborative projects are enhanced through the Scientific Committee on Antarctic Research (SCAR). SCAR, which is a committee of the International Council of Scientific Unions, a non-governmental organization, originated with the IGY, and is charged to "further the co-ordination of scientific activity in Antarctica, with a view to framing a scientific programme of circumpolar scope and significance". The United States participation in SCAR is through the Polar Research Board of the National Academy of Sciences, which acts as the United States National Committee to SCAR. In pursuing its goal of promoting research in Antarctica, the United States Antarctic Research Programme has supported a broadly balanced programme in the major disciplines of study in Antarctica. The National Science Foundation, in administering the Programme, has drawn extensively upon the work of SCAR and other learned bodies in identifying and determining research priorities in Antarctica.

28. The five scientific disciplines most active in Antarctica are glaciology, biological and medical research, earth sciences, atmospheric sciences and ocean sciences. A description of research objectives in these five disciplines follows:

(a) Glaciology. The world's largest ice sheet covers 98 per cent of the Antarctic continent in thicknesses up to 4.8 kilometres. It is a vast storehouse of information about climate and atmospheric constituents and their variation over time. Research activities have been predominantly descriptive, with emphasis on the extent of the ice sheet and its characteristics, using, for example, radio-echo sounding, ice coring and thermal probes. Ice cores have been drilled to bedrock and to shallower depths. Oxygen-isotope studies, use of radioactive isotopes for dating, analysis of fabrics and chemical measurements can be pursued to extract palaeoclimatic data. Surging glaciers are of keen interest to glaciologists. Although there are no known surging glaciers in Antarctica, a better understanding of the range of physical conditions that cause surging and how close or how far the Antarctic ice streams are from these conditions may be crucial to understanding the past and present dynamics of the ice cover of Antarctica, especially the west Antarctic ice sheet. The present west Antarctic ice sheet may be as young as 125,000 years old, while the east Antarctic ice sheet could well be 25 million years old;



(b) Biological and medical research. The biota of ponds and ice-free land areas of Antarctica is of special interest owing to the adaptations of its members to the extreme environment. In the ice-free valleys of southern Victoria Land, biologists study bacteria, lichens and algae living just beneath the surface of rocks, and investigate algae living in the region's ice-covered lakes. In the Antarctic Peninsula, biologists examine the cold adaptations of such Antarctic insects as the wingless midge and of simple plant communities. The simplicity of these terrestrial ecosystems provides opportunities for analyses that are more difficult or impossible in the complex systems of lower latitudes;

- (i) The oceans surrounding Antarctica, in contrast to the land, comprise one of the richest biological regions on Earth, although the reasons for this unusual productivity are not yet fully understood. Studies of the marine ecosystem are the major part of the Antarctic biology programme;
- (ii) Surveys and reconnaissance of the biota and habitats were largely completed in the late 1960s, and experimental and ecological studies have been emphasized since. Major attention is on ship- and shore-based studies of the structure and function of marine ecosystems, stressing trophodynamics and including detailed investigations of marine organisms at all trophic levels. Emphasis is also placed on studies of adaptation to Antarctic environments, particularly to low temperatures;
- (iii) Biomedical studies are directed towards understanding the epidemiology of viral infections in small, isolated groups of people at the stations and towards assessing physiological and psychological attributes of the same groups;

(c) Earth sciences. Although geological maps have been prepared of many Antarctic areas, geological reconnaissance of the continent is not yet complete. Nevertheless, research to date has provided a general outline of the region's geology and geophysics and has provided major clues in support of plate tectonics and the hypothesized Gondwana super-continent. This research has pointed to the resource potentials of Antarctica, but it is not intended to identify or quantify deposits of resources. Areas of special interest are the mountainous regions with significant ice-free areas. These include the McMurdo Sound vicinity (including the dry valleys of southern Victoria Land), the central Trans-Antarctic Mountains, the Scotia Arc, the Lassiter Coast, northern Victoria Land, the Dufek Intrusion (Pensacola Mountains), Marie Byrd Land, the coast of Ellsworth Land, the Ellsworth Mountains and the continental shelf. The glacial geology of west Antarctica is of continuing interest, and work to date has provided a history of glacial activity in the Ross Sea region;

(d) Atmospheric sciences. Unique studies of the Earth's magnetosphere and of Sun-Earth relationships are possible in Antarctica because of its physically stable location at high geomagnetic latitude. Objectives in studying the upper atmosphere in Antarctica are to improve understanding of the Earth's upper atmosphere and its near and far space environment, and to investigate solar-terrestrial effects on man and the human environment. Most of the upper-atmosphere physics research has been performed at Siple Station, which is ideally situated for studies of the

plasmopause region of the magnetosphere using very low frequency and ultra low frequency waves as diagnostic tools. The South Pole Station is in an ideal location for study of the sun, the aurora and the cusp region of the magnetosphere. In meteorology, Antarctica is Earth's largest heat sink, with its ice sheet containing about 90 per cent of the world's glacial ice. As such, it is believed to play an important role in the planet's weather and climate. Research objectives are to improve understanding of the physical processes characteristic of the atmosphere over Antarctica, to determine the relationship between the Antarctic atmosphere and global circulation and to determine Antarctica's role in the past and present global climate. Much of the research in meteorology and atmospheric chemistry is performed at South Pole Station, but some is done at the other stations and aboard the IC-130 airplane specially equipped for meteorology and air chemistry. Automatic weather stations are used to collect data at several remote locations. At South Pole Station, a clean-air sampling facility enables studies of atmospheric aerosols and trace gases and monitoring of changes in climate and in background levels of world atmospheric constituents including pollutants;

(e) Ocean sciences. Because of large-scale heat losses at high latitudes, the southern oceans are a major source of cooler intermediate and deep water masses that circulate throughout the world oceans. Nutrient-rich waters support high biological activity. Large annual variations in temperature and the extent of sea-ice profoundly influence energy transfer processes. The sea floor around Antarctica presents fundamental problems in marine geology and geophysics. A major objective is to support physical, geological and geophysical studies and to investigate the relationship between oceanic and atmospheric circulation systems and the physical basis for the biological productivity of Antarctic waters. A circum-Antarctic survey from 1962 to 1979, in which the ice-strengthened ship Eltanin (later Islas Orcadas) made 66 cruises covering 521,000 nautical miles, provided much basic information and a framework for the current continuing programme of problem-oriented ship-based research.

## B. Inspections under the Antarctic Treaty

29. An important component of the United States Antarctic Programme is the regular exercise of the inspection rights provided by the Antarctic Treaty. The system of on-site inspection established by the Treaty is one of its unique features. The relevant sections of article VII of the Treaty state that:

"1. In order to promote the objectives and ensure the observance of the provisions of the present Treaty, each Contracting Party whose representatives are entitled to participate in the meetings referred to in Article IX of the Treaty shall have the right to designate observers to carry out any inspection provided for by the present Article. Observers shall be nationals of the Contracting Parties which designate them. The names of observers shall be communicated to every other Contracting Party having the right to designate observers, and like notice shall be given of the termination of their appointment.

"2. Each observer designated in accordance with the provisions of paragraph 1 of this Article shall have complete freedom of access at any time to any or all areas of Antarctica.

"3. All areas of Antarctica, including all stations, installations and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargoes or personnel in Antarctica, shall be open at all times to inspection by any observers designated in accordance with paragraph 1 of this Article.

"4. Aerial observation may be carried out at any time over any or all areas of Antarctica by any of the Contracting Parties having the right to designate observers."

30. The United States believes that the inspection rights contained in the Antarctic Treaty are important and precedent-setting provisions, particularly in the light of the arms control aspects of the Treaty. Therefore, periodic exercise of these inspection rights is an important element of United States Antarctic Policy.

31. The United States has exercised this right on seven occasions since the Antarctic Treaty entered into force in 1961. These inspections have been accomplished by means of the transportation and logistics capability committed to the United States Antarctic Programme. In some cases, observer teams have been transported to stations by LC-130 ski-equipped aircraft. More frequently, the teams have relied for transportation upon United States Coast Guard ice-breakers assigned to the programme, and the helicopters carried by those ice-breakers.

32. A number of parties to the Treaty have carried out inspections pursuant to article VII, including inspections of United States stations. The first United States inspection of stations in Antarctica took place in 1964.

(a) In 1964, the observer team inspected the following stations and facilities:

Deception	Argentina
Esperanza	Argentina
Cerda	Chile
Videla	Chile
Dumont d'Urville	France
Scott	New Zealand
Mirny	Soviet Union
Vostok	Soviet Union
Base B (Deception Island)	United Kingdom
Base F (Argentine Islands)	United Kingdom

(b) In 1967, the United States inspected the following stations and facilities:

Orcadas	Argentina
Wilkes	Australia
Mawson	Australia
M/S <u>Thala Dan</u>	Denmark (ship)
Dumont d'Urville	France

Syowa  
 SANAE  
 Molodezhnaya  
 Signy

Japan  
 South Africa  
 Soviet Union  
 United Kingdom

(c) In 1971, the United States inspected the following stations and facilities:

Casey  
 Mawson  
 M/S Nella Dan  
 Dumont d'Urville  
 Mirny

Australia  
 Australia  
 Denmark (ship)  
 France  
 Soviet Union

(d) In 1975, the United States inspected the following stations and facilities:

Almirante Brown  
 Eduardo Frei  
 Bellingshausen  
 Argentine Islands

Argentina  
 Chile  
 Soviet Union  
 United Kingdom

(e) In 1977, the United States inspected the following stations and facilities:

Marambio  
 Eduardo Frei  
 Scott  
 Bellingshausen  
 Druzhnaya

Argentina  
 Chile  
 New Zealand  
 Soviet Union  
 Soviet Union

(f) In 1980, the United States inspected the following stations and facilities:

Almirante Brown  
 Esperanza  
 General O'Higgins  
 Arctowski  
 Bellingshausen  
 Rothera

Argentina  
 Argentina  
 Chile  
 Poland  
 Soviet Union  
 United Kingdom

(g) In 1983, the United States inspected the following stations and facilities:

General Belgrano II  
 Vicecomodoro Marambio  
 Casey  
 Davis  
 Mawson  
 Dumont d'Urville

Argentina  
 Argentina  
 Australia  
 Australia  
 Australia  
 France

Georg von Neumayer  
Syowa  
SANAE III  
Leningradskaya  
Mirny  
Molodezhnaya  
Novolazarevskaya  
Halley

Germany, Federal Republic of  
Japan  
South Africa  
Soviet Union  
Soviet Union  
Soviet Union  
Soviet Union  
United Kingdom

33. Copies of the reports of the United States observers for each of these inspections are enclosed. 4/

34. The inspections carried out by the United States observers are designed to verify compliance with the provisions of the Treaty, as well as with agreed recommendations developed pursuant to article IX of the Treaty. By promoting public assurance that these provisions are being followed, they promote the objectives and purposes of the Treaty.

35. During the seven United States inspections, involving 51 station visits, there has been no evidence of any violation of either the provisions or the spirit of the Antarctic Treaty. All of the information gathered during these visits corroborates the fact that Antarctica is being used solely for peaceful purposes.

#### C. Summary of United States scientific activities in Antarctica

36. In the years since the IGY, the United States spent more than a billion dollars on its Antarctic Programme. Scientific research sponsored by the United States Antarctic Programme has helped write a new chapter in the understanding of our planet. At the outset of the IGY, the scientific challenges and opportunities offered by Antarctica were enormous. There were scant data or knowledge on the nature and characteristics of this continent - almost the size of North America - and the marine areas that surround it.

37. Over the past 25 years United States scientific activities in peaceful combination with those of the other nations active in Antarctica have filled in many of the blanks. For example, we have a relatively clear picture of the geography of Antarctica and we have begun to understand the important influence Antarctica exercises upon the world ocean and atmosphere. These scientific efforts - which reveal questions as well as answering them - have yielded data and insights of fundamental importance. A summary of some of the significant scientific achievements of the United States Antarctic Programme follows, grouped by disciplines.

#### Biology and medicine

38. Research in the life sciences conducted by the United States Antarctic Research Programme is directed both to obtaining an increased understanding of organisms and ecosystems native to Antarctica and its surrounding seas and to

utilization of these organisms and the isolated human populations at research stations as tools to study problems of general biological interest that are best pursued in Antarctica. This research has markedly expanded knowledge in four general areas: adaptations of organisms to the Antarctic environment, population dynamics of Antarctic species, structure and function of ecosystems, and medically-oriented research. A general description of the structure and function of Antarctic marine, freshwater and terrestrial ecosystems has been developed with a strong marine emphasis. The results of the marine research - in addition to broadening and deepening basic understanding of the southern ocean ecosystem - are providing information necessary for implementing the Convention on the Conservation of Antarctic Marine Living Resources and form a United States contribution to the international BIOMASS (Biological Investigation of Marine Antarctic Systems and Stocks) programme. The Convention specifies that the harvest of krill and other marine organisms be done in a manner that does not harm the overall ecosystem. The shrimp-like crustacean, krill, is already the basis of a substantial fishery and one capable of and likely to undergo marked expansion in the future. The BIOMASS programme was developed by Antarctic Treaty nations as a mechanism for developing information needed for a rational and sustained krill fishery.

39. In addition to ecosystem-oriented research, work has been conducted on the population dynamics of Antarctic species, on the biochemical, behavioural and other adaptations of organisms to the Antarctic environment, and on medical aspects of isolated human populations at Antarctic stations. Research on the population dynamics and behaviour of seals, penguins, krill and other important species has yielded part of the information essential for understanding and properly managing the Antarctic marine ecosystem. The biochemical studies, in addition to yielding new knowledge concerning the abilities and limitations of life in adapting to an extreme environment, have provided guidance in developing synthetic substances to increase the freezing resistance of crop plants. These substances offer substantial promise for the protection of crops, although their mode of action appears different from that of the natural anti-freeze glycoproteins found in many Antarctic fishes. The Antarctic stations offer a unique combination of small populations isolated from other human contact for months and an atmosphere that is essentially sterile and free of virus and bacteria, and thus provide unique situations for studying the transmission of virus. Studies done at these stations have led to the development of a virucidal paper handkerchief (now undergoing commercial development) that significantly reduces the dissemination of infective virus particles. Overall, however, the station populations are too small for definitive medical research.

40. In addition to topics mentioned above, ongoing research in the life sciences includes work on age structure and population dynamics of fishes, adaptations of Weddell seals to deep (more than 500-metre) dives, interstitial flora of Antarctic rocks as a possible analogue to extraterrestrial life, and other projects relevant to both basic and applied science. Most important are two major shipboard projects examining the physical, chemical and behavioural processes underlying the formation of krill aggregations and the ecology of the ice-edge environment. The former has obvious importance in the management of any krill harvest and thus in the conservation of the overall Antarctic marine ecosystem. The ice edge is a major habitat since at its maximum extent the seasonal sea-ice surrounding Antarctica covers an area roughly equal to that of the continent. Many casual observations

and a few measurements suggest that the ice edge is a region of greatly elevated primary production and active feeding by krill and other consumers, especially during the retreat of the ice in austral spring and summer. It thus is clear that information on the dynamics of sea-ice and ice-edge habitats is needed for developing a thorough understanding of krill life history and other aspects of the marine ecosystem. The ongoing project AMERIEZ (Antarctic Marine Ecosystem Research at the Ice Edge Zone) recently completed a cruise off the south Orkney Islands with co-ordinated observations from an ice-breaker working inside the pack and a research vessel working outside. The studies will be continued during the 1985/1986 austral summer.

### Earth sciences

41. In 1956, despite earlier exploration efforts, the geology of the Antarctic was virtually unknown. Practically no geophysical research had been done on or around the continent. Geological reconnaissance surveys had been made only in the Antarctic Peninsula, in western Marie Byrd Land, and along the routes from the Ross Sea to the South Pole. The ice sheets were thought to be less than a million years old. The map of Antarctica was almost entirely blank.

42. In 1957, the IGY sparked the beginning of the modern era of earth science investigations in Antarctica. In their earliest phase, United States studies involved basic data collection and the preliminary establishment of the geologic structure of the continent. Early scientific investigations determined the limits and extent of ice-free terrain, the general thickness and configuration of the polar ice sheet, and the nature, age and structure of the exposed crystal rocks. In many parts of the continent this work of gathering fundamental geologic data is still necessary and is an ongoing process.

43. The descriptive geographic, geologic and geophysical studies have been largely succeeded by topical studies in the fields of geology, geochemistry and geophysics. In addition, study of the Antarctic continent is a central element in the reconstruction of the history and subsequent dispersal of the "super-continent", Gondwana. Theories about the geologic development and migration of the other Gondwana continents (Africa, South America, Australia, and India) must meet the critical test of agreement with data from Antarctica. For example, fossil marsupials are known from South America and modern-day marsupials are found only in the Americas and in Australia. The recent United States discovery of fossil marsupials on Seymour Island in Antarctica confirms the Gondwana-linkage of these continents and the migration of marsupials from South America to Australia via an Antarctic land-bridge.

44. Similarly, the existence of Glossopteris (plant fossils from the Carboniferous Age) and coal deposits of the same age in South America, Antarctica and India yield valuable information about the relative positions of these continents 300 million years ago.

45. Other current geological and geophysical programmes will lead to a better understanding of Antarctica's mineral resource potential for commodities such as uranium, oil, chromium, cobalt, copper, etc. Ongoing studies of the modern-day distribution and activity of earthquakes and volcanoes in the Antarctic will help earth scientists to develop models for the evolution of mountain ranges.

46. Antarctica is a unique locality for studies in the earth sciences, several of which cannot be undertaken anywhere else. One such programme is a meteorite recovery project. Because of the size and the age of the Antarctic ice sheet, it is a natural "collector" for meteorites that fall over this large area. As the ice flows towards the margins of the continent, the meteorites are carried, conveyor-belt fashion, to the edge of the ice sheet. At several localities along the edge of the ice sheet, particularly around elevated mountainous areas, the ice is subjected to winds, ablation and sublimation, leaving behind on the surface some of the meteorites that previously were contained within the ice. Meteorites are of fundamental importance because they contain valuable information about the birth and history of our solar system. The Antarctic meteorite recovery programme has doubled the number of meteorites available for study. Included among the collection of 1,282 samples are two of possible Martian origin, and another almost unequivocally lunar in origin.

47. Antarctica has been shown to be unique among the continents in being free of earthquakes (except at the two offshore active volcanoes) and in having a continental shelf that is depressed to about 700 metres below sea level.

48. Another project, possible only in Antarctica, is long-period seismic and gravity observations at the South Pole Station. The observation site is virtually on the Earth's rotational pole, and as a result the effect of the solar earth tides are near zero and the lunar earth tides can be measured with a minimum of interference. In addition, paths of some major earthquakes reach the seismograph at South Pole by more than one path. Analyses of these records are yielding fundamental information about the deep structure and composition of the Earth's mantle and crust.

49. United States glacial-geological studies have shown that the present broad glaciation of Antarctica began at least 20 million years ago. Evidence suggests that the dynamics of Antarctic glaciation is the key to the understanding of major world climate variation and to glacial periods in the northern hemisphere. Particularly strong evidence is being developed that relates the glacial history of the Ross Sea area to glacial and other palaeoclimatic events in the rest of the world.

#### Glaciology

50. Only 17,000 years ago an ice sheet larger than the present Antarctic ice sheet covered much of North America. We have learned that such ice sheets periodically advance and retreat. Study of the remaining ice sheets in Greenland and Antarctica is revealing much information on when and why ice sheets change, as well as information on less dramatic climatic variations during decades or centuries.

51. The climatic significance of the polar ice masses was realized by scientists who started exploring the Antarctic around the turn of the century, but a systematic study of the region did not become technically feasible until after the last world war. The United States opened the continent to systematic glaciological study with Operation Highjump (1946-1947), which aurally mapped the ice margins (this needs to be repeated periodically but now can be carried out from satellites). There followed the IGY (1957-1958) with the first major surface



traverses to the interior, which provided valuable data on ice thickness, snow accumulation and temperature. These activities brought back a wealth of new scientific data requiring years of patient analysis and, as immediate practical pay-off, expertise in ice engineering and over-snow transportation techniques.

52. In the next phase, scientific attention turned to the interior of the ice, where the main clues to its behaviour must be sought. Core drilling in ice, which had been pioneered by United States workers during the IGY, now has achieved the only three holes so far drilled completely through polar ice sheets - two in Greenland, and the deepest, to 2,164 metres, at Byrd Station, Antarctica. The ice cores extracted from these and several earlier but shallower holes provided valuable information about past climates and gave rise to a completely new science, ice geochemistry, which United States scientists developed in collaboration with European groups in Denmark, France and Switzerland.

53. Another United States idea, the sounding of ice thickness with radar waves, was taken up by British scientists and further developed by Danish engineers into a joint Denmark-United Kingdom-United States project of systematically mapping the surface and bottom topographies of the polar ice sheets. This showed, as unexpected features, internal discontinuities not yet fully understood. The discontinuities relate to ice mechanics and to ice history. This research field became one of international co-operation, involving Denmark, the United Kingdom and the United States, and resulted in maps of Antarctica showing the structure and the thickness of the ice sheet.

54. The newest developments have been in remote sensing of ice properties from satellites. An especially crucial new achievement is the ability to measure position precisely, thus making it possible to determine directly the rate of ice flow at points far removed from any fixed landmark, such as a mountain top penetrating above the ice. These advance United States satellite systems are being exploited both in the United States programme and in collaboration with other national expeditions.

55. In these ways there have been and are being assembled the facts needed for reconstructing, by measuring and by computer modelling, the history of various sections of the Antarctic ice sheet. This constitutes a scientific task of major importance. The histories and their climatic implications can then be projected into the future and serve as background for environmental planning.

56. Particular problems include (a) determining the size and shape of the ice sheet; (b) determining the mass balance - whether the ice sheet is growing or shrinking; (c) understanding the flow dynamics and flow stability of the ice masses; (d) extracting the record of such prior environmental conditions as air temperature, dust and precipitation; and (e) understanding the influence of ice sheets on global conditions and their responses to changing conditions. Overall, there is the problem of assembling all the facts (by measuring, analysing and computer modelling) necessary to reconstruct the history and project the future of the Earth's ice sheets.

57. Among the achievements of United States research in glaciology have been:

(a) Glaciological exploration of Marie Byrd Land and Victoria Land, and of the Ross and Filchner Ice Shelves, gave surface shapes, ice thickness, temperatures and accumulation rates;

(b) Ice-core drilling at Little America and at Byrd Station allowed determination of chemicals (natural and man-made) and dust (terrestrial and cosmic) in present and past Antarctic atmospheres and determination of ice crystal features relating to ice history and governing ice flow;

(c) Deep drilling penetrated the Antarctic ice sheet to permit analysis of ice as old as several hundred thousand years;

(d) Ice geochemical studies resulted in determination of (i) past atmospheric temperatures from stable isotopes, (ii) the age of ice from radioactive isotopes, and (iii) palaeoclimatic data;

(e) Regional exploration since the mid-1960s has included surface traverses over the high Antarctic plateau and studies of special glaciers and ice features on Antarctic islands;

(f) Aerial remote sensing techniques were developed for recording ice sheet surface and base rock topographies; most of Antarctica has been mapped using this system.

#### Meteorology

58. Research in Antarctic meteorology is directed towards understanding the physical processes peculiar to the Antarctic environment and determining the role Antarctica plays in modulating global weather and climate. Past and current research topics include continental synoptic climatology, barrier and katabatic (gravity-driven) winds, ice crystallization and ice sheet precipitation processes, radiative energy transfer mechanisms and studies of trace gas concentrations in the atmosphere as well as in the snow and ice.

59. Since atmospheric processes are globally linked, knowledge of Antarctic synoptic meteorology is necessary for an understanding of the large-scale dynamics of the atmosphere, the modelling of atmospheric processes, and the improvement of long-range weather forecasting. The high surface elevation, horizontal homogeneity and low surface temperatures of the Antarctic interior combine to produce an extremely stable structure with unique low-level wind régimes and precipitation processes not duplicated elsewhere on such a large scale. Synoptic meteorological observations carried out at manned stations, as well as by automatic weather stations, provide valuable information for these investigations. Recent results of a study of the anomalously cold north-western Weddell Sea area show that the generally north-south trend of the Antarctic Peninsula, combined with the ice shelves on its eastern side, produce strong, persistent and very cold winds. These terrain-induced barrier winds exert a profound effect on the regional climate by accelerating the northward motion of sea ice, icebergs and cold water masses.

60. The polar regions are particularly sensitive to variations in the Earth's climate, and it is generally believed that the first indication of a climate change would be noticed in Antarctica. The study and monitoring of a variety of trace gases and atmospheric parameters that have potential climatic implications is an important continuing part of the Antarctic meteorological programme. These observations are carried out at a clean-air laboratory facility maintained at the South Pole and at a similar facility at Palmer Station.

61. Among the achievements of United States research in meteorology have been:

(a) Routine synoptic observations in the Antarctic as part of the World Weather Watch (WWW) have closed one important gap in the global meteorological observation system (the last major one remaining is over the southern ocean). This has substantially advanced understanding of the global fluid system and the development of global numerical models of the atmosphere;

(b) Studies of long-term statistical data of Antarctic meteorological observations are beginning to shed light on world-wide climate patterns. These studies are likely to be increasingly important in future climate research and prediction schemes;

(c) Meteorological studies at coastal and interior Antarctic stations revealed important features of the thermal structure and wind circulation of the atmosphere over Antarctica and nearby oceans;

(d) Unexpectedly large contrasts during winter between tropospheric and stratospheric circulations were discovered: numerous moving cyclonic vortices ventilate most of the Antarctic troposphere with marine air while, at the same time, the low stratosphere is dominated by a single large cyclonic vortex, generally somewhere over the central polar plateau;

(e) Year-to-year variations in the general circulation in the Antarctic were discovered to be quite large, as evidenced by extremely large year-to-year changes in temperature. This is a useful index of climate variability that has been correlated successfully with northern hemisphere climatic parameters, demonstrating the global nature of climate variations;

(f) Studies to date have shown that ice crystal precipitation from clear skies is likely to be a major factor in the mass and the energy balance of the Antarctic plateau. This peculiar phenomenon has been detected at all inland stations on the high Antarctic plateau and appears to be an important feature of the tropospheric circulation.

#### Oceanography

62. The Antarctic ocean sciences programme supports research into ocean and ocean-related processes at high southern latitudes. Major programme objectives are to support physical, geological and chemical studies of the southern ocean; to interpret the geological history of Antarctica as recorded in the oceanic sediments; to investigate the relationship between oceanic and atmospheric

circulation systems; to determine the dynamics of Antarctic water masses, currents and sea ice; and to investigate the climatic effects of oceanic energy transport. The research projects that are supported make use of aircraft, ice-breakers, chartered research vessels, and foreign-flag vessels.

63. Research in the ocean sciences under the United States Antarctic Research Programme began in 1962 with a systematic oceanographic survey using USNS Eltanin. The 55 cruises of this research ship provided a basic framework of knowledge in physical oceanography, marine chemistry and marine geology and geophysics, as well as other ocean sciences, that produced a three-dimensional picture of the southern ocean with global implications in the formulation of oceanic process models. In particular, the observation of symmetric magnetic reversals in the oceanic crust around mid-oceanic ridges in the southern ocean validated the theory of sea-floor spreading, and established the reality of plate tectonics as the primary geophysical process of the Earth. Hydrographic surveys established that the Circum-Antarctic Current was much more complex than had been thought, with bottom topography providing a dynamic stabilizing mechanism for its location, but also responsible for regionally splitting the current into several branches and initiating long-standing waves downstream of major ridges.

64. With the end of the circum-Antarctic survey, Antarctic oceanography entered an analysis phase in which answers are sought to significant questions. Recent programmes include research on the formation of Antarctic bottom water, a cold and very dense water mass that sinks and spreads globally, on the identification and interpretation of relict evidence in the ocean bottom sediment of long-term climatic variations and cycles, and on the establishment of upper mantle plume convection as the driving force for sea-floor spreading at the edge of the Antarctic tectonic plate.

65. Present-day programmes emphasize the multidisciplinary nature of environmental problems. The recent Weddell Sea Polynya Expedition was a joint programme with the Union of Soviet Socialist Republics to obtain the first systematic winter data set on the physical, chemical and biological structure of the southern ocean using the R/V Mikhail Somov, a Soviet ice-strengthened research ship. Its additional objective was to investigate, if possible, the air/sea energy exchange mechanism in the Weddell Sea Polynya, a large area of open water within the ice-pack. Other programmes concern the interrelationships among ocean, atmosphere and ice in the extensive upwelling that stimulates very high biological activity, and the continued measurement of such geophysical parameters as gravity and magnetic anomalies and heat flow to integrate the observed regional sea-floor pattern into the global tectonic framework.

66. The most productive directions for research lie in areas where rapid advances in both conceptual thought and instrumentation are occurring, and in areas where significant global problems have unique Antarctic components. An example of the former is the development of wide swath bottom reflection profiling, which when coupled with magnetic and gravity anomaly measurements will allow a much more precise and detailed analysis of such tectonically complex regions as the Drake Passage and the Scotia Sea. An example of the latter is the Antarctic response to the mechanisms that create the Earth's climate and its variations. The coupling of

polar, sub-polar, and tropical climate régimes occurs to a great extent through large-scale oceanic energy fluxes whose dynamics are as yet imperfectly understood. Additionally, radiative heat transfer between the ocean and the atmosphere is modulated by the seasonal sea ice cover, producing interactive feedback processes that directly affect the workings of the Antarctic heat sink.

67. Since the southern ocean is remote and distances between ports are great, Antarctic research cruises are difficult to schedule and areas of work are severely circumscribed. When the frequently bad weather is added to the geographical difficulties, it becomes clear that the acquisition of scientific knowledge requires a large investment of time and effort and funds by Antarctic researchers. The investment will continue to be made since Antarctic oceanic processes directly affect global changes in sea level, sea-ice extent, oceanic circulation and world climate.

#### Upper atmosphere research

68. Antarctica is ideally situated for a number of important studies of the Earth's upper atmosphere and near and far space environment, some of which can be done only from Antarctica. Research topics in upper atmosphere physics include studies of cosmic rays, infrasonic waves, magnetic and electric field variations, electromagnetic wave-particle interactions, very low frequency (VLF) and ultra-low frequency (ULF) wave phenomena, the plasmopause region of the magnetosphere, the magnetospheric cusp, magnetosphere-ionosphere interactions and global oscillations of the sun.

69. VLF and ULF wave research at United States Antarctic stations have led to a number of important results including the discovery of the plasmopause region of the Earth's magnetosphere, the inadvertent modification of the magnetosphere by electromagnetic radiation from electric power lines and VLF transmitters, the precipitation of charged particles from the magnetosphere caused by VLF and ULF waves, and more recently the discovery of a new generation mechanism for ULF waves by energetic particle precipitation into the ionosphere. These VLF and ULF wave studies at Siple Station are continuing with an emphasis on understanding the nature of wave-particle interactions, particularly the conditions under which the VLF and ULF waves cause the precipitation of energetic particles from the magnetosphere, the effects these wave-particle interactions have on the ionosphere and on the magnetosphere particle population.

70. Considerable interest has developed in research in solar astronomy at the South Pole. The sun is above the horizon continuously at a relatively constant elevation for several months of the year. The site is ideally suited for extended continuous observations of solar global oscillations which provide information on the internal structure and dynamics of the sun. Results gathered during the next few years should revolutionize our understanding of the solar interior, and the observations from the South Pole will play an important role in this advance.

71. Another area of significant opportunity in polar upper atmosphere physics is the study of the magnetospheric cusp where particles and waves from interplanetary space penetrate deep into the magnetosphere to altitudes as low as the ionosphere.

The South Pole is located directly beneath the magnetospheric cusp, and thus is ideally situated for investigations of this important but poorly understood boundary region of the magnetosphere.

72. Among the achievements of United States upper atmospheric research have been:

(a) A correlation has been noted between the occurrence of magnetic field micropulsations during magnetic storms and the failure of power lines and telephone communications. Preliminary understanding of the cause-and-effect relationship has already led to the design of equipment that obviates some of these disturbances and failures. Research in this area can eventually be expected to lead to a better understanding of the plasma in which these micropulsations propagate, and therefore of the plasma in which fusion energy reactions take place.

(b) Thunderstorms in south-eastern Canada produce very low frequency (VLF) radio emissions that have been detected at geomagnetically conjugate points in Antarctica. Analysis of this phenomenon led to discovery of the plasmopause, a relatively thin region of anomalously intense wave-particle energy exchange. Further study of the plasmopause is essential to understanding energy exchange in this part of the chain of energy between its solar origin and its eventual use by man.

(c) Data from Eights Station demonstrated that natural VLF emission can change the radio wave propagation properties of the ionosphere in ways that double the amplitude. These changes enhance the detectability of artificial radio waves. Experiments are now in progress with artificial VLF emissions that can lead to controlled increase or decrease of radio wave amplitude.

(d) Correlation of natural VLF wave activity and simultaneous particle precipitation observed at the geomagnetic conjugate stations Siple, Antarctica, and Roberval, Quebec, has shown that electron cyclotron resonance is an important mechanism responsible for electron precipitation from the magnetosphere and for the generation of natural VLF radio wave emissions.

(e) Relationships have been noted among the precipitation of energetic electrons, the occurrence of geomagnetic activity and phase perturbations of night-time sub-ionospheric VLF transmissions at mid-latitudes. The relationships are being analysed to increase understanding of the cause of anomalous disturbances in navigation and communication systems.

(f) In cosmic ray research, low-energy solar particles can be accelerated to relativistic energy (1 billion electron volts) in interplanetary space by bouncing between two shock fronts, the second of which moves faster than the first. This may well be the mechanism whereby galactic cosmic rays are produced by supernovae. Observation at South Pole Station (the world's only cosmic ray observatory at high altitude and latitude, where the sensitivity is greater than at any other existing station) provided the crucial data that revealed this phenomenon.

Specimens, maps and publications

73. Since 1962, the United States' National Science Foundation has worked to ensure the availability of data, specimens and information resulting from the United States Antarctic programme. Its Polar Information Programme is a clearing-house and source for this material. Research results and plans are exchanged freely with the other Antarctic Treaty nations.

(a) Specimens

74. The Smithsonian Institute has preserved, sorted, catalogued and distributed to scientists the world over more than 6 million Antarctic natural history specimens since 1964. These specimens make analysis in sophisticated laboratories possible without travel to Antarctica.

75. A specimen library at Florida State University contains over 11,000 metres of sedimentary core and 4,000 kilograms of ocean-bottom rocks taken from Antarctic waters. Scientists from all over the world have studied more than 200,000 samples from the collection.

76. The State University of New York at Buffalo curates ice core samples from Greenland and Antarctica, including the world's only three cores drilled through the polar ice sheets to bedrock. Core samples are made available to all qualified scientists.

(b) Maps

77. Since the IGY, aerial photographs for mapping have been made of 1,500,000 square kilometres of Antarctica. Following establishment of ground control points, 79 maps at a scale of 1:250,000 were produced covering 889,000 square kilometres of previously unmapped areas. A number of special maps at smaller and larger scales were also made. This concentration of effort was primarily in west Antarctica in support of the United States field programmes. The maps establish accurate positions and shapes of the coastline, locate previously unknown mountain masses and glaciers, delimit ice shelves and ice-free areas, and show other significant landmarks such as crevassed areas. This effort, not yet complete, represents a major contribution to southern hemisphere geography.

78. Three editions of an 80-mile-per-inch map of Antarctica were produced. The latest was published in 1970 and is being updated.

79. The American Geographical Society completed the 19-part Antarctic Map Folio Series. Together these folios constitute the world's most complete and up-to-date physical atlas on the Antarctic.

80. The Defense Mapping Agency Topographic Centre is the repository for officially recognized Antarctic place names. A gazetteer, published in 1956, was revised in 1966, 1969 and 1980. Some 12,000 names are now listed.

(c) Publications

81. United States Antarctic researchers publish some 150 professional papers a year in the primary scientific journals.

82. The American Geophysical Union of the National Academy of Sciences has published 35 volumes of the Antarctic Research Series since 1964. Each volume contains lengthy original papers describing results of United States Antarctic research projects. The series has a high scientific reputation and is distributed internationally.

83. The Antarctic Journal of the United States, published five times a year by the National Science Foundation, reports on field activities and preliminary research results in the United States programme. It is distributed internationally on subscription from the United States Government Printing Office.

84. Some 150 Russian-language journals or periodicals and 100 Russian books have been translated into English for use by United States scientists. A translation journal, Polar Geography and Geology, has been in operation since 1977.

85. The Library of Congress compiles the Antarctic Bibliography. Since 1962 over 34,000 titles, covering the publications of all nations, have been listed, abstracted and indexed. An accession list is distributed monthly, and volumes are sold at 18-month intervals by the Government Printing Office.

86. Analysis of research literature has shown that United States-supported Antarctic research has been at the centre of intellectual change in numerous scientific disciplines, particularly plate tectonics and magnetospheric processes. In addition, 70 per cent of the Antarctic papers that have become citation classics (papers cited more than 50 times) were written by United States scientists.

IV. UNITED STATES ANTARCTIC POLICY

A. United States interests in Antarctica

87. United States interests in Antarctica have been delineated with increasing specificity since the time of the International Geophysical Year (IGY) as United States activities in Antarctica have evolved. The United States initiative, in 1958, to seek conclusion of a Treaty for Antarctica was a major catalyst in the definition of these interests. The content of that initiative itself constituted elaboration of an approach to Antarctica, an approach whose elements remain valid today.

88. The initiative to conclude the Antarctic Treaty rested upon a number of significant decisions. First, the United States decided not to assert a claim to territorial sovereignty in Antarctica in spite of the fact that its activities there had established a clear basis for such a claim. This decision rested in part on the fact that United States interest in Antarctica was not limited to a particular geographic area. In addition, it represented an effort to prevent extension to Antarctica of competition and conflict that existed elsewhere in the world among a number of the countries active in Antarctica.



89. Second, and relatedly, the United States decided to seek not only maintenance of the basis for international co-operation in scientific research established during the IGY, but also the designation of Antarctica as a zone of peace-demilitarized, denuclearized and subject to on-site inspection rights.

90. Third, the initiative rested upon the assumption that a treaty for Antarctica should be a limited-purpose agreement, specifically dealing with scientific research and the reservation of Antarctica exclusively for peaceful purposes. In other words, the Treaty would deal with activities that were then possible in Antarctica but not with all potential activities. At the same time, however, the initiative involved the idea of a consultative mechanism that would allow new issues to be dealt with and new activities to be provided for if and when necessary.

91. The decision to work for a treaty for Antarctica, therefore, represents a major point in the development of United States Antarctic policy. In announcing the United States invitation to the IGY participants to meet to negotiate the Antarctic Treaty, President Eisenhower said in May 1958:

"The United States is dedicated to the principle that the vast uninhabited wastes of Antarctica shall be used only for peaceful purposes. We do not want Antarctica to become an object of political conflict. Accordingly, the United States has invited 11 other countries, including the Soviet Union, to confer with us to seek an effective joint means of achieving this objective.

"We propose that Antarctica shall be open to all nations to conduct scientific or other peaceful activities there. We also propose that joint administrative arrangements be worked out ...

"The countries which have been invited to confer are those which have engaged in scientific activities in Antarctica ... in connection with the International Geophysical Year. I know of no instance in which international cooperation has been more successfully demonstrated. However, the International Geophysical Year terminates on December 31, 1958. Our proposal is directed at ensuring that this same kind of cooperation for the benefit of all mankind shall be perpetuated after that date ..."

92. In 1965, at a meeting with the inter-agency Antarctic Policy Group, President Johnson said in part:

"Four years ago the Antarctic Treaty came into effect. Since then it has proved a most valuable tool of international agreement and a most useful way of freeing Antarctica from destructive confrontations between nations.

"Our objectives in Antarctica can be summarized in four very simple statements: we stand behind the Antarctic Treaty and will do everything in our power to ensure that the Antarctica region will be a place of peace rather than a place of hostile international rivalries. We strongly favour international cooperation among the nations which are active in Antarctica. We support, with all of our resources, scientific research in Antarctica,

further exploration and charting of Antarctica, the development of new methods of transport and logistics in that vast region, and the preservation of unique plant and animal life there. Finally, we earnestly hope that these great projects of peaceful cooperation in Antarctica will yield resources which every nation needs and every nation can use."

93. A press statement, in March 1982, of President Reagan's decision that the United States shall maintain "an active and influential presence in Antarctica", stated in part:

"The United States has significant political, security, economic, environmental and scientific interests in Antarctica. These are reflected in the Antarctic Treaty of 1959. The system established by that Treaty has permitted its parties, who maintain different positions concerning claims to territorial sovereignty in Antarctica, to work together to further scientific research and to ensure that Antarctica does not become the scene or object of international discord ...

"President Reagan has affirmed the United States commitment to a leadership role in Antarctica, both in the conduct of scientific research on and around the continent and in the system of international cooperation established pursuant to the Antarctic Treaty."

94. United States interests in Antarctica have been articulated over the years in consistent patterns. A list of these interests would include three interrelated categories: political and security interests; environmental and scientific interests; and resource interests. They may be summarized as follows:

(a) Political and security interests

- (i) Reservation of Antarctica for activities that serve peaceful purposes only;
- (ii) Prevention of Antarctica from becoming the scene or object of international discord;
- (iii) Continuation of the peaceful and co-operative relationships regarding Antarctica among those States active there;
- (iv) Continuation of the demilitarized and nuclear-free status of Antarctica, including the ban on testing of weapons and provision of full on-site inspection rights guaranteed by the Antarctic Treaty;
- (v) Preservation of United States access to all areas of Antarctica and surrounding marine areas for peaceful purposes; and conversely, prevention of such access being denied the United States or its nationals on the basis of territorial claims or otherwise;
- (vi) Preservation of any basis for a United States claim to territorial sovereignty in Antarctica that existed prior to the entry into force of the Antarctic Treaty.

(b) Environmental and scientific interests

- (i) Protection and maintenance of the Antarctic environment, including the ecological systems of the continent and southern ocean;
- (ii) Increased understanding of the role natural processes in Antarctica play in phenomena of global significance, including biological, geological, geophysical, meteorological and oceanographic processes;
- (iii) Increased scientific understanding of global processes, the nature of which can be better understood as a result of evidence available in Antarctica, as for example, world-wide dispersal pattern of man-introduced pollutants and upper atmosphere physics;
- (iv) Increased base-line data and information on marine and terrestrial areas within the Antarctic Treaty area;
- (v) Maintenance of the freedom of scientific research in Antarctica and the co-operative sharing of data gathered in accordance with the Antarctic Treaty.

(c) Resource interests

- (i) Increased knowledge of the populations of living resources in Antarctica and the ecological systems of which they are part;
- (ii) Conservation of the living resources of Antarctica and of the southern ocean, including all species found there, ensuring the health of individual populations and the ecological systems of which they are a part;
- (iii) Participation in the development and implementation of management mechanisms for conserving the living resources of Antarctica;
- (iv) Provision of access for United States nationals to harvest living resources, in accordance with agreed conservation objectives and measures, should such harvesting interest develop;
- (v) Increased knowledge of the non-living resource potential of Antarctica and of the environment in which such resources may be located;
- (vi) Ensuring that any mineral resource activities are acceptable from an environmental perspective;
- (vii) Facilitation of an increase in the global supply of such resources through: definition of rights to Antarctic mineral resources, and ensuring reasonable conditions of investment consistent with United States interests;

- (viii) Provision of non-discriminatory access for the United States to all areas of Antarctica in which mineral resource activities may be determined acceptable.

95. The preceding catalogue of interests is not complete. It does not address the vehicle through which these interests have been pursued, that is the Antarctic Treaty itself and the Antarctic Treaty system that has evolved on the basis of the Treaty. It is the United States view that the objectives set forth in the Antarctic Treaty have been fully realized during the 23 years of its operation and that the system that has evolved pursuant to the Treaty has functioned well to deal with the new issues and activities that have emerged since 1961. For these reasons the United States has major interests in the maintenance and effective functioning of the Antarctic Treaty (for which the United States is the depositary Government) and the Antarctic Treaty system.

B. United States activities within the Antarctic Treaty system

96. Article IX of the Antarctic Treaty provides a mechanism for regular consultations with a view to development of agreed recommendations in furtherance of the principles and purposes of the Treaty. This consultative mechanism has become the vehicle through which the system of international co-operation, established in the Treaty itself, has been implemented and extended to new activities that have become possible in Antarctica in recent decades. As a result of the 12 consultative meetings that have been held since 1961, and related meetings, 139 agreed recommendations have been adopted and the initiative taken to develop complementary agreements to provide necessary regulation of newly emerging activities. In the latter category are the Convention for the Conservation of Antarctic Seals concluded in 1972, and the Convention on the Conservation of Antarctic Marine Living Resources concluded in 1980.

97. The vast majority of the measures taken at or as a result of these consultative meetings have dealt with scientific research - measures to co-ordinate and promote scientific activities themselves, measures to provide for co-operation in the logistics and other support of scientific activities, and measures to ensure that scientific and support activities do not result in harmful impacts upon the Antarctic environment. This emphasis indicates the primacy of scientific research among existing activities in Antarctica. (United States scientific activities there have been described in previous sections.) It is the view of the United States that scientific research is, and will remain for the foreseeable future, the most important human activity in Antarctica.

98. The emphasis upon ensuring that human activities in Antarctica are devoted exclusively to peaceful purposes and take place in a manner consistent with the protection of the Antarctic environment is well illustrated in the system of Agreed Measures for the Conservation of Antarctic Fauna and Flora that were developed at the Third Antarctic Treaty Consultative Meeting. The Agreed Measures establish a strict system of control over the taking of any native Antarctic flora and fauna and further establish a system of specifically protected areas to protect the habitats and critical for the spawning or breeding of Antarctic species. The

Agreed Measures also establish agreed practices to prevent harmful impacts upon the Antarctic environment from station activities, including a ban on the introduction of alien species. The United States was a strong proponent of the Agreed Measures and has enacted domestic legislation - the Antarctic Conservation Act of 1978 - to fully implement the measures. A copy of the Antarctic Conservation Act is enclosed. 4/

99. The United States has applied the same approach to possible resource activities in Antarctica in order to ensure that any possible resource activities do not become the source of dispute or conflict, and to ensure that they take place in an environmentally sound fashion. The United States has supported the development of necessary mechanisms to regulate possible resource activities prior to the initiation of such activities on a commercial scale. The United States is a party to the Convention for the Conservation of Antarctic Seals that entered into force in 1978. The Convention establishes a system for protection of seals found in the Antarctic Treaty area. It prohibits pelagic sealing (except for limited take for scientific research purposes) and prohibits entirely any taking of the Ross seal, the southern elephant seal and the southern fur seal. With regard to the other three species of Antarctic seals - the Weddell seal, the crabeater seal, and the leopard seal - specific quotas are established, along with a system of rotating closed areas to prevent over-concentration of any harvesting activities.

100. The Convention calls upon the Scientific Committee on Antarctic Research (SCAR) to act as the scientific advisory body to the parties to the Convention. The Convention is designed to ensure that proper regulation of commercial sealing exists in the event that such sealing is initiated. If commercial sealing were to be initiated, the Convention provides for establishment of a more elaborate regulatory mechanism. Since the time of the negotiation of the Convention, commercial sealing has not been initiated in Antarctica.

101. The United States is also a party to and strong supporter of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR). This Convention resulted from an initiative taken at the Ninth Antarctic Treaty Consultative Meeting in 1977 (recommendation IX-2). It was concluded in 1980 and entered into force in 1982, and represents an important and innovative conservation agreement. The Convention establishes an international mechanism and creates legal obligations necessary for the protection and conservation of the marine living resources found in the waters surrounding Antarctica. The Convention incorporates an ecosystem approach to the management of those resources, including standards designed to conserve individual populations and species, and to maintain the health of the Antarctic ecosystem as a whole.

102. The United States played an active role in the negotiation of the CCAMLR. (A copy of the Environmental Impact Statement prepared on the negotiation of the Convention is enclosed. 4/) The Convention reflects United States concern for the protection of the Antarctic marine ecosystem, including the whales, penguins, seals and krill that are among its components. The Convention offers a welcome and unusual opportunity to apply to shared resources an effective regulatory framework prior to large-scale commercial harvesting of such resources. For these reasons, the United States has strongly supported the effective start-up of the Commission,

Scientific Committee and secretariat provided for in the CCAMLR. At the first annual meeting of the Commission and Scientific Committee held in 1982, and the second annual meetings held in 1983, the United States sought to emphasize the importance of establishing the data management and data reporting requirements necessary for the Commission and Scientific Committee to undertake detailed assessments of the populations of Antarctic marine living resources. The United States is pleased with the progress made to date in this and other areas of Commission and Scientific Committee competence, and looks forward to pursuing the objective of the Convention in co-operation with its other parties at the 1984 and subsequent meetings.

103. With regard to Antarctic mineral resources, the United States fully supports the ongoing efforts to develop an agreed international system to make necessary decisions about possible mineral resource activities. (A copy of the Environmental Impact Statement prepared on the mineral resource negotiations is enclosed. 4/) With regard to the mineral resource potential of Antarctica, investigations by United States scientists and others indicate that it is not possible at this time to make meaningful predictions about the possible mineral resource potential of Antarctica. It is known that there are mineral occurrences in Antarctica, but it is not known whether deposits of mineral resources exist that would be of sufficient size or quality to render their extraction and transportation to market economically feasible. The most recent summary of geological information regarding Antarctic mineral resources is contained in Petroleum and Mineral Resources of Antarctica (1983), United States Geological Survey Circular 909, a copy of which is enclosed. 4/ Notwithstanding the uncertainty as to whether commercial-scale mineral resource activities will ever become feasible in Antarctica, the United States believes that it is essential to have in place an effective system for determining the acceptability of mineral resource activities in Antarctica and for governing any activities determined to be acceptable should the possibility of these activities ever become a reality. This interest is an important element in United States Antarctic policy, not only for resource management reasons, but to ensure and extend the peaceful international co-operation that has characterized Antarctica since the inception of the Antarctic Treaty.

104. With specific regard to the consideration of Antarctic mineral resources, the United States fully supports the initiative taken by the Antarctic Treaty Consultative Parties at their Eleventh Consultative Meeting in Buenos Aires in 1981. Recommendation XI-1 of that meeting calls for elaboration of a régime for Antarctic mineral resources, and identifies principles and elements to be incorporated in the régime. The United States understands "régime" to mean an international system for making decisions about possible mineral resource activities - specifically decisions as to whether Antarctic mineral resource activities in the future would be acceptable and, if determined to be acceptable, as to how such activities would be governed. It is our view that the régime should provide a stable and reasonable basis for mineral resource activities in Antarctica, one which would offer non-discriminatory access to United States firms. At the same time, it is also our view that no commercial mineral resource activities should take place in Antarctica unless it can be demonstrated, first, that there is sufficient information to judge the possible impacts of such activities; and second, that such activities do not pose unacceptable risk to the Antarctic environment.

105. United States commitment to the Antarctic Treaty and Antarctic Treaty system rests upon the accomplishments that they have made possible over the past 23 years. These include significant contributions to the scientific understanding of processes of global significance, precedent-setting collective efforts in environmental protection and resource conservation, and effective reservation of an important area of the world for international co-operation rather than dispute or conflict. The United States believes that these accomplishments - and the maintenance of these accomplishments - serve the interests of all.

106. United States views in this regard are also based upon the manner in which the Antarctic Treaty and Antarctic Treaty system have evolved to deal with challenges posed by the expanding scope of human activity in Antarctica. The Treaty and the Treaty system have come to constitute a responsive international mechanism open to new interests and new participants and capable of handling new activities and situations. In so doing, the Treaty and Treaty system offer a pragmatic and effective vehicle for ensuring that newly emerging activities and involvement in Antarctica will continue to serve the peaceful and co-operative objectives characteristic of the past two decades.

107. For these reasons the United States will continue to use its best efforts to ensure the effective and equitable functioning of the Antarctic Treaty and Antarctic Treaty system. For these reasons, also, the United States is pleased to provide this response to the letter of the Secretary-General dated 8 February 1984.

#### V. INFORMATION ABOUT ANTARCTICA

108. United States Antarctic policy and the United States Antarctic Programme are regularly reviewed in public hearings before the United States Congress. These hearings provide the opportunity for expression of views from the full range of governmental and non-governmental sources interested in Antarctica. (Such congressional hearings are cited in the bibliographic information listed below.)

109. More generally, a central element in United States Antarctic policy and activities has been public access and involvement in its development. There are public advisory committees on Antarctica dealing both with overall policy issues and with the United States Antarctic Programme. These advisory committees are specifically constituted to solicit and receive the views of non-governmental organizations and non-governmental experts on proposed United States policies and activities relating to Antarctica. The United States also includes representatives of non-governmental organizations as well as non-governmental experts on its delegations to meetings held pursuant to the Antarctic Treaty.

110. Public involvement in development and implementation of United States Antarctic policy has contributed to the extensive body of publicly available information on Antarctica. In this regard, there are enclosed with this response a number of references or other supplementary material to elaborate upon particular aspects of United States activities or interests in Antarctica. 4/ These include:

- (a) Antarctic Journal of the United States, a complete set, which reports on field activities and preliminary results of the United States Antarctic Programme;
- (b) Report of United States Observers on Inspection of Antarctic Stations 1963-64 Austral Summer Season;
- (c) Report of United States Observers on Inspection of Antarctic Stations 1966-67 Austral Summer Season;
- (d) Report of the 1971 Antarctic Inspection;
- (e) Report of the 1975 United States Antarctic Inspection;
- (f) Report of the United States Antarctic Inspection January-February 1977;
- (g) Report of the 1980 United States Antarctic Inspection;
- (h) Report of the United States Observer Team in Antarctica, 1983;
- (i) Antarctic Conservation Act of 1978 (Public Law 95-541);
- (j) Final Environmental Impact Statement for a Possible Regime for Conservation of Antarctic Marine Living Resources, June, 1978;
- (k) Final Environmental Impact Statement on the Negotiation of an International Regime for Antarctic Mineral Resources, 1982;
- (l) Petroleum and Mineral Resources of Antarctica, U.S. Geological Survey Circular 909;
- (m) U.S. Antarctic Program Final Environmental Impact Statement, June, 1980.

111. The enclosed material represents but a small fraction of the information that is available in the public record. Therefore, the United States is pleased to enclose, in addition, a complete set of the Antarctic bibliography, which is prepared and updated regularly by the United States Library of Congress. 4/ This bibliographic index covers not only United States sources but also sources from the international community as well.

112. The United States would be pleased to assist the Secretary-General in obtaining additional information that may be identified from the enclosed or other reference material.



51. URUGUAY

[Original: Spanish]

[27 June 1984]

1. On the question of Antarctica, the Government of Uruguay communicated the following statement.

2. Uruguay is a non-consultative party to the Antarctic Treaty. 1/

3. In Uruguay's view, that instrument has fulfilled and is fulfilling a positive function:

(a) It facilitates the harmonization and conduct of scientific and research activities by the countries concerned;

(b) It does not prejudice any rights over the Antarctic territory, since it suspends the various claims to it based on different factors;

(c) It has ensured exemplary co-operation and coexistence among the countries concerned in the area;

(d) In accordance with the Treaty, Antarctic territory is free of nuclear weapons and cannot be militarized: the provisions are enforced by a fully functioning inspection system.

4. For the above reasons, it is advantageous to preserve the Antarctic Treaty system and its most important achievements.

5. The study requested of the Secretary-General by the General Assembly at its thirty-eighth session (resolution 38/77 of 15 December 1983) is not in contradiction with the Treaty system, as it implicitly takes that system fully into account. The study could contribute elements of interest to the international community, thereby complementing the results of the activities being carried out under the Treaty.

6. In replying to the note of the Secretariat, Uruguay reaffirms its position reserving its rights over Antarctic territory.

52. YUGOSLAVIA

[Original: English]

[7 August 1984]

1. The Government of the Socialist Federal Republic of Yugoslavia attaches particular importance to the debate on the question of Antarctica within the United Nations and in this sense supports the request contained in General Assembly resolution 38/77 of 15 December 1983 for the preparation of "a comprehensive, factual and objective study on all aspects of Antarctica". The Yugoslav Government proceeds from the conclusion of the Seventh Conference of Heads of State or Government of the Non-Aligned Countries held at New Delhi in March 1983, which states that "the continent of Antarctica has considerable environmental, climatic, scientific and potential economic significance to the world". 6/

2. It is in the interest of mankind as a whole that Antarctica should continue for ever to be used exclusively for peaceful purposes, should not become the scene or object of international discord and should be accessible to all nations.

3. At the same time, the Yugoslav Government takes into account the positive fact that the 1959 Antarctic Treaty 1/ provides that Antarctica should be used only for peaceful purposes and that all military activities, conflicts and rivalries shall be forbidden in its territory. The international community recognizes that military activities, and nuclear tests in particular, could have far-reaching consequences with respect both to the environment of Antarctica and to peace in the region and beyond.

4. The Treaty also stipulates that no act or activity in Antarctica shall be interpreted as constituting a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica. In this context, the Yugoslav Government wishes to indicate that no territorial claim to Antarctica can be considered valid. Therefore, no ownership rights have been accepted by the international community and, consequently, exploitation of the riches of Antarctica by any State shall not be permitted unless a generally acceptable solution is found.

5. In view of the fact that Antarctica is significant for the world at large, the Yugoslav Government is deeply convinced that the interests of the entire international community and their realization and protection can best be achieved through the United Nations. Such a conclusion has not resulted from the fact that certain problems imply political considerations, but has been reached on the basis of the necessities of the present-day situation. The fact is that the system by which the international community regulates the use and protection of the parts of our planet and outer space over which no country has exclusive jurisdiction is far more developed than the system used so far in the case of Antarctica.

6. Proceeding from the practice followed by the United Nations in the last two decades, which is reflected in the important and generally accepted international instrument (such as, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial

Bodies (see General Assembly resolution 2222 (XXI)); the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (see General Assembly resolution 34/68); the United Nations Convention on the Law of the Sea, 3/ etc.), the Yugoslav Government considers that the exploitation of the natural resources of Antarctica should benefit the entire international community. According to the Yugoslav Government, the future system of exploration and exploitation of Antarctica should be established under the auspices of the United Nations, taking into consideration the contribution of the Antarctic Treaty. Only such a system would be generally accepted and the fruitful co-operation of a large number of countries and successful implementation of the Treaty ensured.

7. In this sense, the study to be prepared would constitute a useful point of departure in strengthening international co-operation in this field. It should contribute to the active engagement of the United Nations in a comprehensive debate on the importance of Antarctica and exploitation of its natural resources in the interests and to the benefit of mankind.

53. ZAMBIA

[Original: English]

[5 July 1984]

1. As a member of the Non-Aligned Movement, Zambia is associated with the decision taken at the Seventh Conference of Heads of State or Government of the Non-Aligned Countries, held at New Delhi in March 1983, to ask the United Nations, at the thirty-eighth session of the General Assembly, to undertake a comprehensive study on Antarctica. 6/ Zambia, therefore, welcomes the adoption of resolution 38/77 of 15 December 1983 by the General Assembly on the basis of which the Secretary-General is seeking the views of Member States on this important matter, with a view to further action by the United Nations.
2. Zambia recognizes the considerable environmental, climatic, geographical, scientific and historical significance of the Antarctic continent for all mankind. Antarctica is the habitat of immense renewable and non-renewable resources that are of critical strategic importance, especially in the light of the dwindling non-renewable resources in our present and familiar environment.
3. Zambia is gratified that the Antarctic Treaty of 1959 1/ recognized that Antarctica should continue for ever to be used exclusively for peaceful purposes and that it should not become the scene and object of international discord. This has been accomplished by the introduction of a nuclear-free zone régime in Antarctica as an embodiment of the Treaty. This denuclearization of Antarctica and the subsequent prohibition of military bases or installations, as well as the prohibition of any radioactive waste disposal, are all important measures designed to preserve and conserve Antarctica and all the resources in it.
4. Furthermore, the Antarctic Treaty recognizes no claim of exclusive right to all the resources of Antarctica. As it stands today, Antarctica is beyond the limits of recognized national jurisdiction.
5. The Antarctic Treaty, in effect, does freeze positions on Antarctic claims and jurisdiction over the continental shelf and the adjacent sea is likewise undetermined. What the Treaty does, instead, is rightly to establish the principle of common governance and access - thus laying the necessary foundation, in Zambia's view, for the principle that Antarctic resources belong to mankind generally.
6. It is regrettable, however, that the Treaty does not provide for international participation in the administrative structure of Antarctica, as that is the prerogative of the 16 Consultative Parties to the Antarctic Treaty. It is anomalous that the administrative arrangement of the Antarctic régime should only cater for a small exclusive club although the significance of Antarctica transcends far beyond the exclusive concerns of such a group and indeed involves the interests of all the world's peoples. More importantly, the present institutional arrangement favours the rich and technologically advanced countries and all those that may join the régime upon meeting the stringent standard of conducting substantial scientific research activity in or on Antarctica. The present régime

is therefore as inadequate as it is discriminating in its decision-making process both within and without the Antarctic régime. The continued existence of this arrangement would amount to perpetuation of inequality at a time when democratization of international relations is the rule rather than the exception.

7. The exploitation of resources such as those of Antarctica falls within the purview of international concern. It requires the participation of all States in determining the type of régime that should be charged with the decision-making mechanism relative to Antarctica's growing importance in world affairs.

8. Zambia is of the view that any exploitation and development of Antarctica's resources should be on the basis of equitable principles of access and distribution. This calls for the declaration of the Antarctic continent as a "common" area - a scenario that can best be accomplished under United Nations control and management. Negotiations for a mineral régime should therefore be deferred until international agreement can be reached on an appropriate framework for participation under the aegis of the United Nations. The United Nations should be able to decide on the best way of exploiting and developing the abundant resources of Antarctica under the "common heritage" principle.

9. The United Nations is the international organization best suited for designing a régime that would respond to the international community's concerns for widest international co-operation in order for the régime to command universal recognition and respect.

10. Furthermore, the application of the principle of "common heritage" in regard to Antarctica is dictated by the fact that the current Antarctic régime was established at a time when Antarctica was primarily of interest as a scientific laboratory for the whole world. At that time, commercial and environmental concerns were merely matters of speculation. Today, however, interest in Antarctica is no longer exclusively scientific. If anything, it is multifaceted. It relates to food, oil and natural gas. It also relates to such minerals as copper, coal, iron, lead, zinc, uranium, cobalt, tin, gold, silver, etc. Today, unlike at the birth of the Antarctic Treaty in 1959, the world community has radically expanded. It is also characterized by economic interdependence and need, environmental deterioration, as well as the availability of strengthened mechanisms for international decision-making.

11. The world political community has, moreover, changed radically since territorial rights were first claimed in Antarctica. Scores of newly independent States have joined the international scene and are playing a role without precedent in history. One of the most important concepts to evolve out of the demise of colonial empires relates to the obligations of equitable sharing of wealth and resources, especially of such an uninhabited continent as the Antarctic. Since the resources of Antarctica have historically not been subjected to individual State appropriation, it is only logical that the exploitation of the resources of Antarctica should now come under the "common heritage" principle.

12. Zambia is of the considered view that the basic elements of the "common heritage" concept as developed to date in relation to the United Nations Convention on the Law of the Sea 3/ should apply to Antarctica as well. These elements include:

- (a) The non-appropriability by any single nation, enterprise or group of nations, of resources that are declared to constitute a common heritage;
- (b) Shared management of such resources, through international institutions;
- (c) Sharing of benefits by mankind as a whole;
- (d) Use of the resources for peaceful purposes only;
- (e) Conservation of the resources for use by future generations.

13. Finally, Zambia is also concerned that South Africa continues to be one of the Consultative Parties to the Antarctic Treaty. South Africa has been ostracized in the international community because of its obnoxious system of apartheid - a system that has been designated a crime against humanity. South Africa must remain an outcast as long as it persists in its application of the system of apartheid. South Africa must therefore be expelled from the Antarctic régime because it believes in the system of apartheid, which is an affront to the human race.

54. ZIMBABWE

[Original: English]

[29 May 1984]

1. While taking cognizance of the fact that the Antarctic Treaty 1/ stipulates that the Antarctic region shall be used for peaceful purposes only, Zimbabwe still feels that it is both undemocratic and unfair for the Treaty to be an agreement between a mere 12 signatory States. It is therefore its view that the Antarctic Treaty should be scrapped or at least modified and a new international convention should be worked out by all States. Such an international convention would have to tackle seriously the issue of mineral, fish and other resources of the region as belonging to all mankind. Zimbabwe does not support the formation of sectors in Antarctica that are labelled as belonging to one particular State.
2. It also feels that expeditions should be made and stations should be manned by scientists of different nations working together to further science for mankind as a whole and not in the name of this or that country. Zimbabwe also proposes that international stations in Antarctica be set up where scientists from Third World countries would be encouraged to go and work without prejudice.
3. Only if the points raised above are put into effect can Antarctica be genuinely regarded as the common heritage of mankind as a whole.

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